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Country Economic Memorandum

(In Two Volumes)

Volume I: Main Text

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Government Fiscal Year

FY01 = Jan 1, 2001 to Dec 31, 2001

Currency Equivalents

Currency Unit: Sudanese Dinars (SDD)

US\$1.00 = SDD 261 (31 March, 2003)

ACRONYMS AND ABBREVIATIONS

AAAIID	Arab Authority for Agriculture Investment and Development	MSF	Medicins San Frontières
ABS	Agriculture Bank of Sudan	MTEF	Medium-Term Expenditure Framework
AG	Auditor General	NC	National Congress Party
AIDS	Acquired Immune Deficiency Syndrome	NDA	National Democratic Alliance
ARC	Agriculture Research Corporation	NEC	National Electricity Corporation
ARRC	Animal Resource Research Corporation	NGO	Non Governmental Organizations
BoS	Bank of Sudan	NIF	National Islamic Front
CBs	Consortium of Commercial Banks	NSSF	National State Support Fund
CCM	Country Coordinating Mechanism	O&M	Operations and Maintenance
CEAWC	Committee for the Eradication of the Abduction of Women and Children	OLS	Operation Lifeline Sudan
CEM	Country Economic Memorandum	PFC	Petroleum Finance Company
CMC	Central Bank Musharaka Certificates	PRSP	Poverty Reduction Strategy Paper
CNCP	Chinese National Petroleum Company	RBM	Roll Back Malaria
COMESA	Common Market for Eastern and Southern Africa	SCC	Sudan Cotton Company
DoP	IGAD Declaration of Principles	SDD	Sudanese Dinar
DUP	Democratic Unionist Party	SMS	Safe Motherhood Survey
EFA	Education For All	SPC	Sudan Petroleum Corporation
EU	European Union	SPDF	Sudan People's Democratic Front
FAO	Food and Agriculture Organization	SPLA	Sudan People's Liberation Army
FGM	Female Genital Mutilation	SPLM	Sudan People's Liberation Movement
FMOH	Federal Ministry of Health	SSA	Sub-Saharan Africa
GDP	Gross Domestic Product	SSATP	Sub-Saharan Africa Transport Policy Program
GMC	Government Musharaka Certificates	SSLM	South Sudan Liberation Movement
GoS	Government of Sudan	STIs	Sexually Transmitted Infections
HCENR	Higher Council for Environment and Natural Resources	TTE	Technology Transfer and Extension
HCR	High Council on Resources	UN	United Nations
HDR	Human Development Report	UNCTG	United Nations Country Thematic Group
HIV	Human Immunodeficiency Virus	UNDP	United Nations Development Program
IBRD	International Bank for Reconstruction and Development	UNFPA	United Nations Population Fund
IDEAS	Institute of Development, Environment and Agricultural Studies	UNHCR	United Nations High Commissioner for Refugees
IDP	Internally Displaced Persons	UNICEF	United Nations International Children's Emergency Fund
IGAD	Inter-Governmental Authority on Development	UNIDO	United Nations Industrial Development Organization
IMF	International Monetary Fund	UNSO	United Nations Office to Combat Desertification and Drought
IPF	IGAD Partners Forum	US\$	U.S. Dollar
ITU	International Telecommunication Union	USAID	United States Agency for International Development
LDCs	Less Developed Countries	VAT	Value-Added Tax
MDG	Millennium Development Goal	WFP	World Food Program
MICS	Multiple Indicators Cluster Survey	WHO	World Health Organization
MoE	Ministry of Education	WTO	World Trade Organization
MoFNE	Ministry of Finance and National Economy	ZBB	Zero-Based Budgeting

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COUNTRY DATA - SUDAN

Area:	Population (2001)	Density (2001)
2,5 million km ²	31.7 million	12.6 per km ²

Source: United Nations Population Fund.

POPULATION CHARACTERISTICS

Population growth rate (1998-2003)	2.6%
Life expectancy at birth (1993)	54 years
Fertility rate	5.7

Source: United Nations Population Fund; UNICEF, Safe Motherhood Survey.

EDUCATION (2001)

Literacy rate (%)	53
Primary school enrollment	58
Primary school enrollment, war affected southern parts	30

Source: World Development Indicators, World Bank; UNICEF, MICS; CBS

HEALTH

Maternal mortality (100,000 live births):	509
Maternal mortality (100,000 live births), war affected southern parts	865

Source: UNICEF, MICS, Safe Motherhood Survey.

HIV/AIDS

% of women, 15-49 years, that have heard of AIDS	
Northern states	40
Southern parts	67

Source: UNICEF, MICS

CHILD HEALTH

Infant mortality, northern states (per 1000 live births)	68
Infant mortality, southern Sudan (per 1000 live births)	82
Under 5 mortality (per 1000 live births)	104
Under 5 mortality, southern Sudan (per 1000 live births)	132

Source: UNICEF, MICS, Safe Motherhood Survey

GROSS DOMESTIC PRODUCT (2000)

	<u>SDD</u> <u>billions</u>	<u>%</u>
GDP at market prices	2892	100
Consumption	2401	83.0
Exports of goods and NFS	463	16.0
Imports of goods and NFS	398	13.8

ATLAS GNI per capita (2001) US\$340

GDP per capita (2001) US\$395

Source: Ministry of Finance & National Economy, Government of Sudan. World Development Indicators, World Bank

GDP at factor costs (2002)

	<u>SDD</u> <u>billions</u>	<u>%</u>
Agriculture	1390	39
Industry	648	18
Services	1508	43
Total	3545	100

Source: Ministry of Finance & National Economy, Government of Sudan.

FEDERAL GOVERNMENT BUDGET (2001)

	<u>SDDbn</u>	<u>% GDP</u>
Total revenue	367.0	11.3
Current expenditure	332.3	10.2
Development expenditure	78.7	2.4
Deficit (Cash)	-44.0	-1.4

Source: Ministry of Finance & National Economy, Government of Sudan.

COUNTRY DATA - SUDAN

MONEY, CREDIT & PRICES (end-period)

	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Money supply (billion SDD)	40	71	117	160	207	258	347	432
Bank credit to public sector (billion SDD)	18	27	50	59	75	109	129	161
Bank credit to private sector (billion SDD)	9	13	32	40	45	44	72	101
Money as % of GDP	21.3	12.7	11.2	9.5	9.0	9.8	12.0	13.3
Annual percentage change in:								
Consumer price	116.0	69.0	130.4	46.6	17.0	16.1	8.0	4.9
Bank credit to public sector	32.7	49.4	186.5	19.6	25.8	46.3	18.2	25.1
Bank credit to private sector	91	48.3	143.2	23.7	12.3	-1.8	62.9	41.4

Source: Ministry of Finance & National Economy, Bank of Sudan.

BALANCE OF PAYMENTS (US\$ millions)

	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Exports of goods, f.o.b	594	596	780	1807	1699
Imports of goods, f.o.b.	1422	1732	1256	1366	1395
Trade of goods	-828	-1136	-476	440	304
Net services	-141	-188	-193	-620	-646
Net factor income	12	3	-104	-575	-554
Net current transfers	129	365	308	198	278
Current Account Balance (Cash basis)	-828	-956	-465	-557	-618
Capital Account	NA	-54	-23	-119	-93
Financial Account	195	333	435	432	562
Net Errors and Omissions	651	750	167	368	-0.5
Overall Balance	18	73	115	124	-151

Source: IMF, Balance of Payments Statistics Yearbook 2002.

RATE OF EXCHANGE (annual average)

	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
SDD per US\$1.00	157.6	200.8	252.5	257.1	258.7
US\$ per SDD 100.00	0.634	0.498	0.396	0.388	0.386

Source: Ministry of Finance & National Economy, Bank of Sudan.

MERCHANDISE EXPORTS (2001)

	<u>mln.</u> <u>US\$</u>	<u>%Share</u>
Crude oil	1269	74.7
Sesame	104	6.1
Cotton	44	2.6
Gum arabic	24	1.4
Livestock	15	0.9
Sugar	12	0.7
Groundnut	9	0.5

EXTERNAL DEBT as of Dec. 31, 2001 (US\$ millions)

Public & privately guaranteed	20175
Nonguaranteed private debt	496

DEBT SERVICE as a % of total export (2001)

Total debt service due	58
Actual debt service payments	5

IBRD/IDA LENDING as of Dec. 31, 2000 (US\$ millions)

Outstanding & disbursed	1210
Arrears	197

PREFACE

This Sudan Country Economic Memorandum (CEM), “Stabilization and Reconstruction,” was prepared by a joint task team of government officials, World Bank staff and consultants, and staff from local research institutions. The theme and topics covered evolved from initial discussions with the government in Khartoum in November 2001.

The last CEM for Sudan was prepared in 1990. Hence, this CEM is the first economic report in a decade. It gives priority to updating knowledge about the evolution of social and economic developments during the 1990s and is therefore longer than contemporary CEMs prepared by the World Bank. It reviews areas of progress in macroeconomic reforms and the lack of success in governance and institutional reforms. The document does not consider in depth a number of important national issues such as infrastructure development, urban development, transport networks, energy, domestic water supplies, and sanitation. These areas could not be tackled in-depth because of the limited resources available to prepare this document. They should be addressed by either the World Bank or others at a later time. The CEM identifies areas for future analytical work.

The report aims to cover all regions and states in Sudan. However, most of the national information available has gaps in terms of coverage and statistical reliability, and few national surveys with detailed information at the household or firm level exist. Some disaggregated statistics on developments in states and regions exist, especially for the parts of the country that are controlled by the federal government, but reliable statistics for the war-affected areas are particularly scanty. Nevertheless, because of the prospects for peace and reconstruction in war-affected areas, the analysis has to the extent possible used surveys of recent developments in war-affected areas, especially those in the southern part of the country.

Upon the request of the Sudanese authorities, as an exception to usual practice, no map accompanies this report.

The CEM is presented in two volumes. Volume I is the main report, and Volume II contains statistical annexes. Volume I presents selected topics in three parts. Part I summarizes social background and economic trends. Part II covers reforms to date—macroeconomic stabilization, liberalization, public resource management, and public administration. Part III reviews progress in agriculture and human resource development.

ACKNOWLEDGMENTS

The CEM was prepared in collaboration with the Government of Sudan and in consultation with various constituencies. The main contacts and coordinators on the Government side were State Minister of Finance Hassan Ahmed Taha, State Minister of Finance Abda Y. El Mahdi, and Director General El Sheikh El Mak, Ministry of Finance and National Economy. State Minister Hassan Ahmed Taha, was the Chairman of the Steering Committee set up by the government to overview the work of the Task Team. The government set up four Working Groups to prepare background data for the CEM. The leaders of the Working Groups were Abdalla Mohamed Abdalla Alobodi (Public Resource Management), Mohamed Kheiri Fageer (Poverty, Human Development), El Nur Khalifa Widatallah (Public Administration), and Ismail E. Suleiman (Privatization, Private Sector). The Task Team appreciates the cooperation and hospitality received from the Sudanese authorities, consultants, and other stakeholders, including especially the cooperation of all the able staff in the office of the Director General of the Resource Sector in the Ministry of Finance and National Economy (MOFNE).

The report was prepared under the general supervision of Ishac Diwan (Country Director), Fred Kilby (Sector Manager), and Paula Donovan (Sector Director). Jill Armstrong (Country Program Coordinator) coordinated the Country Team meetings. The Peer Reviewers were Brian D' Silva (USAID), Jeffrey Hammer, Ibrahim Ahmed Elbadawi (DECRG), and Ian Bannon (SDCVP).

Bank staff and consultants were Albert Agbonyitor (Task Team Coordinator up to September 2002), Alexander Darku, Viju Ipe, Ali Abdel Gadir Ali, Elsayed A. Zaki, Jumana Farah, Ernst Lutz, Moncef Guen, Jack van Holst Pellekaan, Jamil Mubarak, Michael Stevens, Peter Miovic, Boris Gamarra, John Riverson, and Maude Svensson (Task Team Coordinator from October 2002).

The Working Groups worked with World Bank staff and consultants during the main preparation mission during March 12-29, 2002, to develop the background papers for the CEM. Subsequently, an initial draft of the CEM was discussed at consultative meetings held in Khartoum during August 25-September 1, 2002. The consultations included meetings with concerned officials, including the Steering Committee, and three days of focused sessions on specific chapters of the CEM. The chairpersons for the discussions sessions were Fareed Atabani, Abdallah Ahmed Abdallah, Amna El Sadig Badri, and Abdel Karim Yacoub.

A final draft of the report was reviewed at a workshop and technical consultations in Khartoum during May 21-28, 2003. The government had organized a two days workshop, attended by senior officials and representatives from line ministries, Bank of Sudan, universities, donor organizations, and civil society. Chairpersons were H.E. State Minister Abda Y. El Mahdi, El Sheikh El Mak, Abdallah Ahmad Abdallah, Fareed Atabani, and Ismail E. Suleiman. Follow-up technical consultations were arranged by the Ministry of Finance and National Economy (MoFNE). Mr. El Sheikh El Mak chaired all sessions, attended by senior technical staff from concerned ministries and Bank of Sudan. Written and oral comments received at the workshop as well as during the technical consultations, together with additional comments received from the MoFNE, were taken into account in the final version of this report.

World Bank staff and consultants also held discussions with state representatives, local and international stakeholders active in Sudan. Missions took place to Gezira, White Nile, Gedaref, North Kordofan, Nuba Mountains, Juba, Malakal, Rumbek, Yambio, and Nairobi. The teams

appreciate all valuable insights they received from these missions. Although all people involved contributed to building up knowledge about Sudan, in particular southern Sudan, the team acknowledges especially inputs from Keith McKenzie (UNICEF) and Mohammad Pournik (UNDP).

We acknowledge data received from the Central Bureau of Statistics (CBS). The most recent human development indicators were made available from the Multiple Indicator Survey (MICS) conducted by UNICEF and CBS, with support from the Post-Conflict Fund managed by Lucy Keough (World Bank). Other data made available by UNICEF include the Safe Motherhood Survey, MICS, and the School Baseline Assessment Report for southern Sudan. The World Food Program, the Food and Agriculture Organization (FAO), and UN OCHA also provided helpful information on the economic and social conditions of the SPLM-held areas in southern Sudan. The Korean Trust Fund and the Swedish International Development Agency (Sida) provided financial support. UNDP assisted in coordinating our meetings with aid agencies in Khartoum, and UNICEF did the same in Nairobi and in southern Sudan.

Comments on the concept paper and early drafts of the CEM were received from Mohammad Pournik (UNDP, Khartoum), Kaadayapreph Ramachandran (UNICEF, Khartoum), Lual Deng (IDEAS, Yambio), and Luka Biong Deng (University of Sussex).

Logistic and administrative support for processing the CEM on the Bank side was provided by Roboid Covington, Patrick Mamboleo, Tanisha McGill, Momar Gueye, Saba Tekle, and Ivan Teixeira.

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EXECUTIVE SUMMARY

A. MAIN FINDINGS

1. This report focuses on Sudan's economic and social development during the 1990s. Substantial reforms were undertaken during this period, but the civil war continued to have a serious negative impact on Sudan's people and its economic prospects. While the results of the reforms have been promising, particularly in the area of macroeconomic stabilization and liberalization, the distribution of economic wealth needs to improve. Although there has not been any national household survey since 1978, social indicators point to low levels of welfare throughout Sudan, with some indicators well below those in Sub-Saharan Africa (SSA).

2. There are many issues facing the Sudanese economy, as described below.

- **There has been high growth but skewed distribution.** Sudan is rich in terms of natural and human resources, but economic and social developments since Independence in 1956 have been below expectations. Nevertheless, after many years of mismanagement, the present government's strong economic reform package contributed to high economic growth during the 1990s. The start-up of oil production and favorable weather conditions for agricultural production also helped to sustain growth. However, widespread poverty, skewed income distribution, and inadequate delivery of social services remain serious problems, even though higher economic growth and oil revenue resulted in increased government revenues.
- **Stabilization was costly in social terms.** The government can justifiably take credit for its stabilization program that brought inflation down to single-digit levels after 1997 and improved prospects for sustainable growth. With inflation running at three-digit levels during the period 1992-96, no access to external finance, and the continuing drain of resources to finance the civil war, the government balanced the budget through drastic cuts in public expenditures. Between 1992 and 1998, expenditures were cut by more than 50 percent relative to gross domestic product (GDP), causing considerable reductions in social services and infrastructure development.
- **Decentralization needs critical review.** Under the government's decentralization strategy (1992), the delivery of key services such as in education, health, sanitation, local roads, and agriculture were delegated to the states and local communities, which had neither the revenues nor the administrative capacity for these tasks. The states and local communities will require increased resources and financial and human capacity in order to deliver on their responsibilities for providing quality social and support services. A critical review of current federal-state relations, budget allocations, and administrative capacity at the state level is urgently needed.
- **High poverty rates persist.** The government's stringent economic policy and the poor state of social service delivery contributed to meager outcomes in the areas of poverty reduction and human development. While new flows of revenues from the rapidly growing oil industry and favorable weather helped to improve the broad macroeconomic situation, poverty (according to skilled observers) has shown no signs of abating.
- **Social inequalities may undermine macroeconomic stability.** The favorable macroeconomic situation may not last in the absence of structural reforms that can

generate pro-poor growth. Continued high costs of the war, the almost inevitable recurrence of droughts, and mounting social pressures resulting from pervasive poverty and high inequalities may well undermine the government's successful stabilization efforts.

- **The civil war is costly in many ways.** Peace is a necessary condition to consolidate the gains made so far and lay the foundation for rapid and sustained development. The war has been very costly in terms of human suffering and has held back development in all of Sudan. Millions of people have been internally displaced, and there are almost half a million refugees in camps in the neighboring countries. The death toll is estimated at 2 million. Warring armies continue to claim substantial resources that otherwise could go toward development.
- **There is encouraging progress at peace negotiations.** Peace talks between the government and the Sudan People's Liberation Army (SPLA)-SPLM are ongoing. A temporary ceasefire agreement has been signed, and a framework agreement was reached in July 2002, allowing for a common transitional government for six and a half years, after which a referendum on southern independence will be conducted.
- **Peace dividends depend on external support and development policies.** While peace is necessary, it is not sufficient to develop the country and reduce poverty. Moreover, for peace to be sustained, it must be accompanied by economic and governance reforms, and a formula for equitable sharing of resources and power must be found for resolving the major root causes of decades of civil war. The peace dividend is potentially high, but reconstruction and development needs are enormous and will require external financing. The prospects for external finance are fraught with substantial difficulties.
- **Rescheduling of debt is only the beginning.** Sudan is a heavily indebted poor country (HIPC) that has struggled with a high and rising external debt burden since the late 1970s. By the end of 2003, the stock of debt is projected to be at about US\$21.1 billion, most of it in arrears. Sudan's access to external financing is therefore limited, and it is vital for Sudan's further development efforts to come to grips with the debt situation. Given the size of the debt, creditors will be asked to make extraordinary efforts. A comprehensive and phased approach, including multidonor support, will be essential. Even after debt rescheduling, Sudan will still have difficulties financing all the development and reconstruction needs. Additional resources will therefore be needed, and Sudan will urgently be expected to put measures in place to improve public resource management.
- **Infrastructure is in need of major rehabilitation and development.** The vast size of the country and its fragile ecological systems require particular demands on transport facilities, communications, and other infrastructure services. Although infrastructure has been one of the main development problems in Sudan for a long time, services have deteriorated as a result of the long civil war, budgetary cuts, and limited access to foreign finance. Budget constraints imposed since the early 1990s, while necessary for stabilization of the economy, caused considerable reductions in the operations and maintenance budgets for all government institutions responsible for providing basic public infrastructure. Roads, bridges, railways, river transport, and sea ports are all in need of substantial repairs and rehabilitation. Other central public infrastructure such as large irrigation systems and power plants also need substantial rehabilitation and new investment. A thorough study to determine strategic priorities for infrastructure

development, rehabilitation, and repairs as well as indicative costs is required as a basis for planning a countrywide infrastructure development program. As part of the study, the government may wish to evaluate the opportunities for divesting itself of some infrastructure to the private sector.

- **Agricultural reform needs to be pursued.** The agricultural sector continues to be the main source of sustained growth for the economy, particularly in light of the major macroeconomic and sectoral policy changes introduced to improve production incentives in the sector since 1992. However, there remain substantial inefficiencies in agricultural production and marketing in each of the major crop and livestock producing subsectors, in some cases because of the intrusion of government. These inefficiencies should be addressed through improved support services, technical and institutional change, further deregulation of some specific markets, land reform, strategic infrastructure development, and close attention by the government to reducing the destruction of the environment. The emphasis of strategies for improved efficiency should be toward the traditional rainfed areas in order to achieve rapid reduction in rural poverty.
- **Improved social services are a high priority.** Social indicators point to generally low levels of human development, with large disparities between states and regions, and rural and urban areas. For example, it is known that the budgetary allocations to education and health compare unfavorably with much of Africa. Quality as well as quantity of service delivery needs to be raised through budgetary reallocations. In addition, a program for tailor-made technical assistance and capacity building to support such actions need to be put in place to ensure that improvements are sustainable. Reforms to improve social services ought also to consider further decentralization of revenue-raising powers and responsibilities for services.
- **War-affected areas face special difficulties.** The population in war-affected areas is insecure with respect to food supplies despite the high agricultural potential, especially in the tropical belt in the southern regions. The main constraints for developing agriculture in these regions are the lack of infrastructure, limited access to markets, long-term dependence on humanitarian assistance, and the limited experience of the civil administration. Social services, if any, are currently run mostly by donors. Structures for a civil administration exist, but the framework is largely skeletal and in need of systematic funding and capacity building. Skills, material, and procedures need to be built up from scratch. Reconstruction needs are large in scale, but current capacity for implementation is rudimentary.
- **The needs of women require special attention.** Although there have been positive developments in narrowing the gender gap in certain areas (such as education and formal employment), much more remains to be done. This is particularly true in those parts of the country that have been affected directly by civil war and among internally displaced groups, where women suffer severely from the violence and lawlessness that emerged as a result of the prolonged civil war. Many are widows and have suffered also from rape, insecurity, and other traumas. The average ratio of adult women to adult men is two to one in war-affected areas in southern Sudan, and only 1 out of 10 women is literate. It is therefore particularly important to integrate specific programs to assist women into pro-poor development strategies, in order to achieve development results and to improve the welfare of women.

B. OVERVIEW OF ECONOMIC AND SOCIAL ISSUES

Country Context

3. With an area of 2.5 million square kilometers, Sudan is the largest country in Africa and the ninth largest country in the world. Its vast area includes stretches of tropical forests, marshlands, mountains in the southern and central parts to savannah, stone and sand deserts, and mountains in the north, east, and west. The Nile, with its fertile banks, runs throughout the country connecting its various parts. Sudan shares its extensive borders with nine countries and contains 60 percent of Africa's irrigated lands. Sudan is geographically and religiously diverse. It is a multicultural, multiethnic, and multilingual country, with 134 listed languages. But though well endowed with natural resources, Sudan's economic performance has been substantially below its potential.

4. Development prospects have been adversely affected by the civil war and related governance problems. In 2002, the Sudanese civil war entered its 20th year since its resumption in 1983. Conflict and internal displacement of civilians have resulted in food insecurity in parts of the country and continue to cause egregious suffering and loss of life. Against this background, poverty is widespread, and the country suffers from a weak and uneven economic base and infrastructure. The GDP per capita for 2001 was estimated at US\$395.¹

Conflict and Peace Talks

Historical Roots of Conflict

5. Sudan has been embroiled in a devastating civil war in the southern regions since 1955, with the exception of an 11-year peace period during 1972-1983. There are multiple and complex causes behind Africa's longest civil war. Researchers trace the roots of the war to historical policies that resulted in unequal sharing of resources. The discovery and production of oil and factors of ethnicity and religion have further aggravated the situation. Subsidiary conflicts have also proliferated, many of them intertribal and land-related, and often exacerbated by land degradation, inequitable development, and poverty.

6. The Addis Ababa Peace Accord, signed in 1972, brought peace and economic growth for 11 years, but the civil war that resumed in 1983 was more intense than the conflict before 1972. The start of oil production raised the stakes, with adverse consequences for those in close proximity to the oil producing areas.

The Costs of the Conflict

7. The costs of conflicts have been heavy, especially on the civilian populations that have been denied social and economic development. An estimated 2 million have died since 1983, and about 4.5 million have been uprooted from their homesteads. Uncertain population movements and drought added to chronic food shortages, resulting in widespread famines in 1988, 1992, and 1998. The civil war has also caused large economic losses and loss of opportunities. Road infrastructure, water and electricity supply, schools, hospitals, public buildings, and so forth need to be reconstructed almost from scratch in the war-affected areas. Households have lost all or much of their belongings. Loss of opportunities is difficult to quantify, but it certainly poses

¹ Source: World Bank. "World Development Indicators."

large developmental opportunity costs. Alternative and more productive activities could have taken place if military costs had been reallocated; if institutions had not collapsed; and if trade routes, communication, and good governance had been normalized. The peace dividend is therefore potentially large, in monetary and nonmonetary measures alike.

Peace Talks

8. Numerous peace initiatives have taken place through the years. These range from national, regional, and international to grassroots initiatives and were important in contributing to a better understanding between the parties, but they did not bring peace. Most of them failed to reach agreement on constitutional changes, power sharing, or religious liberties, or failed because peace negotiations did not include all stakeholders. But in recent years, a number of grassroots peace agreements have been concluded between and within ethnic groups and rebel factions. The improved security has resulted in increased access to grazing areas, water, farmland, and fishing sites and a heightened sense of security and trust. Local markets and trade have mushroomed after these local peace agreements.

9. Recent peace negotiations under the auspices of the Inter-Governmental Authority on Development (IGAD) in Kenya are promising. They started in July 2002 between the government and the SPLA in the presence of representatives of IGAD and the so-called Troika—the United States, the United Kingdom, and Norway. Progress has been made in terms of a signed framework agreement on the principles of religious liberties and the right of the southern entity to have a referendum on self-determination. According to the framework agreement, there will be a common, unified government in Sudan for 6.5 years, at the end of which a referendum on self-determination will be held. The negotiations underway aim at reaching consensus on the details of a framework agreement, including protocols on power sharing, wealth sharing, and security arrangements.

Economic Context

Sudan's Growth Potential Is Promising.

10. The advent of peace would allow the country to take advantage of its many assets? a rich agricultural and livestock resource base with considerable export potential, sound medium-term prospects for the oil industry, a dynamic private sector, a rich and talented diaspora abroad, and the goodwill of a number of donors to support the peace process. The macroeconomic policy is basically sound, and there is a keen interest among a number of donors and international investors in supporting investment projects. Unleashing this potential will require complementary investments in infrastructure, strengthening of institutions, reforms and technical assistance for improving governance, transparency and accountability in public affairs, and a renewed focus on poverty reduction.

11. Economic reform packages have been implemented as far back as the late 1970s, but they were unsuccessful and growth was negative up to the beginning of the 1990s. Beginning in 1992, stabilization policies began to yield encouraging results. With the assistance of an IMF staff-monitored program from 1997 onwards, reforms were further deepened and speeded up. These policies resulted in curbing macroeconomic imbalances and inflation; rolling back nationalization policies and making room for the private sector; relaxing price and market controls; and strengthening the financial system.

12. These reforms were accompanied by revival of economic growth and increases in average per capita income. Good weather and startup of petroleum production aided the growth

recovery process. Annual average percentage change in per capita income accelerated from 1.2 percent during 1991-1995 to more than 4 percent during 1996-2001. But high growth in the agricultural sector and rapid development in the urban private sector did not allow the poor to catch up because of deeply rooted inequities in asset distribution, as well as policies that did not favor the poor.

Stabilization Brought Cuts in Public Expenditures

13. The government's domestic revenue ratio to GDP has been weak. With low collection of public revenue, no oil income before 1999, and limited access to external financing, the government's macro stabilization efforts were mainly concentrated on cuts in public expenditures. Relative to GDP, federal expenditure declined from an average of 18.4 percent during 1986-1990 (peaking at more than 25 percent in 1992) to 9.4 percent during 1996-2000. As a result of the drastic downsizing of the public sector, financing for social and infrastructure services was sharply reduced. Defense and security expenditures, however, remained high. By 2000, defense and security expenditure was estimated to account for about 3 percent of GDP, while development expenditures stood at about 1.5 percent of GDP (and were biased toward capital-intensive investments in energy and subsidies for large-scale irrigation). As a result of the limited resources, formal salaries to civil servants have eroded and are far below the level needed to operate an effective public administration.

14. Regional expenditures have remained a low priority. By 1998, the states and local communities received a total budget of 2.4 percent of GDP, which was supposed to finance all basic services and development. By 2001, when net oil revenues equivalent to 5 percent of GDP were added to the government's budget, regional expenditures had risen to only 4 percent of GDP, still inadequate to deliver on their mandate. This reflected an inadequate financial response, and low priority for states' expenditures. Up to the present, the decentralized public administration introduced under a federal structure in the mid-1990s has been unable to deliver sufficient social services for sustainable social and economic development.

Policies Need To Be Reoriented To Benefit the Poor

15. Although some efforts have been made recently to improve budgetary allocations to the poor, much more needs to be done. Reforms to reallocate funds within the budget, and also within sectors, would be a starting point for modifying the budget structure toward more pro-poor spending. At present, although the statistical base is incomplete for budgetary data from the states and local communities, public outlays appear to disfavor the poor. This is reflected in the allocation of resources within sectors: in education, the imbalances favored higher education relative to basic education, given the low enrollment rates in basic education in numerous states; in agriculture, the imbalances favored capital-intensive irrigation relative to traditional rainfed farming. There is also an urban bias, with urban infrastructure favored over rural infrastructure.

Agriculture Policy Needs To Be Reconsidered

16. The situation of the agricultural sector brings into question the sustainability of Sudan's approach to agricultural development centered on publicly owned, capital-intensive irrigation schemes in an economy that has a vast land area suitable for rainfed crops and livestock production and that is also labor abundant. The large federal irrigation schemes have not been sustainable financially and regularly require budget subsidies and government-guaranteed credit. In 2001, for example, irrigation and semimechanized agriculture absorbed 95-99 percent of formal agricultural credit. With the priority given to irrigation, funding for basic support services as well as credit for small-scale rainfed agriculture that supports the bulk of the rural poor, have been neglected.

17. The traditional rainfed sector obtained only between 1 and 5 percent of all formal agricultural credit in 2001 and received few other support services such as research and extension, despite efforts in the past by the World Bank and other donors to assist. Public investments in basic infrastructure for rural and agricultural development are also negligible. Yields are low and stagnating for most crops.

Social Context and Human Development

Poverty Is Widespread

18. Most of the poor are rural residents, though urban poverty is also growing, fueled by internal displacement resulting from a weak demand for labor, war, and natural disasters. In the rural areas, pastoralists and small farmers are most vulnerable to poverty. The poorest parts of Sudan are in the west and the war-torn areas mostly, but not only, in the south. The displacement of whole communities has ravaged traditional safety net systems and resulted in “man-made” famines. There is perennial vulnerability to insecurity of both persons and property. Basic human needs are often unmet. Even those areas that are relatively stable face isolation from markets and lack secure access to services for human development that can break the inter-generational poverty cycle; this can be ameliorated only by large volumes of humanitarian assistance.

19. Most urban poor are located in Khartoum State, where a large proportion of the internally displaced have settled in camps. The western part of the country accounts for a large share of the urban poor, but other areas such as the middle states also account for many. The rich are found mostly in Khartoum, Gezira, urban areas of Northern State, and parts of the east around Port Sudan.

Inequality Is High

20. Inequalities are wide between states and regions; between urban and rural areas; between war-affected and peaceful areas; between the uprooted population and residents; and between women and men. The last nationally representative household survey was held in 1978, but various small-sample studies show that social and economic inequality may be widening. Data available from labor surveys show that the top 10 percent of the formally employed acquired 51.6 percent of all earnings by labor in 1990 and 64.3 percent in 1996. At the same time, the middle-income and low-income groups have been severely squeezed. Inequality also relates to gender, rural-urban residence, and region. For example, in 2001, the national adult literacy rate was more than 60 percent for men and about 42 percent for women, but as low as 30 percent for men and 10 percent for women in the rural areas of southern Sudan outside of the control of the government.²

Human Capital Is Eroding

21. UNICEF’s Multiple Indicators Cluster Surveys (MICS) have provided a sampling of social indicators for accessible areas in Sudan, but there are major geographical gaps. Nevertheless, the data paint a picture of unequal development, with many regions falling behind. Standard indicators of literacy and primary education, including quality and efficiency in schooling, are below average for SSA.

² UNICEF, MICS 2000.

22. The average enrollment rate in primary education is only 58 percent, with wide geographic variations, including levels as low as 20 percent in some states such as Bahr El Gazal. Repetition and dropout rates are high; primary school completion rate is 53 percent. The literacy rate varies, from about 53 percent in general to about 10 percent for women in the southern regions. Quality of services is declining, with only 64 percent of teachers having some training. The situation in war-affected areas is worse; there, only 7 percent of teachers are trained and most can hardly guide pupils beyond grade 2.

23. Some health indicators show improvement, but geographic disparities are also wide. Average under-five mortality declined from 123 per 1,000 live births in the early 1990s to 105 per 1,000 by the late 1990s. This is below the SSA average of 162, but it masks deep regional disparities. Basic health indicators are among the worst in war-torn southern regions: Kordofan, Kassala, Blue Nile, and Red Sea. Some people in war-affected areas suffer from tropical diseases eradicated or brought under control elsewhere in the world. The deadliest killer, however, is malaria, which affects 24-36 percent of the population. Outbreaks of other diseases, such as Leishmaniasis, are severe health problems that cause large number of deaths. Malnutrition rates vary widely, depending on security conditions and access to humanitarian assistance. In 2001, it was 17 percent in urban areas, 30 percent in Unity State, and 7 percent in stable areas. Legacies of the civil war are reflected in the condition of households. Children (child soldiers) and women are particularly vulnerable.

24. Access to safe water is a big problem throughout the country, although access is generally much better in the cities than in rural areas. According to the National Water Corporation, about 80 percent of urban residents have access to a limited supply of safe water, but because of inefficiencies and problems with water delivery and pumps, in practice, only 50 percent have adequate access to safe water. Rural areas have on average less access; about 47 percent of rural residents have access to safe water. But in the cultivation season in southern Sudan, access is limited to about 15 percent.³

25. Limited surveys point to low prevalence rates of HIV/AIDS in the northern parts of the country, but much higher in the war-affected areas in the south. The risk of HIV/AIDS explosion is particularly latent in the south close to high-risk neighboring countries. Awareness of HIV/AIDS is low (26 percent in the rural areas in northern Sudan).

C. CONCLUSIONS

Toward a Strategy Review

26. The CEM concludes that the approach to economic development and poverty reduction in the coming years will need to give priority to peace, sustaining the gains in macroeconomic stabilization, and generating pro-poor growth. Specific conclusions are as follows.

- Refocus on reforming and improving governance, with the prime aim of improving basic service delivery and enhancing accountability and transparency at the federal, state, and community levels.

³ UNICEF, MICS 2000, p. 111.

- Promote the participation of the poor in economic growth, by refocusing rural development strategy toward the needs of traditional rainfed areas and re-orienting the regulatory framework in the private sector to support small- and medium-scale enterprises.
- Give greater attention and a larger share of budget resources to human development, with emphasis on raising access and quality of basic education, primary health care, and other critical social services.
- Shift the focus of public infrastructure development from a narrow concentration in a few states and urban areas to support more balanced regional development in line with income and employment potential of the regions. Specific decisions will need to be based on further work on regional economic growth and poverty reduction.

27. These strategic elements will have consequences for the approach to sector reforms, public resource management, and decentralization. It will be important to focus on the efficiency of public administration and to identify activities that the public sector will have to give up in favor of the private sector; public resources will need to be redirected to core services that are uniquely the responsibility of governments. The stalled privatization program will need to be revived and made more transparent. This package of reforms requires political support and administrative capacity as well as fiscal resources. The resolution of the civil war will be essential for releasing resources from the military to public services. Resolving the conflict will also relieve the politically fractious war environment that undermines action on the governance reforms. The domestic tax effort will need to improve. The debt issue needs to be addressed, with the aim of reaching a sustainable solution as soon as possible after a viable peace accord has been signed. In the event of peace, donors' development assistance is likely to increase. Hence, measures and policies for effective donor coordination and improved public resource management should be important elements of the strategy.

A Case for Development Assistance to the War-Affected Areas

29. The need for development assistance is compelling even if the conflict has not yet been resolved, in view of the chronic underdevelopment. Stable areas can be helped to be self-sustaining, and begin to build capacities that would be needed if and when peace is achieved. Such support would begin to create the basic structures needed to support systematic and sustained service delivery in line with the priorities of the people. If experience in Bosnia, East Timor, and Afghanistan is any indication, a start in building capacity now would serve to limit frustrations in implementing post conflict programs in resettlement, demobilization, reconstruction and rehabilitation, peace building, and long-term development. Assessment of short-term resource needs for resettlement, demobilization, and reconstruction and rehabilitation should start immediately. Long-term resource needs for building up the whole country to acceptable standards, including estimations for required financing of debt rescheduling, should be an important part of post conflict negotiations.

Priority Tasks Ahead

Governance and Institutional Reforms

30. Public resource management, public administration, redefining the role of the government, and accelerating the privatization program are key reform areas. Advancing the peace process and defusing second-tier community conflicts fueled by rural poverty and arguments over the control of natural resources will require constitutional reforms. Obviously,

the political and constitutional reforms will evolve from the broader impetus of the peace negotiations, and are beyond the scope of the CEM.

31. **Public resource management.** The main actions should be to increase domestic revenues, shift the allocation of expenditure to become more pro-poor, raise the effectiveness of expenditures in line with priority services, and address issues of fiscal transparency and accountability.

- Priority should be given to increasing the tax base and eliminating all discretionary exemptions. In addition, any targeted exemptions should be made statutory, and a system for evaluating the impact of statutory exemptions should be established to inhibit corruption.
- A systematic process should be established for screening development projects and formulating an annual Public Investment Program, including guidelines and establishing priorities for bringing new projects into the development budget for funding.
- Preparations need to be made to adopt a medium-term expenditure framework for managing public resources.
- The transparency and coverage of public budgets must be improved. A Country Financial Accountability Analysis or a Public Expenditure Review should be undertaken, with a view to strengthening enforcement of transparency, accountability and coverage. A program should be prepared and implemented to strengthen the capacity of the Auditor General and accounting capacity more generally. A program should also be developed to introduce uniform procurement guidelines and establish a private sector-dominated appeals board on procurement in the public sector.

32. **Public administration.** Public administration will need to be realigned in light of the outcome of the peace negotiations, which were moving toward a conclusion at the time this report was being completed. As a first step, a database on existing civil servants should be prepared. Skill gaps and other capacity constraints should be identified along with what needs to be offered to strengthen capacity and methods for selecting and providing access to those who need training.

33. **Redefine the role of the government.** This task is also dependent on the outcome of the peace process. However, work should be started even if the conflict has not yet been resolved. A mapping of expenditures and revenues from the states and local communities, as well as transfers from the federal states will be needed, as well as an expenditure tracking exercise. These would form a basis for analyzing the federal system. An important part of this function should be frank identification of those activities that need not be undertaken by the public sector but that ought to be divested to the private sector over a suitable period of time.

34. **Accelerate the implementation of the privatization program and foster private sector development.** Bottlenecks within the current privatization program need to be identified, and viable methods to achieve improvement need to be analyzed. Accelerating the program and broadening the scope of privatizations should be reconsidered, especially in the agricultural sector. Measures are needed to encourage the development of small and medium-size enterprises (SMEs), including in rural areas.

Agricultural Development:

35. **Focus on subsectoral priorities and rural development.** Preparation of the 25-year Comprehensive Strategic Plan and the Poverty Reduction Strategy Paper (PRSP) has given the government the opportunity to revisit and revamp the basic approach to agricultural development. Lessons from the past warrant measures focused not simply on promoting growth, but on poverty-reducing growth. An important step in that approach is to reassess the role of the key subsectors in agriculture? irrigation, semi-mechanized, traditional rainfed, and livestock? and to determine the strategic development options, taking into account the potential for income and employment generation and the roles of the public sector.

- Low productivity in the rainfed traditional sector is the main source of low income, and it has resulted in substantial migration of people to urban areas. Policies need to aim to raise yield levels, avoid government interventions in marketing, and focus the role of the government on providing support services outside the scope of individual rural people. The most important of such support services will likely be investment in rural infrastructure (roads, improved health services, improved education facilities and quality of education, markets and market information, improved stock routes, veterinary services, and improved water supplies for domestic use and for livestock). In other words, there is an urgent need for broad rural development based on enhanced basic infrastructure and improved production incentives through improved technology and efficient markets.
- The fluctuating production in the semi-mechanized farming sub sector should be analyzed and policies should be formulated that, despite the risk of drought, will result in achieving more predictable production for domestic and export markets.
- The government has embraced extensive reforms in its role in federal government-owned irrigation schemes. Some steps toward this have been taken already; however, the government could move faster to consider reforming the management and institutions in the Gezira Irrigation Scheme as well as other large federal government-owned schemes. Such reforms could release funds for activities that would enhance efficiency and incomes in the poorer segment of the agricultural sector.

Poverty and Human Development

36. **Further work on monitoring of poverty and social developments.** The latest national household income and expenditure survey was done in 1978. It needs to be updated to help clarify the current welfare status of households in Sudan. A comprehensive national household income and expenditure survey would inform policy decisions and assist in the development of pro-poor growth strategies. A national population census, planned as soon as a peace agreement has been signed, should provide a wealth of demographic data and form the basis for the sampling frame for the household survey. A national agricultural census should also be undertaken at the earliest opportunity to inform a pro-poor agricultural policy. All of these surveys would contribute to improving the accuracy of the National Accounts.

37. In the meantime, current poverty programs such as Zakat and the Social Solidarity Fund need to be assessed to determine how they could be improved or restructured. The impact of these programs on poverty has not been assessed in a systematic way, but they are said to be competing for resources with the traditional social support systems, which are informal, more targeted at the poor, less biased toward urban areas, and carrying lower overhead costs.

38. **Education.** The main objectives for the education system are to improve access and raise quality to a uniform national standard irrespective of location and gender. Actions needed to achieve these objectives include to evaluate the public sector's role in education, and increase the proportion of public expenditures devoted to education.

- The priorities and roles for public and private providers for the three levels of education (basic, secondary, and tertiary) need to become the core of an ongoing policy dialogue on education. Accordingly, allocation of fiscal resources among the three levels of education should be examined closely in order to ensure that priority is given to primary and secondary schools and incentives for teachers to work in remote rural schools. Efficient budget allocation should be promoted in accordance with priorities for school infrastructure, salaries, other operating costs, and maintenance.
- High priority needs to be given to some urgent actions, namely: strengthening the planning capacity in the education sector so that expansion and improvement of primary education can take place efficiently; taking stock of rural education at the primary level in the states so as to make an accurate assessment of the investment required to bring teachers, curricula, and school infrastructure up to a predetermined standard; and redressing the gender gap in education, particularly in the southern parts of the country.

39. **Health.** The roles of public and private providers of health care services need to be clarified, and the functions among the different levels of government spelled out. Government services would typically be national immunization programs, control of communicable diseases, primary health care services in villages and communities, research and dissemination of information on better health, and inspection of public and private health care facilities. All of these activities have substantial *externalities*, namely, benefits over and above the direct effect of improved health services.

40. Urgent priority activities for action need to be identified. These could include: strengthening the planning capacity in the health sector so that improvements in primary health care can take place efficiently; attacking the increasing threat of malaria; and disseminating essential information about the causes of HIV infection and its prevention widely and rapidly.

PART I

UNEVEN DEVELOPMENT AMIDST CONFLICT

1. CONFLICT AND PEACE INITIATIVES

A. SOCIOECONOMIC CONTEXT

1.1 With an area of 2.5 million square kilometers, Sudan is the largest country in Africa and the ninth largest country in the world. Its vast area includes stretches of tropical forests, marshlands, mountains in the southern and central parts to savannah, stone and sand deserts, and mountains in the north, east, and west. The Nile, with its fertile banks, runs throughout the country, connecting its various parts. It shares its extensive borders with nine countries.⁴ The diversity of Sudan's geography is also reflected in its people, who are multicultural, multiethnic, and multilingual. Like many other countries in Sub-Saharan Africa (SSA), Sudan has experienced many years of political tension and civil war since it became independent in 1956. Sudan's population in 2001 was estimated at 31.7 million⁵. Most of the country is sparsely populated because of the arid conditions and the substantial rural-urban migration in recent years. The vast majority of the population is poor, with an average per capita income estimated at US\$395⁶ in 2001.⁷ This average masks wide regional disparities in economic and social development. Though well endowed with natural resources in relation to its population, Sudan's economic performance has been substantially below its potential.

1.2 This chapter provides a background to both conflicts and peace initiatives. Although several complex and thorny issues contribute to explain the war, major factors appear to be economic and political inequalities. The chapter briefly discusses the historical dimension of inequalities in Sudan. Inequalities have deep historical roots that have resulted in political and economic dualities and contributed to costly conflicts. A mutiny among southern troops in Equatoria Province in 1955 developed into a chronic state of insurgency against the central government. The Addis Ababa peace accord, signed in 1972, suspended hostilities and provided regional autonomy to southern provinces. But in 1983, the joint governance with the southern entity was dismantled. Hostilities resumed and a civil war unfolded that to date is Africa's longest. A number of peace initiatives were launched during the 1980s and 1990s, but none was successful in ending the war. A breakthrough was reached in July 2002, when a framework peace agreement was signed in Machakos, Kenya, by the government and the rebel movement Sudan People's Liberation Movement-Sudan People's Liberation Army (SPLM/SPLA).

1.3 The chapter concludes that there is potentially a large peace dividend. The costs of conflict have been heavy on civilians, who have suffered losses and forgone opportunities. Despite vast natural resources, the average per capita income in Sudan is below the Sub-Saharan average of US\$468. Inequalities in resource sharing and the effects of war have left large parts of the population in extreme poverty. For example, more than 4 million internally displaced persons with no sustainable source of income have made Sudan vulnerable to widespread famines.

⁴ Countries bordering Sudan are Central African Republic, Chad, Democratic Republic of Congo, Egypt, Eritrea, Ethiopia, Kenya, Libya, and Uganda. Sudan's size is equivalent to more than twice that of Germany, France, and Italy combined.

⁵ Population numbers are estimates from the Central Bureau of Statistics based on the last population survey from 1993, which estimated the urban population at 30 percent and the rural population at about 70 percent, including nomadic groups.

⁶ *Source*: "World Bank Development Indicators."

Agricultural Resources

1.4 Sudan has a vast and diverse agricultural resource base that provides various means of sustaining a livelihood. Its irrigation schemes are among the largest in the world, producing cotton and food crops. Rainfed areas produce livestock, lumber, grain, and tree crops, and rivers, lakes, and coastal areas offer rich fishing opportunities. Water resources include the Blue Nile and White Nile and other large rivers, lakes, and swamps. The Sud, situated in the south-central part of the country, is the largest swamp in the world; at peak flood, it covers an area of at least 30,000 square kilometers.⁸ Although the climate varies from extremely dry in the far northwest to mostly tropical in the south, with substantial rainfall that can last as long as nine months in some areas. Annual rainfall can reach as much as 2,200mm in Equatoria.

1.5 The quality of the soil and availability of water vary. About half of the land surface is susceptible to severe periodic droughts of long duration. Large areas are ecologically sensitive and require careful management for sustained agricultural and pastoral production. Currently, only 20 percent of potential arable land is cultivated. In war-affected areas, only a fraction of the water and land resources are used.⁹

Mineral Resources

1.6 Oil and gold are Sudan's most important mineral resources. Oil exploration first took place offshore in the Red Sea, where gas was found in 1974. Although oil exploration on land began in 1975, there were no significant results until 1980, when the Unity oil field north of Bentiu was discovered. Controversies about subsurface and surface land rights contributed to the resumption of civil war in 1983, and oil resources became a strategic target. Foreign oil companies abandoned their investments and pulled out when the Unity oil field was attacked in 1984 with loss of life. Although new foreign oil companies restarted oil production on a commercial scale since 1999, further exploration and drilling, were and are hampered by the civil war.

Forestry

1.7 There are significant forestry resources that can provide the basis for a sustainable timber industry and wildlife tourism in the event of peace. Because of the civil war, wildlife has been decimated, and care of parks and reserves has been undermined. Besides the natural forest, teak plantations, mahogany species, extensive gum arabic groves, and many national parks and forest reserves have large potential economic value. Currently, forest resources are used mainly for gum arabic production and subsistence needs. Although more than 80 percent of the rural population depends on forest products, forestry accounts for less than 2 percent of GDP.¹⁰

B. BACKGROUND TO CONFLICTS

1.8 Since 1955, Sudan has been torn by conflicts and civil war, interrupted only by an 11-year peace period during 1972-1983. While complex alliances and coalitions lie behind the main factions of the civil war, the two leading protagonists are on one side the Government of Sudan,

⁸ Collins, Robert. 1992. "The Society and Its Environment," in Metz, Helen Chapin (ed.) 1992. "Sudan: A Country Study."

⁹ National Development Foundation (NDF).

¹⁰ This percentage represents a CEM team estimate based on statistics from CBS (see Tables 2.1 and 7.1).

presently represented by the National Congress Party (NC) and, on the other, the opposition National Democratic Alliance (NDA). SPLA is the main military member of the NDA. Neither of the two main protagonists is monolithic; on the contrary, there are periodically changing alliances and coalitions. Each faction has divisions and internal feuds based on religion, assets, geography, grievances about inequities, political objectives, and ethnicity.

1.9 The political environment has not been stable in Sudan since Independence. Instability has been fueled in part by the civil war, economic difficulties, and governance problems. Several coup d'états have been staged, military powers have dominated over parliamentary regimes, and governments have dissolved and reformed. The initial parliamentary regime that governed at Independence in 1956 experienced severe economic and political problems and was overthrown by a coup at the end of 1958. The military regime gave up power in 1964, after a wave of civil riots and strikes in protest of army rule. A provisional government took over until 1965, when parliamentary elections led to a coalition government. In 1969, a military coup brought Colonel Nimeiri to power. During President Nimeiri's term of office, the Communist Party staged a successful coup but managed to stay in power for only some days before the Nimeiri Government was restored. Despite a coup attempt in 1976, President Nimeiri ruled until 1985, when senior military officers mounted a successful takeover. In 1986, power was handed over to civil rule, and a series of different coalition governments succeeded each other up to 1989, when the current regime came to power through a military coup.

1.10 In 1972, during the rule of President Nimeiri, a peace accord was signed in Addis Ababa that promised greater regional autonomy and political freedom for southern Sudan. As part of the plans for autonomy, a strategy for economic development was adopted and implemented in southern provinces. However, relations and cooperation between the president and the vice-president who represented southern Sudan deteriorated steadily with time. There were several major disagreements, ranging from ownership of subsurface and surface land to complaints about low governance capacity. The decision to dismantle the Southern Regional Assembly in 1981, as well as the plans to build the Jonglei Canal through Al Sud added to strained relations. The Addis Ababa peace agreement finally broke down in May 1983. Shortly afterwards, Shari'a law was promulgated to apply to the whole of Sudan.

1.11 After the peace broke down, the civil war that resumed was more intense than it had been before 1972. Since the mid-1990s, the SPLA has controlled parts of the rural areas of the southern Sudan, while the government has retained control of the major urban centers. In between there are contested areas, subjected to periodic raids by the warring factions. The start of oil production raised the stakes in the war, with adverse consequences for the population in close proximity to the oil-producing areas.

Sources of Conflict

1.12 While there are multiple and complex reasons for any civil war, researchers have tried to point out common factors that increase the risks for civil wars. For example, Ali, Elbadawi, and El-Batahani¹¹ found that the prevalence of war is driven by a combination of factors that both trigger civil wars and increase their duration. Their explanations cover the full range of economic, political, ethno-cultural-religious, and external causes of conflicts. Econometric models were used to explain how polarization, in terms of social and economic development, religion, and culture, result in grievances about inequities in economic and political participation.

¹¹ Ali, Elbadawi, El-Batahani. 2002. "On the Causes, Consequences and Resolution of Civil War in Sudan."

A connection between wars and financial resources was found in that natural resources and external support help to finance wars.

1.13 Researchers' theories and econometric models have been applied to the situation in Sudan. Polarization was aggravated by Sudan's historical past, by both the experiences of direct Turko-Egyptian rule (1820-1885) and the colonial policies during the Condominium rule under Britain and Egypt (1899-1956). Both periods contributed to alienation and isolation of the southern parts of the country.

1.14 A feature of polarization was set by the British in their pursuit of the "Southern Policy." Through the Southern Policy, the British strategy was to separate southern Sudan from the rest of the country, possibly in order to integrate it into British East Africa or to keep it as a buffer zone against the threat of another uprising. Memories of the humiliating loss in 1885 when the revolutionist Mahdi regime overthrew and murdered General Gordon were still fresh. Therefore, the southern area was treated as a "closed district," with strict laws that prohibited or restricted entry and trade. Sudanese not born in southern Sudan, as well as foreigners were not allowed to enter or trade in the closed district unless they had special passports and permits to trade. Moreover, the Permits to Trade Order from 1928 restricted native southerners to trade only in local produce, apart from ivory, at controlled markets in town centers.

1.15 The colonial power pursued educational and developmental policies that resulted in unequal distribution of economic opportunities and human resource development. The buildup of political and economic elites also contributed to inequalities. The education policy for southern Sudan implied that only Christian missionary schools were allowed. By 1926, there were only five elementary missionary schools for boys and nine for girls. No government schools or secondary schools existed until 1948. Meanwhile, the education policy in other parts of the country aimed at educating an elite of Sudanese to work in the British administration. Gordon Memorial College in Khartoum was one of Africa's most prestigious institutions for higher education.

1.16 Political elites were being groomed to work for the administration. The business interests of these few families were enhanced by preferential allocation of land, business contracts, and financial assets. No such elite families were fostered in the southern part of Sudan.

1.17 Development policies differed for different regions, resulting in unequal social and economic developments. While large investments in roads, railways, ports, irrigation schemes, and civil administration took place in northern areas in order to build up an export economy of gum arabic and cotton, investments in southern Sudan were limited. Development programs were absent from the Southern Policy. Hence, long-term growth in the southern part of the country suffered. At Independence, 10 years after the Southern Policy had been abandoned, many years of neglect and marginalization had contributed to a GDP per capita in southern Sudan that was about two-fifths of the average GDP per capita in the rest of the country (Table 1.1). Average GDP per capita was estimated at US\$39 for the southern provinces and US\$93 for all other provinces. Masked in these average measures were large inequalities between and within regions and provinces.

Table 1.1: Estimated GDP per Capita and Output Shares by Regions, 1956

Region	Provinces	Population share (%)	GDP per capita (US\$)	Share of total GDP (%)	Share of agricultural output (%)	Share of industrial output (%)	Share of services (%)
Northeast	Northern, Kassala, Khartoum	23	92	29	14	38	48
Blue Nile	Blue Nile	20	118	29	37	23	20
Northwest	Kordofan, Darfur	30	76	29	34	21	23
Total excluding southern provinces		73	93 ^{a/}	87	85	82	91
Southern provinces	Bahr El Ghazal, Equatoria, Upper Nile	27	39	13	15	18	9
Total		100	78^{b/}	100	60^{c/}	5^{d/}	35^{e/}

a/ Average GDP for Sudan excluding southern provinces.

b/ GDP for Sudan.

c/ Share of agriculture in total GDP.

d/ Share of industry in total GDP.

e/ Share of services in total GDP.

Source: Ali, Elbadawi, El-Batahani. 2002. "On the Causes, Consequences and Resolution of Civil War in Sudan."

Economic and Political Duality

1.18 At the eve of Independence, resources were unequally distributed, and the structure of the economy was dual. Agriculture contributed about 60 percent of GDP, services to about 35 percent, and the industry sector was about 5 percent. While agriculture was the backbone of the economy in the whole country, production techniques were more diversified and modern outside of the southern provinces. But there were large regional differences and inequalities. Whereas large irrigated agricultural schemes in the Blue Nile Province contributed to more than one-third of the whole country's agricultural production, the mode of agricultural production in the northern, western, and southern provinces was subsistence farming and livestock herding. The southern provinces contributed only 15 percent of the country's agricultural output, about 18 percent of industrial output, and 9 percent of services.

1.19 At Independence, southern Sudan was much weaker both politically and economically than the rest of the country. The pool of educated and experienced southern Sudanese was very limited. The legacy of no secondary schools and higher education implied a generally low education level, with hardly any human or institutional capacity for running a public administration. When preparing for Independence, the "Sudanization Policy" during 1953-1955 aimed at replacing colonial administrators with Sudanese manpower. As it happened, a small proportion was manned by southerners, and many other areas were underrepresented, as the well-educated were concentrated in or around Khartoum. Representation of southerners and other areas on the periphery of Khartoum in the first parliament after Independence was below the proportion of inhabitants.

Other Conflict-Related Issues

1.20 Though the historical background explains some of the grievances of economic and political inequalities, the conflict has since evolved into contention about broader and more

thorny issues.¹² The main divisive issues driving the civil war have evolved from different stages and may be categorized broadly along the following lines:

- **Constitutional reforms** that safeguard basic rights, including legal recognition and protection for formal political opposition groups. The demand for democratization includes demands being made on the government by political parties operating within the northern political structure.
- **Sharing of power**, including the structure of the state, parameters of federalism, representation in common central authorities, presidency, and self-determination for southern Sudan with specific constitutional and institutional contours to be negotiated.
- **Separation of state and religion** and constitutional guarantees for religious liberties. Religion emerged as a contentious issue with the introduction of Shari'a law in 1983.
- **Sharing of national resources**. While assets such as land, cattle, and water sources featured in both the civil war as well as in community-level, second-tier conflicts, resource sharing got a firm foothold in the conflict with the start of oil production. A succession of reports has documented in considerable detail the violent escalation of fighting in the oil fields.¹³
- **Land ownership**. One consequence of the shift from subsistence farming to mechanized agricultural schemes has been formal land laws that do not acknowledge customary rights of land ownership. In some areas, this has strengthened the rights of leaseholders for large-scale farming schemes at the expense of smallholders, nomads, and pastoralists. The issue of subsurface land ownership rights became important after oil was discovered.

1.21 In addition, and interrelated with the above, the war itself is breeding and amplifying fighting for the control of assets and for tactical reasons. Civilian settlements have been attacked and looted. Stripping civilians of assets such as their homes, livestock, crops, and so forth has enriched individuals involved in the war. In addition, traditional tribal fighting has been continuing? although possibly held back by the larger war? often motivated by conflict over livestock, grazing areas, or land. The result has been massive population displacement and a culture of violence, which have led to further fighting and asset stripping.

1.22 Moreover, insecurity and fighting have taken place both in the northwest and the east of the country. These conflicts also derive from economic and political inequalities.

The Costs of the Conflict

1.23 There is no doubt that civil wars are costly. An econometric study by Paul Collier¹⁴ finds that countries that are affected by civil wars grow around 2.2 percentage points more slowly during civil war than during peace. If this relation holds also for Sudan, it would imply that incomes are about 60 percent lower than they would have been in the absence of 21 years of civil

¹² See, for example, *God, Oil and Country: Changing the Logic of War in Sudan*. International Crisis Group Press, 2002.

¹³ Johnson, D. 2001. "Food Aid, Land Tenure & the Survival of the Subsistence Economy."

¹⁴ P. Collier. "Breaking the Conflict Trap.", World Bank Policy Research Report, 2003.

war. Sudan's GDP per capita would have been above US\$600 in 2001, well above the SSA average. The most devastating costs of the conflict relate to the arresting of human capability, destruction of social and economic assets, and lost opportunities.

- **Human death** is estimated at about 2 million since 1983. The team did not manage to find any statistics on number of disabled, traumatized persons, raped women, or orphans.
- **Chronic food shortages** have been caused by the war. Massive population movements and drought added to the chronic problems, resulting in widespread famines in 1988, 1992, and 1998.
- **With about 4 million uprooted internally displaced persons (IDPs)**¹⁵, Sudan has the largest number in the world. Many surveys show that the displaced are more impoverished and less able to draw on kinship support than permanent residents. Up to 2 million IDPs have fled to areas in southern Sudan, including 300,000 in government-held towns. About 1.8 million fled to Khartoum State, of whom 220,000 are in 4 official camps, and the rest in 15 squatter neighborhoods. About 0.5 million IDPs were uprooted within government-controlled areas in the east and the contested areas.
- **About 490,000 have sought refuge status** in UNHCR camps in Uganda, Ethiopia, Democratic Republic of Congo (DRC), Kenya, Central African Republic (CAF), and Chad. The number of refugees outside of UNHCR's control is not known, but probably there are many urban refugees without legal documentation in the cities in neighboring countries. Moreover, a large population of Sudanese exiles live in Egypt and elsewhere, many of whom consider themselves to be refugees despite lack of official refugee status from host governments.
- **A large number of Sudanese are resettled** in more industrialized countries such as Europe, Canada and the United States.
- **High military expenditures.** The devotion of a large portion of national resources to warfare at the expense of investments necessary for economic and social development has had a detrimental impact on growth and welfare. Federal expenditures on defense and security were estimated at 2.7 percent of GDP in 2000 (equivalent to about US\$1 million a day).¹⁶ The official estimate exclude extra-budget expenditures funded by sympathetic bilateral sources and expenditures incurred by the states, the SPLA, and other factions.
- **Loss of institutions.** Deep distrust and the absence of widely accepted institutions and processes have resulted in the reduction of opportunities for mediating differences and forging compromises necessary to resolve national disputes, including disputes surrounding economic development strategy and policy reforms.
- **Loss of economic assets.** Damage to road infrastructure, bridges, water sources, schools, hospitals, oil pipelines, livestock, and other farm assets have direct as well as indirect costs. In addition to the direct costs of destruction, loss of infrastructure, for example, limits access to markets, agricultural growth, and thus incomes.

¹⁵ Statistics on IDPs and refugees were found in *UNHCR Statistical Yearbook 2001*.

¹⁶ Source: Government's comments on the CEM, 10 September 2002.

- **Loss of opportunities.** Sense of insecurity and fear restrict human behavior, and development. People invest less and retreat into those subsistence activities that are less vulnerable. Fear of mines, for example, may imply that large fields remain uncultivated for many years even after war has discontinued. Opportunities are lost also as war limits transparency and erode good governance.
- **Losses from the disruption of trade routes and communication** are reflected in high transport costs, which have inhibited trade and the distribution of food. Human aid organizations have calculated that transport costs represent up to 70 percent of the total cost of food aid.

C. OVERVIEW OF PEACE INITIATIVES

1.24 Numerous peace initiatives have taken place throughout the years. These range from national, regional, and international to grassroots initiatives. Whereas the first three mentioned initiatives have aimed at peace between the government and rebel forces primarily represented in southern regions, the latter efforts have targeted peace between ethnic groups or army factions. Though most national, regional, and international peace initiatives were important in bringing issues forward and in contributing to a better understanding between the parties, they never managed to bring peace. Most of them failed to reach agreement on constitutional changes, self-determination, or coverage of Shari'a law. Another common cause of failure was that negotiations did not include all stakeholders. However, a breakthrough was reached in July 2002, when a framework peace agreement was signed in Machakos, Kenya. Continual and deeper peace negotiations under the auspices of the Inter-Governmental Authority on Development (IGAD) in Kenya aim at agreeing on details under the Machakos framework agreement. A number of temporary ceasefire agreements have been reached in order to cover the time it will take to reach a peace agreement.

Recent Initiatives

1.25 Recent peace negotiations under the auspices of the IGAD in Machakos in Kenya are the most promising to date. In the presence of representatives of IGAD, the United States, the United Kingdom, and Norway, a framework agreement was signed by the government and the SPLA/SPLM in July 2002. This framework agreement lays out the principles of religious liberties, the role of Shari'a law, the rights for the south to have a referendum on self-determination, and some aspects of transition arrangements. Moreover, the framework agreement concluded that Shari'a law would not be imposed in the southern parts of the country. The negotiations that are scheduled to last, with intermissions, until late summer 2003, aim at reaching agreements on the implied details of the framework agreement. This will include detailed protocols on power sharing, wealth sharing, and security arrangements. In connection with the Machakos peace talks, discussions about the future of the three marginalized areas in Nuba Mountains, Abyei, and Southern Blue Nile are expected to result in agreements.

National Peace Initiatives

1.26 Efforts to reach peace again after the Addis Ababa accord broke were made by various Sudanese governments from the mid-1980s and up to now. The incoming Transitional Military Council asked the SPLA/SPLM in 1985 to join the government. However, the parties could not agree on a number of thorny issues, the coverage of Shari'a law, and necessary constitutional changes. As a result, civil war continued. The next national peace effort took place the following year, when the Umma Party and the SPLA/SPLM reached a peace agreement. However, the other parties in the coalition government had not participated in the negotiations and they

opposed the agreement. In November 1988, the SPLA/SPLM and the Democratic Unionist Party (DUP) reached an agreement that was endorsed by the majority of the National Assembly. As arrangements for the constitutional conference that was part of the agreement proceeded, the coalition government was overthrown.

1.27 Beginning in 1995, the government began to focus on a political strategy of “peace from within.” In April 1996, the government’s Supreme Council for Peace put forward a nonbinding document containing a general framework for peace. This developed into the Khartoum Peace Agreement, which was concluded between the government and several southern factions, excluding SPLA/SPLM, in April 1997. Although key principles such as accepting the IGAD Declaration of Principles (see below) were accepted and included in the 1998 constitution, large parts of the agreement remained unimplemented. The president of the Southern Co-ordination Council, the implementing body of the Khartoum Agreement, broke with the government in December 1999 and formed a new rebel movement, the Sudan People’s Democratic Front (SPDF).

Regional and International Peace Initiatives

1.28 In 1992 and 1993, Nigeria launched peace talks in its capital, Abuja. Both times, the talks soon collapsed because the parties (The National Islamic Front (NIF) and SPLA/SPLM) were far from each other on a number of issues. In the wake of the failed Nigerian initiatives, the Inter-Governmental Authority on Drought and Desertification (IGADD, a precursor to IGAD) launched Sudanese peace negotiations in Nairobi in 1994. Under the influence of Prime Minister Meles Zenawi of Ethiopia, and to some extent President Isaias Afewerki of Eritrea, and with the support of the governments of Kenya, Uganda, Somalia, and Djibouti, the IGADD developed the Declaration of Principles (DoP), which embraced the southerners’ rights to self-determination at the same time as it declared that preference should be given to establishing a united Sudan, provided that certain principles about human rights, resource sharing, and democracy were fulfilled. Later in 1994, the peace talks were officially adjourned. In connection with national peace efforts through the Khartoum Peace Agreement in 1997, the government accepted the DoPs. By that time, IGAD had superseded the IGADD and was considerably strengthened. IGAD Partners Forum (IPF) had been created with three levels of ministerial, ambassadorial, and technical levels partnership.¹⁷

1.29 IGAD hosted the Lake Bogoria talks in Kenya in October 2000, with the result that the government and SPLA/SPLM stated their positions on all elements of the DoP in writing. There were no further talks within the IGAD peace initiatives until July 2002 in Machakos, Kenya.

1.30 During 2001, the Joint Libyan-Egyptian Initiative formulated alternative DoPs that called for the inclusion of more Sudanese stakeholders in the peace process, a transitional multiparty government, ceasefire, and a greater role for Egypt in the process. The Government of Sudan agreed, but the SPLM/SPLA demanded that the DoPs include reference to self-determination, secularism, and coordination with the IGAD peace process.

1.31 The United States launched a peace initiative with the appointment of a Peace Ambassador in September 2001 (a few days before the September 11 events). Based on progress with an initial agenda, peace talks chaired by the United States in Switzerland in mid-January

¹⁷ The IPF includes the following members: Austria, Belgium, Canada, Denmark, France, Greece, Germany, Ireland, Italy, Japan, the Netherlands, Norway, Sweden, Switzerland, United Kingdom, United States, the European Commission, United Nations Development Programme, and the World Bank.

2002 resulted in a temporary ceasefire agreement in the Nuba mountains that would allow humanitarian assistance for the area. The United States suspended its role in the peace process in February 2002 following a military attack and loss of civilian lives at a UN relief food distribution location. U.S. involvement in the peace process resumed in early March, and another ceasefire agreement was reached in the Nuba mountains. The arrangement provided for free movement in the Nuba mountain war areas, including areas held by the SPLA. In the demilitarized zones, the Nuba people will have access to fertile land, and the area will be accessible for humanitarian agencies to deliver relief services by air. A joint military commission headed by Norway is monitoring the ceasefire on site.

Sudanese Grassroots Peace Efforts

1.32 Although in simplistic terms Sudan's civil war can be understood as the Government of Sudan fighting southern rebels, the conflict is in reality much broader. A number of ethnic and factional conflicts and wars have taken place in the southern, eastern, western, and central parts of Sudan. Cattle and economic assets have been at the center of largely interethnic and intra-ethnic fighting. The Dinka and Nuer, which are the largest ethnic groups in southern Sudan,¹⁸ have been fighting both each other and subgroups. Examples of other conflicts are the deeply rooted hostility between the Dinka and Baggara¹⁹ groups, which traditionally have been engaged in mutual raids, stealing cattle and abducting members of their respective communities. These conflicts have been aggravated by the civil war, which has bred violence, increased the availability of weapons, reduced the livestock population, and limited access to grazing land and water. The split-up of the SPLA in 1991²⁰ contributed to more southern factions and increased hostilities within ethnic groups.

1.33 The grassroots peace efforts aim at concluding agreements and peace within ethnic groups and southern factions. In 1999, there was a breakthrough in this "people-to-people movement" when the Wunlit agreement was signed between Nuer and Dinka on the West Bank of the Nile; the two groups had been on opposite sides of the war since the split-up of the SPLA in 1991. Local Nuer and Dinka chiefs, religious leaders, and women led the peace negotiations. Among the fruits of the Wunlit agreement were increased access to grazing areas, water, farmland, and fishing sites and a heightened sense of security and trust. The Wunlit agreement has also acted as a catalyst and model for other grassroots peace agreements. After the Wunlit agreement was signed, similar agreements were concluded in Waat (1999), Liliir (2000), Warawar (2000), and Kisumu (2001). The agreement in Kisumu reduced the number of southern factions when the Sudan People's Democratic Front (SPDF) and the South Sudan Liberation Movement (SSLM) were united. In early 2002, they merged into the SPLA/SPLM.

¹⁸ According to the census in 1956, these two groups constituted more than 50 percent of the population in the south. Within both Dinka and Nuer there are several subgroups, including the Dinka-Bor, Dinka-Padang, Nuer-Lou, and Nuer-Gawaar.

¹⁹ The Baggara Arabs consists of Messeriya and Rezeighat subgroups. The conflict between Dinka and Baggara has taken place in the transition zone between southern Darfur and Kordofan and northern Bahr el Ghazal.

²⁰ Riek Machar left the SPLA and created his own rebel movement, which later concluded an agreement with the Government, and Riek Marchar became the president of Southern Councils. In 1999 he left the government and took up fighting with both the Government of Sudan and the SPLA. In early 2002 his faction, the Sudan People's Democratic Front (SPDF), united with the SPLA. Riek Machar and his movement have represented a big portion of the Nuer ethnic group.

D. CONCLUSIONS

1.34 Peace could bring large dividends. In the short to medium term, production and commerce could revive quickly as people return to their farms, villages, and towns and resume normal everyday activities in a secure environment. In the longer run, development of human and physical resources could help Sudan reach its highly promising potential. Much rides on Sudan's various ethnic groups being able to put aside their immediate concerns and fear and find common ground.

2. GROWTH: PAST AND FUTURE

2.1 The previous chapter showed that there is a potential large peace dividend. The costs of the war are high in many aspects. Although Sudan is rich in natural endowments, it is a poor country with per capita incomes below those of SSA average. At Independence, Sudan had a skewed income distribution. The Colonial power's education and investment policies had discriminated against the southern provinces. In particular, the Southern Policy isolated southern Sudan and cut it off from development. The overall structure of the Sudanese economy was characterized by a high concentration of political and economic power in the north.

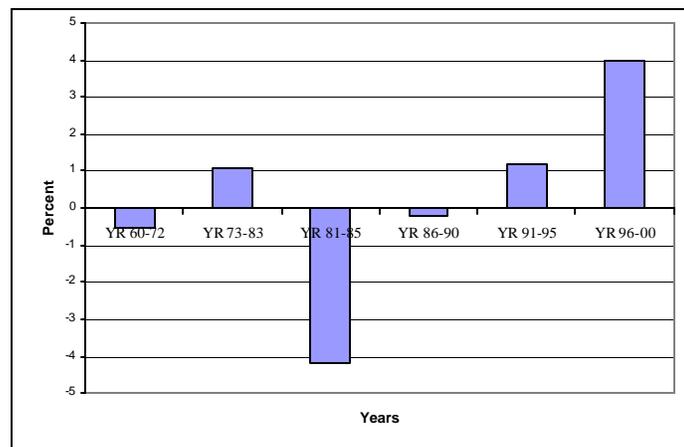
2.2 This chapter investigates economic growth trends after Independence. It concludes that the long-term growth trend has been below expectations, considerable differences in economic development in different parts of the country persist particularly between north and south, and inequalities seem to have risen. While peace is necessary to give Sudan a chance to address its long-term problems, peace in itself will not solve the underlying and intertwined factors that have held back the economy and resulted in inequalities to persist.

2.3 After Independence, there were only two periods of positive economic growth: during 1972-1983 and in the 1990s. During the first period, peace prevailed. Although the government's economic policies were not growth oriented, there were large external capital inflows and technical assistance which stimulated economic activity. During the second period of positive growth in the 1990s, the government pursued macroeconomic stabilization policies. While considerable credit goes to the economic reform package, years of relatively drought-free agricultural growth and the boom in oil and oil-related industries and services also contributed to the high growth in GDP.

A. SLOW GROWTH AND ACCUMULATION OF DEBT (1956-1990)

2.4 For much of the time after Independence, up to 1990, the approach to economic development involved an expanded role of the state as both an investor and manager of enterprises. Sudan experimented with "Arab Socialism," influenced by President Nasser's socialist policies in Egypt. A military coup in 1969 resulted in nationalizations and interventionist policies, including restrictive market, price, and wage controls. The whole banking sector came under the state's control, and directed credit and exchange rate restrictions were imposed. These policies laid the ground for Sudan's economic problems as pointed out in the 1990 CEM. The result was declining per capita incomes up to the beginning of the 1990s.

Figure 2.1: Per Capita Income Growth



Source: Ali, A.G. and Elbadawi, I.A. "Explaining Sudan's Economic Growth Performance," May 2002.

2.5 Sudan's economic growth experience has been marked by instability. The period 1960-1969 was marked by mixed policy performance, including stable macroeconomic policies, relatively low inflation, and encouragement of private investments, together with a fixed and overvalued exchange rate regime. During 1969-1972, a period that included the installation of a military regime in 1969, some of the earlier market-friendly policies were reversed. In particular, major nationalizations of private enterprises and banks were carried out, and widespread market, price, wage, and credit controls were imposed.

2.6 Following the Addis Ababa Peace Accord in 1972, there was a period of positive economic growth. This was a period of relative peace that coincided with substantial inflows of funds from the oil-exporting Arab countries after the first oil price hike in 1973, as well as funds based on the so-called bread basket policy. These inflows concealed and offset the negative impact of both oil price increases and of inappropriate government policies. The strategy was to finance a "bread basket policy in Sudan to fill the food gap in the Arab world. The circulation of petrodollars also generated positive financial inflows. During the late 1970s and 1980s, the IMF, World Bank, and key donors worked closely together and provided substantial aid flows. Until the late 1980s, Sudan enjoyed significant inflows of foreign aid, which peaked in 1985 at US\$1.9 billion.²¹

2.7 As peace negotiations broke down in 1983 and civil war not only resumed but intensified, the economy fell into decline once again. Moreover, the grace period from international aid agencies and lenders took a turn for the worse when international interest rates soared as a consequence of the severe tightening of monetary policies in both Britain and the United States in 1979-1981. Sudan fell rapidly into a debt crisis, which was worsened by expansionary fiscal policies and an overvalued currency. In 1987, the government decided to limit debt service to 25 percent of export earnings. Substantial arrears were accumulated, and relations with creditors deteriorated. This resulted in constraining Sudan's access to external finance, and with few internal financing sources, budget deficits were translated directly into high inflation rates averaging more than 43 percent yearly during the second half of the 1980s. Investments, savings, and exports collapsed.

2.8 In addition to the drain on resources by the divisive civil war, there was political polarization and instability. Economic and political problems fed off each other in a downward spiral. The absence of widely accepted institutions that could mediate policy differences among key constituencies made it difficult to agree on and implement reform policies that would promote growth and lead to the resolution of political differences.

The Structure of the Economy

2.9 Agriculture continues to be the most important production sector. Increasingly, the industrial sector is becoming important for growth in urban areas. This contrasts with developments in the war-affected areas. In southern Sudan, dependence on agriculture is in general higher, and knowledgeable observers believe it has increased since Independence, although there are no time series data to confirm growth trends.

2.10 At Independence, agriculture contributed about 60 percent of total production in the northern and central provinces, whereas industry accounted for 5 percent, and services about 35 percent. Recent statistics from the National Accounts indicate a shift toward increased industrial

²¹ Lehtinen, T. "The European Union's Political and Development Response to Sudan." July 2001.

production. According to Table 2.1, agriculture accounted for about 39 percent of GDP in 2001, and the shares of industry and services had increased to 18 and 43 percent of GDP, respectively. New products, including oil, have entered the production base. In agriculture, production of some traditional crops such as cotton and gum arabic have declined, with livestock maintaining its dominant position accounting for about half of the GDP from the agricultural sector. At the same time, crops such as vegetables and fruits are growing in importance.

Table 2.1: Structure of GDP

	Agriculture (%)	Industry (%)	Services (%)
1986-90	40.2	11.6	48.2
1991-95	38.8	10.5	48.6
1996-00	40.5	14.0	42.5
2001 ^{1/}	38.9	18.5	42.6
2002 ^{2/}	39.1	18.3	42.6

^{1/} Preliminary estimate.

^{2/} Projections.

Source: CBS

2.11 Comparable statistics are not available for the parts of Sudan affected by the war, but there are indicators that point to increased dependence on agriculture since Independence. By 2002, there were no large industries in the non-government-controlled areas of southern Sudan. Moreover, lack of power supply and underdeveloped communication and transport routes contributed to unfavorable conditions for developing trade and services. Nevertheless, some trade and services activities (such as cattle marketing) were flourishing in the more stable areas and in border areas.

B. RECENT ECONOMIC GROWTH AND ITS SOURCES

2.12 This section is based mainly on official economic statistics from the National Accounts. It is clear that national statistics are prone to problems in countries where civil wars make some areas inaccessible for statistical surveys. For that reason, the National Accounts have gaps in coverage. While the control of areas in the southern part of the country has tended to vary over time depending on the war situation, it is assumed that the main rural areas in southern Sudan could not be included in the National Accounts after the mid-1990s. In 1983, when the war resumed and intensified, and especially after the mid-1990s, when large areas came under control of the rebels in southern Sudan, it was practically impossible for the government to collect statistics from these areas.

2.13 There is an urgent need to update basic statistical surveys. The most important sector for the economy, agriculture, has not had a census since 1968. The latest national household survey was made in 1978. Its results are still used to determine the weights in the household consumer basket underlying the compilation of the consumer price index (CPI). The deflators for the GDP have not been updated since 1982. The implications for our analysis below are that it is based on statistics that exclude the war-affected areas and that the reliability of growth numbers is highly uncertain.

2.14 For economic analysis of the non-government-controlled areas in the southern regions, data and reports from the United Nations International Children's Emergency Fund (UNICEF), the Food and Agriculture Organization (FAO), independent researchers, and others have been used. These statistics and reports typically are incomplete and cover only a subsection, or areas within which aid organizations are active. In addition, the analysis is built on interviews and

observations in Yambio, Rumbek, and Kauda. Any analysis on the non-government-held areas is therefore less well documented.

2.15 Sudan like most developing countries has experienced unstable growth.²² Civil war and associated social dislocation, an overextended role of the state, and poor policies explain most of the disappointing growth performance. In addition, Sudan has been vulnerable to severe external shocks, including floods, drought, and instability of commodity market prices. Until the 1990s, the economy was relatively closed, with low exports to GDP ratios (averaging less than 7 percent in the 1980s). Low export earnings, insecurity, and limited inflows of foreign currency restricted financing for imports despite large investment needs. Sudan has been dependent on imports for most of its machinery, equipment, vehicles, spare parts, chemicals, and energy needs. In turn, trade deficits were persistent until 1999, when oil exports began.

2.16 Although economic inequalities have characterized Sudan throughout its history, recent developments have reinforced this trend. Growth was always higher in urban areas such as Khartoum and Port Sudan, and lower in rural areas, especially in the western and northern states. In southern Sudan, economic growth appears to have been amongst the lowest of Sudan's states, because commercial activity there collapsed as a consequence of the civil war. The situation worsened as a result of lack of transport and communications. However, trade and economic activity are slowly recovering, especially in areas that have been free from major fighting for some time. Economic growth is therefore unequally distributed in favor of the growing stable zones in eastern and western Equatoria, Lakes, and Bahr El Ghazal. Economic growth has benefited some people more than others, notably those who have engaged in trading larger quantities of goods and who have had access to means of transportation.

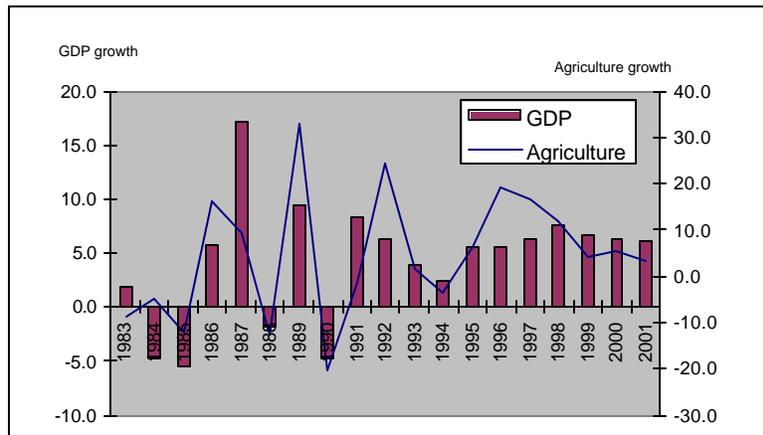
High GDP Growth in Government-Controlled Areas

2.17 According to the National Accounts, GDP growth rate averaged 3.8 percent per annum during 1990-1995, again with marked fluctuations (Figure 2.2). The growth rate accelerated, averaging about 6.6 percent per annum during 1996-2000. The corresponding average annual growth rate in per capita income was 4.0 percent during 1996-2000. Figure 2.2 illustrates the wide fluctuations in GDP growth and the connections with agricultural growth.²³ Agriculture has historically been the engine of growth, and has typically accounted for about two-fifths of GDP (Table 2.1). While a number of factors explain the output of agriculture, the most important single factor is the weather? especially since irrigation schemes have suffered from malfunctioning canal systems.

²² See Lant Pritchett. "Understanding Patterns of Economic Growth: Searching for the Hills Among Plateaus, Mountains and Plains." World Bank Economic Review, volume 14, no 2.

²³ The figures are derived from the Central Bureau of Statistics by converting fiscal years into calendar years and correcting the population figures.

Figure 2.2: GDP and Agricultural Growth, 1983-2001



2.18 Figure 2.2 shows the link between overall GDP growth and agriculture growth. Swings in GDP growth is explained by production in agriculture which in turn is weather driven. The accelerated GDP growth of the 1990s coincided with high and relatively stable agricultural production. Northern and central Sudan enjoyed relatively drought-free conditions. Agricultural production was also stimulated by economic reforms that removed price and marketing controls and stimulated exports (Chapter 4). Incentives were further strengthened by the removal of most agricultural taxes by 2001. The intensification of economic reforms took place at the same time that oil and oil-related industries were built up. Construction started on the 1,610-km oil pipeline in 1996, refineries were built, and oil production came on stream in 1999 (see section on petroleum). These recent developments have increased the role of the industry sector for GDP growth.

Agriculture

2.19 Agriculture has spillover effects on GDP also through service and manufacturing sectors such as agro-industries. About 80 percent of the labor force is employed in agricultural and related activities. The percentage of the labor force in the war-affected areas that is engaged in agricultural production is not known, but agriculture is likely even more important in these parts of the country. Agriculture is therefore the main determinant of year-to-year changes in poverty levels and the food security situation throughout the country. The details of agricultural sector growth are discussed in Chapter 6.

2.20 The 1990 CEM for Sudan concluded that the weak performance of agriculture up to 1990 was mainly a result of failed macroeconomic and sectoral policies that distorted incentives and left agricultural infrastructure without resources. The traditional rainfed agriculture was neglected, while government subsidies and credit had been directed toward the large irrigated schemes. When macro policies improved in the 1990s, the response of the agricultural sector was positive; the rainfed traditional sector especially reacted with high growth. Livestock, which accounts for about two-fifths of the agricultural sector, has generally done better than crops. Although the livestock subsector also suffered from misguided policies, it was largely left outside of government control.

2.21 The main subsectors accounting for the growth rebound in the 1990s, according to the National Accounts, were the rainfed traditional crop subsector (24 percent growth per annum); livestock, which grew by 10.4 percent per year; and the irrigated crop subsector (7.9 percent per annum). The semi-mechanized crop subsector declined yearly by 2.9 percent. Most of the

expansion in crop agriculture during the 1990s occurred in sorghum, millet, and oil seeds such as sesame and groundnuts. The growth of nontraditional crops in horticulture, such as karkade, melon seeds, and fruits accounted for about 5 percent of agricultural GDP.

2.22 Agriculture in war-affected areas in southern Sudan is characterized by subsistence farming, shift cultivation, intercropping, rotation, and livestock. The only irrigation scheme for cotton that was implemented during the Colonial times (the Zande Scheme) has ceased to function. Most agricultural production is cereals. A survey by FAO and the World Food Programme (WFP) shows that smallholder crop production in southern Sudan declined sharply in 1998 because of the serious drought. Since then, production has increased but yields are still much below the predrought harvest (Table 2.2). Production has increased mainly as a result of increased planting areas.

**Table 2.2: Cereal Production in Southern Sudan
(1997/98-2000/01)**

Region	Production ('000t)				Yields (tons/ha)			
	97/98	98/99	99/00	00/01	97/98	98/99	99/00	00/01
<u>Traditional Production</u>	477	162	321	370	1.05	0.38	0.69	0.57
Upper Nile	91	45	85	83	0.60	0.34	0.71	0.65
Equatoria	218	71	166	175	1.47	0.37	0.87	0.70
Bahr El Ghazal	168	46	70	112	1.10	0.49	0.44	0.41

Source: FAO/WFP Crop and Food Supply Assessment, January 2002.

2.23 Livestock, an important part of agriculture, has traditionally played a major role in people's livelihood, including the largest ethnic groups, Nuer and Dinka. There are some studies that suggest that recent developments in livestock and crop production were a positive reaction positively to the enlargement of relatively stable areas in southern Sudan. A survey of livestock marketing suggested that the number of cattle, estimated at about 5.8 million head, with similar numbers of sheep and goats, had been increasing for several years as a result of improvements in rinderpest control and extension of animal health services.²⁴ However, the survey concluded that because of restrictions in trade opportunities, production was still much below potential.

Petroleum

2.24 Petroleum has emerged as a major source of economic growth and revenue for the government. It has also emerged as one of the major factors that keeps the war going. Consequently, discussions on how to share oil revenue is one of the key issues at peace negotiations. Oil production is currently taking place only in Heglig and Unity production fields, managed by a consortium, in which a state-owned enterprise connected to the Ministry of Energy represents the government's share of 5 percent. The other members are foreign oil companies from China, Malaysia, and Canada. The Chinese National Petroleum Company (CNCP), the major oil investor, is leading the consortium. A number of foreign oil companies have expressed interest in exploring oil fields in Sudan, but security and political risks have dissuaded large or publicly listed companies from further work. Most of the foreign oil firms operating in Sudan have therefore tended to be either state-owned or small private firms.

²⁴ King, A., and Mukasa-Mugerwa, E. "Livestock Marketing in Southern Sudan." April 2002.

2.25 With production of oil, access to foreign exchange has improved through oil-related foreign investment, oil export earnings, and reduced outlays on imports of crude oil and petroleum products. As a result, the trade balance, terms of trade, and foreign investments inflows have improved. Construction of the 1,610-km oil pipeline (the longest in Africa), refineries, and other equipment attracted a cumulative US\$1.3 billion in foreign direct investments, approximately 10 percent of GDP during 1996-2000.²⁵ Initial oil production in August 1999 was 116,680 barrels a day, reaching about 250,000 per day in 2001. Production is currently restricted by security concerns as well as by the capacity of the pipeline, which is 250,000 barrels per day. With additional investments in pumps and pressure systems, the pipeline's capacity can be expanded up to a maximum of 450,000 barrels per day.

2.26 What is the increase in GDP and budget revenue resulting from oil production? In terms of the *direct* impact on Sudan's GDP, the government is developing methods for calculating oil sector value-added, but these have not yet been completed.²⁶ The *indirect* impacts on GDP are hard to take fully into account in any oil-producing country (see Appendix B: National Income from Oil Production). One important indicator is the budget oil revenue. The federal budget in Sudan was supplemented by oil income amounting to US\$700 million in 2002. The main source of income was domestic sales of petroleum products. Total oil revenue consisted of exports of crude oil (less pipeline charges of US\$6 per barrel; sales of refined products on the domestic market (less pipeline charges and the cost of refining); income from Sudapet equity investment in the oil consortium; and signatory and other bonuses paid by the oil companies. From this is deducted the government's repayments to the Chinese National Petroleum Corporation for the construction of the Khartoum refinery.

2.27 How much oil revenue can be expected in the future? Future oil production is highly dependent on both actual oil discoveries and the possibility of extracting the oil. According to oil extraction studies, current proven reserves would start to level off by 2005.²⁷ If oil exploration could expand outside of current oil production fields, PFC Strategic Studies estimates that the six richest oil fields could generate reserves up to 4 billion barrels (more than three times current reserves), and generate life oil income of about US\$30 billion (see Annex A: National Income from Oil Production for more details).

2.28 On the downside of oil production are the risks of instability resulting from oil price fluctuations and "Dutch Disease." Potential fiscal and exchange rate risks are being addressed in the hope that Sudan will be able to avoid the fate of most other oil-producing countries, where booms have not led to sustainable improvements, but busts have led to permanent declines.²⁸ As yet, there is no evidence of a "Dutch Disease". Exchange rate overvaluation resulting from large oil receipts, rising wage cost caused by demand for non-tradable goods, and diminished competitiveness of traditional exports caused by the wage rate increases are not serious concerns currently. Nevertheless, a real appreciation of the dinar has taken place during the last few years, but this is more the result of a deliberate policy by the Bank of Sudan to keep the exchange rate stable against the U.S. dollar. A managed float exchange rate policy, including a widening of the exchange rate band width towards the US dollar, was adopted in May 2002, in order to substitute

²⁵ Both estimates from UNCTAD and IMF sources.

²⁶ IMF. June 2002.

²⁷ See "Sudan: Projected Oil Production and Revenues." M. Rodgers, PFC Strategic Studies, August 2002.

²⁸ Paul Collier. Workshop on Oil Revenue Management. World Bank. Washington DC, 23-24 Oct. 2002.

for the de facto fixed exchange rate. But even after the new policy, exchange rates have been stable.

2.29 The recent decline of traditional exports such as cotton and livestock is not attributed to Dutch Disease. Cotton production declined in the 1990s to less than 50 percent of what it had been in the 1980s, mainly as a result of problems in the government owned irrigation systems. In the case of livestock, exports declined in 2000 and 2001 due to a ban on meat and livestock imports across the Gulf countries. Livestock exports rebounded strongly in 2002, when the ban was lifted.

Industry

2.30 The share of industry in GDP fell continually from the mid-1980s to the mid-1990s, after which it began to increase. In 2001, the share of industry amounted to about 18 percent of GDP. Between 1998 and 2001, the industry sector grew by about 10 percent on average annually. The main industrial activities of Sudan include manufacturing, construction, electricity and water, and mining. Other than large-scale investments such as in sugar, oil refinery, and cement, the manufacturing sector consists of medium- and small-scale private enterprises, mainly in food processing, pharmaceuticals, and transport. Manufacturing growth averaged only 4 percent a year during 1980-1995, reflecting low capacity utilization and uncompetitive costs.²⁹ Capacity utilization in many plants was as low as 30 percent. About 85 percent of all factories in Khartoum's main industrial area (Khartoum North) were operating below full capacity in 1998.³⁰ Shortage of fuel made the power supply erratic in the capital, which was dependent on oil-fired power stations. The inadequate and unreliable electricity supply forced plant and business owners to install generators, but even so, lack of foreign exchange for diesel for these generators kept capacity utilization low. In addition, obsolete capital equipment and uncompetitive costs held back the industrial sector.

2.31 In 1998, growth of the manufacturing and construction subsectors accelerated. Construction of the oil pipeline and a refinery began, and Port of Sudan terminal work commenced. The mining subsector, which includes oil production, took off in 1999. The development of the oil export industry also supported growth by increasing access to foreign exchange. Supply of essential industrial inputs such as fuel and imported machinery were thereby secured. The reforms in the financial sector, privatization, and improved foreign relations contributed to growth. Telecommunications and food processing industries, notably sugar refining, gained from foreign direct investment and structural changes (privatization).

2.32 Growth was to a large extent driven by foreign direct investments and oil, which benefited growth in urban areas. Khartoum now shows the classic signs of a boom, including real estate development, overflowing traffic, and gridlock, which were not evident a couple of years ago. Also, growth in some other cities such as Port Sudan has been rapid. Rural areas have not yet benefited to the same degree. However, growing investment in food-processing industries such as sugar factories may increase employment opportunities in rural areas.

2.33 The non-government-controlled areas in southern Sudan have no large industries. Hardly any supporting infrastructure or services are in place. However, apart from small businesses and artisans, a few small sawmills and grinding mills exist. These use private diesel generators to

²⁹ Except for the Kenana sugar company.

³⁰ Information provided by representatives of Sudan's Chamber of Commerce

produce electricity. No communal power supply exists. Markets are limited by transportation and security constraints. No formal financial intermediaries are situated in the southern regions outside of government control.

Infrastructure

2.34 Sudan's infrastructure can be grouped by: transport –(roads, railways, ports, river navigation, and air carriers), energy, telecommunications, and water supply and sanitation. Transport, energy, and telecommunications are described in some detail in the sections below. Information about water supply and sanitation is in Chapter 7. An appendix and a section on oil in Chapter 2 also provide some information about energy and the oil pipeline.

2.35 **Roads.** Sudan's transport network is inadequate for the largest country in Africa. In general, transport is sparse, mainly because of the harsh climate (hot, arid deserts in the north, northeast, and central zones and swamps in the south) and long distances between major markets. These combine to make the provision of efficient and reliable surface transport difficult and expensive. With an area of 2.5 million square kilometers, Sudan is served by about 55,000 km of road of, which the length of asphalt-paved roads is about 6,240 km, including urban area roads and the key 1,200-km highway from Khartoum to Port Sudan. In addition to asphalt-paved roads, there are about 3,740 km of gravel roads, with the remaining roads, an estimated 45,000 km, mainly seasonal earth roads and sand tracks, about half of which are classified as feeder roads. No recent known assessment of road quality is available, but the condition of roads is believed to be generally poor, especially in the war-affected areas in the southern parts, where some of the roads have not only deteriorated but would require de-mining before they would be safe to rehabilitate.

2.36 Some efforts to improve connections to the north and south of Khartoum are in progress, and it is reported that new asphalt roads are under construction, although the length and costs are not available.³¹ These improvements are being funded largely by grants and concessionary loans from governments and institutions in the Middle East. In addition, after several months of work, the highway linking Ethiopia and Sudan was reopened in 2002, permitting expansion of bilateral trade. There are also plans in place to build a new highway from Port Sudan to Atbara, a shorter route than the existing highway through Kassala.

2.37 Assuming the road sector continues to be publicly managed, the current situation calls for firm and stable institutional support, procurement, contract administration, and management for the various functional levels of the road network. In addition, responsibilities for the administration and management of road investments and maintenance at national, state and regional, and local levels need to be clearly defined. In parallel, there is a need to determine the scope and extent of the backlog in road rehabilitation as well as the financial, human, and material resources needed to maintain current and future networks. The extent and potential for private sector participation in the development and maintenance need also to be clarified. It is reported that, although the government still assumes full responsibility for maintenance, it is actively encouraging the private sector to participate in maintenance, operation, and investments through build-operate-transfer (BOT arrangements). These issues are pertinent to address, including needs that may arise in the southern areas that would require a study to formulate a sectoral strategy and associated medium- to long-term programs.

³¹ EIU. Country Profile Report, February 2003.

2.38 **Railways.** Sudan has one of the largest rail networks in Africa and the Arab states. It comprises a network, narrow-gauge single track, of 4,578 kilometers (main line running from Wadi Halfa, via Khartoum, to El Obeid, with tracks also from Khartoum to Port Sudan, and from El Obeid to Nyala in Southern Darfur and to Wau in Bahr El Ghazal. Mostly built during the Colonial period, much of the network is in poor condition. Substantial refurbishment and investment in new signaling systems, as well as the addition of double tracks to boost capacity and increase speed, are required. The rolling stock has also deteriorated from poor maintenance, inadequate rehabilitation, and age. It is estimated that at least 25 percent of the rolling stock is out of service. The government reports that the network handled 1,450,000 metric tons of freight in 2000, a decline from 2,021,000 metric tons in 1997. Passenger traffic declined sharply from 601,000 passengers in 1993 to 255,000 passengers in 2000.

2.39 The government has begun a modest railway rehabilitation program and has listed the Sudan Railway Corporation as one of the assets it wishes to privatize. It is therefore actively encouraging the role of the private sector in railway operations, preserving the right of rehabilitation, and it is reported that a number of foreign private companies have expressed interest. The most ambitious rail project is a US\$1.5 billion, 2,200-km railway linking Port Sudan to Addis Ababa in Ethiopia, which was proposed by the two governments in late 2000. No funding has yet been realized, and the commercial viability of such a route still needs to be verified.

2.40 **Ports.** There are three seaports at the Red Sea: Port Sudan, Suakin, and Bashair. Port Sudan is the country's major commercial port. About 20 percent of Port Sudan's traffic is being diverted to Suakin, 65 kilometers to the south, which was reopened in 1991 and can handle some 1.5 million metric tons/year of cargo. A new port has also been constructed close to Port Sudan to act as the country's oil export point. The tanker terminal at Bashair has five storage tanks, with capacity of around 2 million barrels; the terminal handled average exports of 160,000 barrels/day in 2001. The activities of the ports are supervised by the Seaport Corporation, a government institution.

2.41 **Air transport.** Air services within Sudan are limited. There are three international airports. A number of airstrips cover air traffic for humanitarian aid assistance, mainly in the southern parts of the country (including Yambio, Rumbek, and Yei), for the oilfields north of Bentiu, and for personal and cargo transport. The national carrier, Sudan Airways, has a monopoly on domestic flights at 20 local airports. Sudan Airways was one of the state-owned firms identified by the government in 1999 for privatization, but so far, it remains unsold.

2.42 **Waterways and river transport.** Sudan also has 3,000 kilometers of navigable waterways, but in practice the Nile contributes very little to transport; in the north it is repeatedly interrupted by un-navigable rapids, while in the south the White Nile meanders through the Sudd, a vast swamp with continually shifting channels. Potentially the cheapest mode of transport, the existing river transport system covers about 1,740 kilometers, with the most important section from Kosti to Juba (1,450 km). The government reports that among the actions being taken are the expansion of the Seaport Corporation to manage river services and the undertaking of river navigation studies with the aim of qualifying three new ports: Malakal, Juba, and Renk river ports. Wadi Halfa and Kosti ports already provide services.

2.43 **Energy.** Sudan relies mainly on biomass such as fuel wood, charcoal, and animal residues for its energy provision. The government estimates total energy consumption at about 13 million metric tons of oil-equivalent, out of which biomass accounts for about 78 percent. About 15 percent is from oil fuel, and the remaining 7 percent is generated from hydro and thermal power. Provision of electricity for households and energy for commercial use are among the

lowest in Africa? less than 100 kg per oil-equivalent per capita. The civil war is the main explanation for scarce provision of electricity. For example war-affected areas in southern Sudan outside of government control do not have access to electricity other than a few diesel generators, installed mainly at international aid organizations. Investment in electrical power supply sources is badly needed throughout the country, but until recently investors have been hesitant because of the large risks. Any larger investment in power supply must also be combined with extensive investments in the country's power grid and transmission systems. Many years of civil war and neglected maintenance have dilapidated systems. Losses at the electric power systems were estimated at 31 percent of total output in 1998, and those were double the losses as compared with 1980.³² However, prospects for expanding hydropower plants are bright in the event of peace. Currently, the most ambitious project is the construction of a large hydropower station at Merowe, 450 kilometers north of Khartoum. Some financing agreements have already been concluded, and preparatory work has commenced.

2.44 **Telecommunications.** Telecommunications improved remarkably with the privatization of Sudan Company (SudaTel) (see also section in Chapter 4). By 2000, there were 12 telephone mainlines per 1,000 Sudanese. This places Sudan ahead of some of its immediate neighbors (Kenya had 10 mainlines per 1,000 inhabitants, Ethiopia 4, and Uganda 3). SudaTel is also at the center of efforts to develop a mobile telephone network and internet access. The number of mobile telephone subscribers increased to 130,000 after a provider was founded in 1997. Internet service commenced in 1998. The (ITU) estimated that there were about 56,000 internet users in Sudan in 2001. Growth is constrained by the low number of personal computers (just 115,000 according to the ITU in 2001), high costs, as well as concerns over the quality of service provision. No internet provider or telephone mainlines exist in southern Sudan outside of government control. UNICEF has, however, established internet cafés in a few locations.

In-Depth Study Required

2.45 The nature and state of existing infrastructure, and the potentially vast need to clear the backlog of rehabilitation and maintain the existing infrastructure, clearly pose a challenge for development and financing. The special conditions in the southern parts of Sudan require even more daunting efforts. All this warrants a careful but urgent study. The aim would be to determine the strategic priorities for development, rehabilitation, and maintenance; estimate the costs and sources of finance; and define the institutional arrangements and associated services, including public and private sector participation, required to address the needs of the different modes and functional classes of infrastructure. As part of any study, the government may wish to evaluate the opportunities for divesting itself of some infrastructure to the private sector, drawing from further analytical work to determine the commercial viability of such actions.

2.46 Sudan was recently represented in the Sub-Saharan Africa Transport Policy Program (SSATP) meeting in Kigali. Participation in that meeting and the possibility of increased involvement in regional economic community activities provide exposure to good practices in policy and implementation in developing its own strategy, as well as the rightful linkage to the NEPAD overall.

³² World Bank. "World Development Indicators."

Services

2.47 The service sector consists of subsectors that have evolved in different magnitudes. Transport, communications, hotels, and restaurants have been among the fastest-growing subsectors during the past few years. These have likely grown in response to increased demand for services from the oil and oil-related industries. Public services have also grown, although not as fast as hotel and restaurants. As public services do not involve investments, but are rather a measure of salaries and operating costs, this primarily shows a trend in increased costs for the federal administration.

2.48 Although National Accounts do not exist for the SPLM-held areas, it is probable that the services sector is negligible, since public services are provided on a voluntary, unpaid basis; electric power, transport, and communications are undeveloped; and just a few hotel and restaurants have been established lately.

International Relations, Trade and External Balances

International Relations

2.49 The development of oil has caused changes in Sudan's trade partners and contributed to improved international relations. Although the Middle Eastern countries continue to be important destinations for Sudan's non-oil exports (in particular livestock), Asian countries have taken over as the most important export markets. The most marked change is the importance of China, for which Sudan has emerged as the third largest oil supplier. China is the largest investor in oil-developing activities, has the largest share in the oil consortium, and China accounted for almost 50 percent of all oil exports from Sudan in 2001. These ties also led to a doubling of imports from China, and Chinese firms have taken the lead in developing Sudan's power and transport sectors as well as in the restoration of manufacturing facilities. During 2001, China supplied about 12 percent of all imported goods in Sudan. Japan, together with China, is the leading consumer of Nile Blend oil, and accounts for about 14 percent of all exports from Sudan. Malaysia also has a large stake in the oil industry, and its government has actively promoted investment opportunities in Sudan to local firms.

2.50 Import links with Germany, the United Kingdom, and France reflect Sudan's need to import a range of finished products that are not manufactured locally. Together these three EU countries accounted for about 21 percent of imports in 2001 (Table 2.3).

**Table 2.3: Main Trading Partners
(2001)**

Exports, fob	% of total	Imports, cif	% of total
China	49%	China	12%
Japan	14%	Saudi Arabia	9%
Saudi Arabia	7%	Germany	8%
South Korea	5%	United Kingdom	7%
France	4%	France	6%

Fob: free on board

Cif: cost, insurance, freight

Source: IMF.

2.51 Sudan has intensified its efforts to build closer international ties with trading partners. Efforts to become a member of the World Trade Organization (WTO) have been renewed by revitalizing its earlier request from 1994. Sudan has concluded a number of bilateral trade agreements within the Common Market for Eastern and Southern Africa (COMESA), and is one of nine countries within COMESA that participate fully in the free trade area. All barriers to

intraregional trade have been removed, though tariffs on trade from outside COMESA are retained.

2.52 Relations with the Bretton Woods Institutions have improved. Sudan's progress since 1997 with the IMF Staff Monitored Program was one of the important factors that contributed to Sudan's reinstated voting rights at the IMF in August 2000.

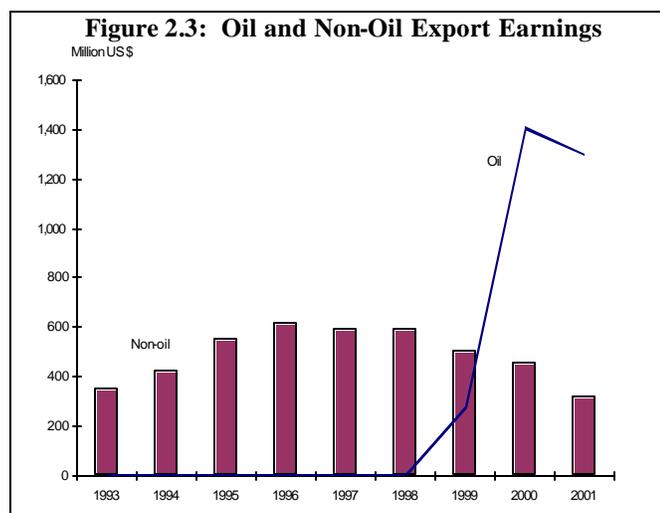
2.53 Neighboring countries such as Ethiopia, Eritrea, Uganda, and Kenya have announced their interest in buying oil and petroleum products from Sudan. Diplomatic ties with Uganda were restored in 2001. Improved relations with Ethiopia have resulted in increased trade and more normalized political links. Furthermore, relations with the United States have improved. In 2001, the United States decided to end its opposition to the lifting of UN sanctions on Sudan. Diplomatic relations also improved, and the United States has increased and upgraded its diplomatic representation in Khartoum. Likewise, the United Kingdom has increased and upgraded its diplomatic envoy to ambassador. The United States, United Kingdom, and Norway have taken a special interest in Sudan's peace efforts and have appointed senior ambassadors as special envoys to Sudan. Relations with the European Union have also improved, and the EU announced in early February 2002 its intention to resume development cooperation with Sudan, some 11 years after it was suspended.

Exports

2.54 Exports of oil have triggered large changes in Sudan's external position and relations. In less than two years, oil established itself as the dominant export good. Oil exports rose from zero in 1998 to US\$276 million in 1999, accounting for 35 percent of total exports. In 2000, oil earned about US\$1.4 billion, accounting for 80 percent of exports. In turn, this doubled the export volume for 2000 as compared with 1999, and created gains in terms of trade of 30 percent in 1999 and 82 percent in 2000. After more than 20 years of consecutive trade deficits, a surplus was registered in 2000.

2.55 According to the National Accounts, export volumes grew in line with overall GDP during the 1990s. Non-oil export volume (predominantly agricultural commodities) grew at an average rate of about 11 percent during 1991-2000, though not for all commodities. Cotton and gum arabic, for example, declined. Over the years, there has been a change in the composition of non-oil exports. Traditionally, cotton was most important, but in 1996 cotton was overtaken by sesame, which remains the leading non-oil export commodity today. Other nontraditional exports such as gold and livestock have also increased at the expense of cotton and gum arabic. During 2000 and 2001, there was a dramatic fall in meat and livestock exports, from US\$114 million in 1999 to US\$24 million in 2001. To a large extent, this reflected the impact of a ban on imports of Sudanese livestock following an outbreak of Rift Valley Fever in Saudi Arabia that was attributed to animals from Sudan and East African countries. Most Gulf countries had lifted the ban in late 2001.

2.56 The impact of export volume growth was, however, offset by declining world market commodity prices after the crisis in Asian countries in 1997. The prices of Sudanese key traditional exports experienced a downward trend between 1996 and 2001. The price of cotton fell 10 percent per year on average. The price of sorghum declined at an average annual rate of 2.2 percent during 1996-2001. In the relatively longer term (1990-2001), the prices of cotton and sorghum fell at average annual rates of 11.3 and 3 percent, respectively. The prices of groundnut and sesame also declined. Thus, despite export volume growth, non-oil export earnings fell during 1996-2001 (Figure 2.3).



Imports

2.57 Since the mid-1990s, merchandise imports have risen faster than exports. The main imports include food, machinery and equipment, vehicles, spare parts, chemicals, and energy supplies. The composition of imports changed initially as agriculture production improved. Food imports, mainly wheat and flour, fell from 18 percent of total imports to 14 percent during 1994-1998, while the import of manufactured goods rose from 29 to 41 percent during the same period. But by 2001, food imports rose to 19 percent of total imports. Imports of crude oil and associated products declined dramatically following the start of oil production and expansion of domestic oil-refining capacity. The share of oil from total imports fell from 13 percent in 1999 to 6 percent in 2001.

Current Account Balance

2.58 There were complex movements in the trade and current accounts from the mid-1990s to the present, explained mainly by the oil sector. Oil production improved the trade balance in spite of the increased need for imported machinery and equipment for investment. The external trade deficit fell by about half between 1998 and 1999 and demonstrated a surplus for the first time in 2000 after decades of deficits (Table 2.4). From an average equivalent of -7.4 percent of GDP in 1998, the external current account deficit declined to about -3.6 percent of GDP in 2000, the first full year of oil exports. In addition to oil exports, an important source of strength in the current accounts is remittances from Sudanese residing abroad and from humanitarian-related assistance. Remittances have consistently been the largest single credit item on the invisibles account, although their values have varied considerably from year to year, depending mainly on the foreign exchange system in place and also on the economic situation in the Gulf states and in Egypt (the main destinations of Sudanese working abroad). Recorded remittances accounted for about US\$412 million in 2001.

2.59 Why has the current account remained in deficit despite the turnaround of the trade deficit into surplus? The improved merchandise trade balance was offset by an increase in the invisible services deficit, reflecting primarily the cost for transporting and shipping oil, including pipeline tariffs, and high deficits in net factor income receipts as foreign oil companies gradually recovered their investment cost and repatriated profits. Between 1998 and 2000, invisible expenses (mainly oil-related services and repatriated profits) increased about US\$1.0 billion. In summary, despite impressive improvements in the trade balance resulting from the

commencement of oil exports, the current account remained in deficit because of increasing oil-related expenses on the invisibles services and income balances.

2.60 In the long run, the negative impact of oil-related transportation services and repatriated profits will diminish in line with agreements with foreign oil companies. Cost recoveries within the oil consortium should level off by 2004-2005. Moreover, the fee for the use of the pipeline should result in a profit for the government after 2015, when the government will take over ownership of the pipeline.

Balance of Payments

2.61 Because of the large deficit in the current account, the overall balance of payment remains weak. Medium- and long-term official capital inflows are weak because of external debt arrears and the civil war. Sudan's access to financing and project aid is low, limited to concessional lenders mainly from the Gulf countries. Principal payments on external debt are negligible, and the country continues to accumulate arrears. There was a substantial increase in foreign direct investments in connection with the building of the pipeline. In 1998, foreign direct investments soared to about US\$371 million, up from about US\$98 million in 1997. During 2000 and 2001, foreign direct investments continued to increase, and was estimated to amount to about US\$574 million in 2001.

**Table 2.4: Balance of Payments
1982-2001 (US\$ million)**

	1982-85	1986-90	1991-95	1996-00	1997	1998	1999	2000	2001
Trade of Goods (net)	-188.5	-417.4	-538.2	-543.8	-827.7	-1136.5	-475.9	440.4	303.6
Exports	531.0	478.4	424.2	879.4	594	596	780	1806.7	1698.7
Imports	-1138.6	-912.4	-1000.4	-1595.3	-1421.9	-1732.2	-1256.0	-1366.3	-1395.1
Services, net	17.6	-51.1	-80.8	-256.6	-141.3	-188.2	-193.3	-620.2	-645.7
Income (net)	-151.5	-101.0	-51.5	-131.8	11.6	3.1	-104	-575	-554.1
Current transfers (net)	251.8	341.7	117.5	207.6	129.3	364.9	308.5	198	277.9
Current account balance (excluding interest arrears)	-70.7	-227.8	-552.9	-726.6	-828.1	-956.5	-464.8	-556.8	-618.3
Capital account net	0.1	0	NA	NA	NA	-54.2	-22.9	-119.3	-93.3
Foreign Direct Investment	NA	NA	NA	NA	97.9	370.7	370.8	392.2	574
Financial account (net)	-178.0	60.4	395.3	306.4	195.0	333.4	435.3	431.6	562.1
Net errors and omissions	7.7	-86.2	96.1	533.0	651.2	750.5	167.2	368.4	-0.5
Overall balance	-240.1	-253.7	-61.5	73.5	18.1	73.2	114.8	123.9	-150.9
Financing	-240.1	-253.7	-61.5	73.5	18.1	73.2	114.8	123.9	-150.9
Change in reserve assets (- increase)	-24.4	0.2	-10.3	-42.4	243	-16	-110	-108	127.6
Memo items:									
Current account balance as a % of GDP	-7.1	-2.6	-9.5	-6.5	-5.0	-7.4	-4.7	-3.6	-4.0

Source: IMF Balance of Payments Statistics Yearbooks.

2.62 In order to finance the deficit, foreign exchange reserves decreased. According to the IMF, foreign exchange reserves were equivalent to only two months' import by the end of 2001. This is an extremely weak reserve for a commodity-dependent developing country, where it is

especially important to maintain a buffer for external shocks such as world market price fluctuations. In practice, the Bank of Sudan has pursued a fixed exchange rate policy, which has resulted in decreasing reserves. At the beginning of 2001, the dinar stood at 257 per U.S. dollar. Over the year, the Bank of Sudan intervened heavily in order to keep the exchange rate stable, and by end December 2001, the dinar stood at 261 per U.S. dollar. Given the prevailing inflation rate, this constituted a real appreciation against the U.S. dollar? a policy that in principle taxes exports while subsidizing imports.

Trade, Markets, and the Private Sector in War-Affected Areas of Southern Sudan

2.63 Economic activities have increased in the more stable southern areas that have not experienced recent major fighting. Increasingly, trade is explaining economic growth. Sudan's main external trading partner is Uganda; goods are transported by road from Yambio and Yei in southern Sudan to Kaya in Uganda. Limited statistics on trade with Uganda through the border at Kaya show an increasing trend in both export and import since 1998. The main export items include livestock, forest products, oil seeds, hides, honey, and coffee. The main imports are petroleum products, sugar, soap, salt, and cooking oil. There is a large trade imbalance, explained mainly by the large import need for petroleum products.

2.64 As a response to the grassroots peace agreements and in areas that have been stable for some time, local markets have mushroomed. Barter trade is still common, but cash is used increasingly.³³ No formal bank or financial institution exists in non-government-controlled areas, but a number of traders engage also in financial transactions, loans, and currency exchange. The markets bring together imported consumer goods from East Africa with local products, such as grain and livestock, and small businesses such as tailoring, carpentry, and blacksmiths. Markets in Bahr El Ghazal link produce from all over Sudan with East African goods. The sizes of these markets vary. The largest market in Bahr El Ghazal, the Warawar market, consists of about 400 shops and trading stalls, whereas the markets in Rumbek and Yambio have about 200 permanent shops and stalls each. In addition, there are several smaller local village markets that have both permanent and temporary stands.

2.65 A study of prices at markets in Yambio, Rumbek, Marial Bai, and Warawar³⁴ concluded that traders impose high margins on goods, mainly to cover high transport prices and high-risk premiums. The lack of all-weather roads makes transport expensive and time consuming? transport to markets in Bahr El Ghazal is by caravans of camels and donkeys and sometimes bicycles.

2.66 In line with increased markets and monetization of the economy, a number of small private business have started up, often with help from humanitarian aid donors. A few sawmills provide material to carpentry shops, investments in grinding mills supply markets with maize, hotels have opened up in Rumbek, several artisans have started up businesses, and so forth. These small businesses often face entry barriers and are heavily taxed and licensed by the authorities.

³³ There are in principle four currency zones where these currencies are used: old Sudanese pounds, dinars, Kenyan shillings, Ugandan shillings, Ethiopian birr, and U.S. dollars.

³⁴ UNICEF. "Community Centre's Income Generating Projects." Appendix 3, 2002.

2.67 The opening up of trade and small businesses has been positive for increasing households' income. A household survey in Yambio in 2000³⁵ concluded that there was a strong link between trading and household-level income. The wealthiest households, which had average total household incomes above US\$1,600 per year, traded larger quantities and owned or had access to means of transportation (mainly bicycles). Although the poorest households, which constituted about 71 percent of the population and had an average income of about US\$175 per household, also took part in trade, the quantity they traded was much smaller, and only 4 percent had access to any means of transportation.

C. CONCLUSIONS AND ISSUES

2.68 The long-term growth trend in Sudan has been below potential. Income per capita has stagnated or developed only slowly since Independence. During this longer-run trend there were two periods of positive per capita growth. One was during the peaceful period of 1972-1983, and the other was during the 1990s. Although peace was an important factor in explaining growth during 1972-1983, economic policies were not appropriate for promoting long-term sustainable growth. Large inflows of foreign funds boosted the economy, offset the negative impacts of oil price hikes (at that time, Sudan was still an oil importer), and misguided economic policies. Necessary macroeconomic adjustment was postponed, and the foundation for the subsequent debt crisis was established. The second period of growth started in the early 1990s. While considerable credit for this must go to the reform programs instituted by the government during the decade of the 1990s (see Chapter 4), it was also a period during which there were no generalized droughts and during the latter part of which Sudan saw a boom in its oil and oil-related industries and services. A look at Figure 2.2 makes it quite clear that, while the underlying trend in GDP growth probably depended on macroeconomic reforms, the swings in GDP growth have been tied to the weather-driven cycles in agriculture.

2.69 The economy of Sudan continued to be characterized by large regional differences as well as differences between the modern and the traditional sectors. Investments and development efforts after Independence did not target the poorest regions. In the absence of peace, which would permit a more even-handed response to the regional inequalities, and with the severe erosion of the capability of the public sector to help the weaker regions and sectors out of their predicament (see Table 4.2 for the declining trend of the public expenditures to GDP ratio), these inequalities are likely to persist for some time and perhaps continue to fuel conflicts.

2.70 Is the current positive growth trend sustainable? Peace is clearly a necessary, but not a sufficient, condition for sustainable long-term growth. Without peace, it may well be that with continued strong, and perhaps even increasing oil export earnings, the economy could go on growing for quite a few years. However, exploration of new oil fields will be necessary. PFS Strategic Studies estimated that oil revenue from existing oil production fields would start to level off after 2005. The government's finances would continue to be drained by the military effort. Debt overhang could not be substantially removed without the cooperation of foreign lenders. In turn, foreign investors would be reluctant to invest in long-term projects (given the financial and political risks of the debt burden and the war). Sudan's already large, well-educated, and resourceful diaspora would probably continue to grow. The ability of the state to help develop Sudan's human and physical resources would probably increasingly lag behind the problems that it was expected to address. Inequalities and even poverty would likely worsen. Eventually, these

³⁵ Mir, M, Baba, E. and William, B. "Evaluating the Income Economies of Yambio and Rumbek County in Southern Sudan," November 2000.

interconnected problems would undermine the hard-won macroeconomic stability of Sudan, leading to a period of instability and the end of the current growth trend. The inevitable conclusion is that there has to be peace in order to sustain long-term growth and development of Sudan. It would not guarantee progress, but it would give Sudan a chance to address the web of long-term problems that threaten to bring the current period of growth to an end.

2.71 For the war-affected areas in southern Sudan, the calculations are different, but the conclusion should be the same. Although no national accounts are available for those areas, it is probable that the war caused the economy to decline after 1983, when fighting intensified. Recently, however, with the growth of stable areas (mainly in Equatoria and Bahr El Ghazal), there are indications of positive peace dividends. The economy responded positively to grassroots peace efforts and cessation of fighting. Yambio County, for instance, has not experienced major fighting since 1990. The economy in these areas became more monetized, and trade and local markets have improved markedly. Still, the starting point for this rebound is extremely low, and the effects of war continue to limit social and economic development. Even in areas that have been stable for a long time (such as Yambio), the effects of war are ever-present. People in general are poor, and low health and education levels keep productivity below potential. Lack of transportation and communication limit trade and market expansion, and keep prices high. Large, potentially productive agricultural areas remain fallow. Millions of refugees and displaced persons continue to languish in camps. Oil resources that could be substantially expanded remain unused.

2.72 Sudan has experienced halting long-run economic growth, explained mainly by the civil war and misguided economic policies. But beginning in the 1990s, the government put in place an economic reform program that had success in returning the economy to a growth path. In the war-affected areas of southern Sudan, only scattered economic reforms have taken place, and any observed improvements have more to do with the enlargement of areas that are secure enough for the people to resume some of their normal income-generating activities.

3. INEQUALITY AND POVERTY

A. OVERVIEW

3.1 Previous chapters have discussed vicious circles of inequality, poverty, and civil war. The first chapter reviewed the origins of the civil war. It pointed out that historical inequalities already existed at Independence and that an important factor behind the civil war in Sudan had been the persistence of inequalities in economic development. The second chapter reviewed Sudan's experience of spasmodic growth. It concluded that by the second half of the 1990s, despite the ongoing civil war, a large part of the Sudanese economy was experiencing strong growth based on remarkably buoyant growth in agriculture (including livestock) and substantial investment and production in the emerging oil industry. Despite these considerable improvements and many years of high growth, inequality and poverty remained high. This chapter seeks an explanation of this puzzle. It takes a closer look at the current situation regarding inequality and poverty. It investigates correlates of poverty and whether there is a growth-poverty nexus. Finally, prospects for growth and poverty reduction are discussed.

Inequality

3.2 There is widespread belief that income distribution has worsened over the decades. The main reason is that the consequences of war have impoverished people in war-affected areas and resulted in massive population movements. Military expenses have crowded out social services and development expenditures, discriminating primarily against rural areas where there are few private alternatives to public health and education services. Another reason is that more Sudanese families are permanently settling abroad, resulting in reduced remittances to support relatives at home. Inequality in income has been found to be much higher in the urban than in the rural areas. The exodus of the professional and middle-income groups from urban areas has also increased inequality indirectly through its effect on the dispersion of wages. In order to retain well-educated staff, employers have had to offer higher wages to the remaining professionals. Labor survey data in the 1990s suggest widening inequality in formal salaries. The top 10 percent acquired 51.6 percent of all earnings in 1990, and 64.3 percent in 1996. At the same time, the poorest decile had become poorer. The lowest-income group's share decreased from 28.3 percent in 1990 to 21.9 percent in 1996.³⁶

3.3 Time series data for wages show rising inequalities from the end of the 1960s until 1996. Although the *magnitude* of the calculated Gini coefficients in Table 3.1, below, may be doubtful because of statistical problems of coverage, methods, combination of surveys,³⁷ the trend of increasing inequalities is probably captured correctly. As shown in the table, inequality has generally risen both in rural and urban areas. During the 1990s, however, rising inequalities were explained solely by worsening income distribution in urban areas. This is consistent with the hypothesis that the departure of many professionals from Sudan has put upward pressures on wages for the remaining well-educated labor force. It may also mirror the large increase of very

³⁶ M. K. Fageer and A. B. Merghany et al. 2002. "Poverty and Social Development in Sudan." Mimeo.

³⁷ There were four surveys underlying the computation of Gini coefficients: 1967/68 and 1978/80 by ILO, and the other two by the Ministry of Manpower in 1990 and 1996.

poor people in urban areas. Urbanization and large inflows of internally displaced persons to urban areas have unquestionably increased inequality and poverty.

Table 3.1: Gini Coefficients for Wage Laborers in Urban And Rural Areas (1967/1968-1996)

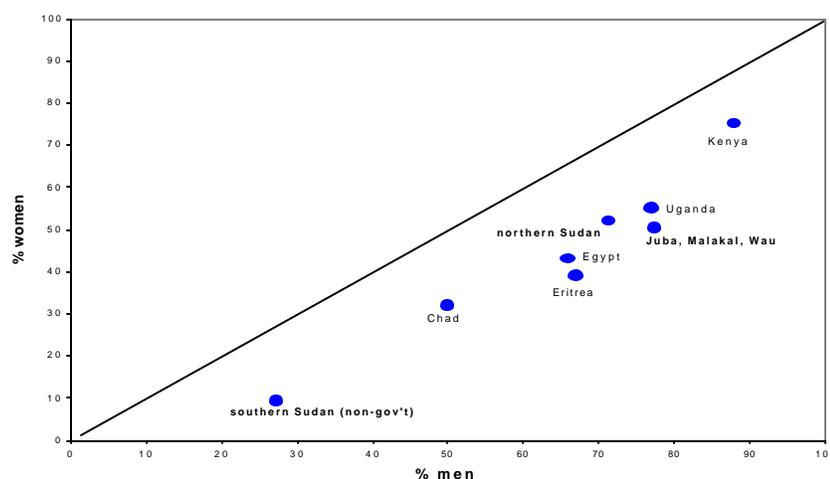
	1967/68	1978/80	1990	1996
Rural	0.34	0.51	0.69	0.65
Urban	0.41	0.42	0.56	0.72
Total	0.41	0.50	0.61	0.74

Source: Ibrahim Ahmed Ibrahim, Abdalla M. Ellobodi, Mustafa Y. Holi, "Poverty, Employment and Policy Making in Sudan."Draft, November ,2001.

3.4 Non-monetary indicators show inequalities related with respect to gender, rural-urban residence, regional or state location, and IDPs versus settled residents. Figure 3.1 below illustrates the non-monetary inequalities in adult literacy. In 2001, the adult literacy rate in the northern and central states was more than 70 percent for men and more than 50 percent for women. In urban areas in southern regions under government control, literacy was higher: Almost 80 percent of men and 50 percent of women were literate. However, in the mainly rural areas in southern regions outside of government control, only 10 percent of women and less than 30 percent of men were literate.³⁸

3.5 The maternal mortality rate is high (509 per 100,000 live births) in the government-controlled areas in southern Sudan, but it is 70 percent higher in those parts of southern Sudan outside of government control (865 per 100,000 live births). The latter implies that the risk of dying when giving birth is about 5 percent for a woman who typically give birth to 6 children during her lifetime. As will be discussed in detail in the section on women in development in Chapter 7, non-monetary inequalities associated with gender are prevalent.

Figure 3.1: Adult Literacy



3.6 The disadvantages of the rural areas become self-perpetuating as no poor rural residents exit to urban areas to take advantage of better infrastructure. In addition, the civil war, low-intensity community conflicts, and shocks caused by bad weather are causing displacement of rural populations and putting more pressure on services in urban areas. Surveys of IDPs have

³⁸ UNICEF. Multiple Indicators Cluster Surveys 1999 and 2000.

concluded that the IDPs are more impoverished than people living in resident communities, have fewer assets, and are more vulnerable to famines.³⁹

Consumption Poverty

Poverty Is High, but with Large Regional Variations

3.7 The government launched a poverty alleviation effort in 1992 as part of its 10-year (1992-2002) Comprehensive National Strategy for economic development. Although no national household survey has been conducted since 1978, sub-national poverty surveys suggest that poverty remains high (box 3.1). Given the absence of recent national quantitative information on poverty, the following paragraphs are aimed at providing some insight into the levels of consumption poverty in Sudan at present.

3.8 There is a widespread conviction among experienced Sudanese analysts that the incidence of poverty in most parts of Sudan is high, well above 50 percent. There is a strong consensus about considerable variations in poverty between states and within states. The incidence and depth of poverty are unquestionably well above average in southern and western Sudan, as well as in northwest and in parts of eastern Sudan. Rural poverty is said to remain high and concentrated in the west (Darfur and Kordofan), in eastern regions such as in Red Sea Hills, and in war-affected areas in the central and southern regions. It is less than average in Khartoum and Gezira States. But at the same time, poverty is deep in Khartoum, where a high proportion of the urban poor live. Those in the highest income groups are found typically in Khartoum, Gezira, and Gedarif States, in urban areas of Northern State, and in the east close to Port Sudan.

3.9 Assuming the same income and population distribution today as at Independence, GDP per capita in the southern regions would equal about US\$160,⁴⁰ putting southern Sudan in the same group as the world's four poorest countries: Burundi, Sierra Leone, Ethiopia, and Guinea-Bissau. In fact, a household income survey, limited to Yambio County in West Equatoria in southern Sudan, found that 85 percent of the population had average incomes per capita below US\$160.⁴¹ It was also estimated that about 93 percent of residents of Yambio county were trying to survive on less than US\$1 per day.

Causes of Consumption Poverty

3.10 Fergany⁴² concluded that the primary cause of poverty in Sudan since Independence could be summed up in the failure of development strategies, compounded by natural disasters and civil war. These factors manifested themselves in limited and inequitable access to all forms of capital: human, physical, financial, and social. Deprivation of capital resources leads to lack of investments and remunerative employment, resulting in poverty. Since 1993, the liberalization of the economy has improved production incentives for entrepreneurs (including large-scale farmers), which has resulted in increased income for them and growth in the economy.

³⁹ Fitzgerald, M. A. "Throwing the Stick Forward: The Impact of War on Southern Sudanese Women." 2002.

⁴⁰ See Table 1.1.

⁴¹ Moezz, M. "Evaluating the Income Economies of Yambio and Rumbek County in Southern Sudan." November 2000.

⁴²Nader Fergany. "Towards Poverty Eradication in the Sudan: An Analysis of Human Capability Failure., UNDP Khartoum, December 1997. Ali Abdel Gadir Ali. "Structural Adjustment Programs and Poverty in Sudan," Arab Research Center, Cairo, 1994, has made similar points.

3.11 On the other hand, the numerous small-scale pastoralists and traditional crop farmers have extremely limited access to capital with which to boost the efficiency of their operations. They therefore remain at or below subsistence and are also most vulnerable to drought and subsequent poverty. To cope with such problems, these families seek off-farm employment, usually long distances away. Another coping strategy is to migrate to urban areas. In recent years, the movement of people has been a major contributor to the rise in urban poverty, because many of those moving to urban areas were ill-suited to urban life, particularly in the light of a chronic shortage of jobs.⁴³ Khartoum State, for example, which is 87 percent urbanized, has a population expanding at an annual rate of 4 percent, compared to a national average of about 2.6 percent per annum. Most urban poor are former rural residents forced to relocate because of drought or are displaced persons from southern Sudan.

3.12 In urban areas, salary levels indicate that the majority of those in formal employment are paid extraordinarily low wages. The official minimum wage in Sudan in March 2002 was the equivalent of US\$18 per month. Considering that women make up only about 30 percent of the labor force,⁴⁴ an average family would have to make ends meet at about US\$24 a month if it attempted to survive on the minimum wage of a husband and a wife. Even with both parents working full time, such low pay provides for little more than two meager meals a day for a family of four, minimal shelter, and nothing to spare for children's education, health care, or clothing.

3.13 As an indication of the difficulties that families of civil servants face, another example is instructive. The monthly salary for entry-level civil servants with a university education in the central government was the equivalent of about US\$40 per month in 2002, insufficient to pay for the typical monthly electricity bill for an average urban family home. Finally, the value of the pensions of large numbers of public sector employees who have been retired or laid off has eroded considerably over the years because of inflation.

Correlates of Poverty

Low School Enrollments

3.14 A number of non-monetary indicators suggest high levels of poverty. The average primary school enrollment rate has only slowly increased, to about 58 percent in 2002 compared with about 50 percent at the beginning of the 1980s. Low pay for parents and the need for children to contribute to household income have consequences for the education of children from poor homes, since even "free" public schools require parents to make some payments toward education. For the majority of Sudanese households, the payment of a significant contribution to basic education is a substantial burden (see paragraph 3.12).

⁴³ Ahmed Taha Mohamed. "Population Displacement and Poverty in Sudan." UNDP, 1997. See also Paul Wani Gore. "Socio-Economic and Demographic Consequences of Population Displacement in Sudan", paper presented to the Study Group on Social Implications of Displacement and Resettlement in the Middle East, Irbid, Jordan, July 29-31, 1991.

⁴⁴ See Table 7.8.

Box 3.1: Household Surveys and the Measurement of Poverty

Available surveys and poverty estimates

The first household expenditure and income survey in Sudan was done by the Central Bureau of Statistics (CBS) in 1968.^a The second and last survey for all of Sudan was done in 1978. The CBS, in collaboration with the Social Solidarity Fund, conducted another expenditure and income survey in northern Sudan in 1992. There were two Migration and Labor Force Surveys (1990 and 1996), also for northern Sudan. Finally, there was an analysis of data on incomes of private sector employees in Khartoum State (1997). There have, of course, been a number of smaller surveys, but none of these is sufficiently representative to use as a basis for drawing conclusions for Sudan as a whole, or for southern and northern Sudan separately. During the 1980s and 1990s, several studies of money-metric poverty were undertaken, using various techniques to establish poverty lines. The first poverty line for Sudan was constructed by Anand and Nur in 1984.^b In 1992 a poverty study by Nur and the CBS, using the Poverty Baseline Survey of 1992,^c estimated three standard measures of poverty. Using recorded per capita expenditures from this survey in relation to a poverty line based on the cost of a minimum food basket plus basic shelter, transport, clothing, education, and health services the incidence of poverty was estimated at 83 percent for urban and 71 percent for rural areas in northern Sudan. Estimates of poverty, based on recorded income in the 1992 survey were 87 percent for urban areas and 86 percent for rural areas. Differences in the estimates are attributed to "coping practices," but the difference between expenditures and incomes could also have been due to under-reporting of recorded incomes. In contrast to the urban-rural distribution of the incidence of poverty, the survey showed that poverty was deeper in rural areas than in urban areas.

In another study based on the 1992 household survey but with a higher poverty line arrived at by modifying the consumption basket, Ali estimated that poverty had been rising steadily between 1968 and 1992.^d He estimated the incidence of national poverty at 50, 53, 75, and 91 percent for 1968, 1978, 1986, and 1992. In 1997, the government, through the then Ministry of Manpower, supported poverty studies based on the Migration and Labor Surveys in 1990 and 1996.^e Using a different poverty line based on a series of interviews with a subset of the survey sample, Ibrahim Ahmed Ibrahim estimated the incidence of urban and rural poverty to be 88 percent and 65 percent, respectively, in 1990. Ibrahim's estimates for 1996 were 85 percent for urban areas and 94 percent for rural areas. This 45 percent increase in rural poverty between 1990 and 1996 is an unexpected result, (as is the extremely small change in urban poverty) when one considers that in 1996 agriculture GDP was 63 percent higher in real terms compared with 1990. Finally, the latest poverty study available, which focused on private sector employees in Khartoum State in 1997, estimated an income poverty rate (based on formal salaries) in the range of 80-100 percent, but the expenditure poverty rate was much lower, at 57 percent.^f The lower rate of poverty based on expenditures is explained by the addition of various other forms of income such as support from other household members, and income from agriculture, handicrafts, and real estate to supplement the incomes received in formal employment.

Overview of Poverty

While there is broad agreement that the incidence of poverty was rising during the 1990s, the suggested levels of poverty in the range of 70-90 percent are out of line with a range of 50-60 percent for Sudan's neighbors, whose GDP per capita is typically lower. The following points explain part of the difference. First, Sudan has had no official poverty line, and the choice of poverty lines in the various studies explains many of the variations in the estimates of poverty. Second, the estimated poverty rates have also been affected by the accuracy of expenditure and income measurement. A typical problem is that expenditures and incomes from household surveys are often underestimated and hence poverty is overestimated. The large proportion of the population living in rural areas in Sudan makes this a particularly relevant problem. Third, estimates of income that depend on official wages alone will usually overestimate poverty, since wages are often supplemented substantially by remittances, secondary sources of income, and food from family members in rural areas. On the other hand, there can be little doubt that levels of welfare in urban and rural areas are often grim, with indicators of human development showing a deteriorating trend. These factors support the conclusions cited above that poverty rates were high in the early to mid-1990s. No new data are available with which to estimate current poverty levels, but experienced Sudanese observers claim that, despite the strong growth in the economy and particularly in the agricultural sector, there has been no significant reduction in poverty. A new household expenditure survey is therefore urgently needed to improve understanding of the recent evolution of poverty.

a Central Bureau of Statistics: *Household Income and Expenditure Surveys*, 1968 and 1978.

b Anand, Vinod and Eltahir Mohamed Nur, *The Absolute Poverty Line in Sudan: Estimation and Analysis*, The Asian Economic Review, Vol. XXX, December 1988, No. 3, pp 358-383.

c El Tahir Mohamed Nur and Central Bureau of Statistics, 1995. *Poverty in Sudan in 1992: With and Without Coping Practices*. UNICEF Research Report. See also El Tahir Mohamed Nur. 1997, *Welfare Distribution and Relative Poverty in Sudan 1992*, UNDP/ILO, Khartoum; Ibrahim Abbas El Nasr. 1995. *Poverty Line Survey 1992, Note of the Survey Methodology*; and Ibrahim Ahmed Ibrahim, *Poverty Survey 1997*, mimeo, 1997.

d Ali Abdel Gadir Ali (1994), *Structural Adjustment Programs and Poverty*, Arab Research Centre, Cairo.

e Ministry of Manpower, *Migration and Labor Force Surveys*, 1990 and 1996

f Kimo A. Adiebo. 1997, *Poverty Among Private Sector Employees: A Case Study from Khartoum*, Poverty Research Group of the Sudanese Environment Conservation Society in collaboration with Friedrich Ebert Stiftung and UNDP.

3.15 In the war-affected areas in southern Sudan, primary school enrollment is estimated at 30 percent, out of which only 26 percent are girls. That is, only about 8 percent of all girls in southern Sudan get a primary education. There are many reasons for the extremely low participation of girls in schools. Lack of security is one. Parents do not wish their girls to walk long distances to school through insecure areas. Another reason is the practice of early arranged marriages. Parents are reluctant to spend scarce resources on a young girl who will soon leave the family.

Weak Health Services

3.16 A more crucial poverty indicator is the health of the children. Nutrition surveys suggest that malnutrition among children under five in all of Sudan is between 10 and 20 percent, depending on the location. At such high malnutrition levels, children tend to suffer severe cognitive retardation that cannot be compensated by subsequent feeding, and will therefore reduce their productivity for life. Even if malnourished children enter the workforce at 15, their capacity to learn has already been seriously impaired, making them susceptible to the vicious cycle of intergenerational poverty. A more comprehensive coverage of the nutrition status of children is provided in Chapter 7.

3.17 Other health indicators such as infant mortality and maternal mortality suggest that efforts that the poor pursue to establish families that are large enough to provide long-run support are also subject to tragic and costly disappointments. Unless the access to basic health care for the poorest families is increased and its cost decreased, the cycle of poverty will repeat itself.

Stabilization and Special Programs

3.18 The government, aware of the high rates of poverty in the early 1990s, has been conscious of the benefits of stabilization for the poor. Although the economic reforms that achieved stabilization were severe in their impact on reduced social services spending, they were necessary for long-term conditions for poverty reduction through curbing price increases and creating production incentives. As will be seen in the next chapter, price levels came down rapidly and inflation has now stabilized at a low level. The removal of controls and tariffs, as well as the unification of the exchange rate, were positive for long-term agricultural growth. The central government also introduced some specific targeted assistance that was distributed to the states. For example, a poverty reduction program, introduced in 2001 and amounting to the equivalent of US\$50 million, provided for the distribution of funds to assist specific groups of poor through education, health care, and domestic water supply programs in the states. More details about this and other poverty reduction programs are provided in Chapter 5.

B. IS THERE A GROWTH POVERTY NEXUS ?

3.19 The puzzle of the Sudanese economy is that, while economic growth was strong during the 1990s, poverty has remained high. Of course the actual levels of poverty at present are a matter of judgment, because there has been no national poverty survey since 1978. Assuming poverty levels are as high as claimed by experienced observers, and assuming economic growth has been as high as the National Accounts indicate (given that basic economic surveys such as the agricultural census date back to 1968), what can be said about this puzzle? Since most of the poor live in rural areas and growth in agricultural GDP averaged close to 9 percent per annum through the 1990s, it is reasonable to begin looking for answer in the agricultural sector.

3.20 The irrigated and semi-mechanized rainfed areas have always provided a crucial source of employment for low-income groups. Such employment has involved about 1 million workers

every year who, with their families, represent some 20 percent of the population. Most of these workers come from small farms in the traditional farming areas or are already located in and around the large-scale irrigation schemes. Employment, while seasonal, is reasonably well assured, even though growth in the semi-mechanized farming areas has been slow and prone to large annual fluctuations as a result of droughts and the disincentive effects of government policies for some crops such as sorghum. In irrigated areas, employment is somewhat less seasonal and many workers have therefore settled close to major irrigation schemes. They, like the tenant farmers, have benefited from subsidies, but employment has not increased as much as would be expected because of inadequate management of the schemes.

3.21 Since the early 1990s, the government has lifted most of its controls on agriculture but it has continued to interfere with sorghum production and marketing. Depending on the food security situation, the government's price support and export policy for sorghum has varied from year to year. This has contributed to uncertainty among producers and created disincentives for further growth in semi-mechanized farming areas. As a result, the semi-mechanized subsector had an overall negative growth in GDP during the 1990s and only 2 percent per annum GDP growth in the last 15 years. The semi-mechanized subsector is the smallest subsector in agriculture, but its decline has been devastating for seasonal employment of close to a million workers who typically come from traditional farming areas.

3.22 The government did not interfere in the traditional rainfed farming subsector. Improvements in infrastructure in traditional rainfed farming areas were minimal, and yet output in these areas has increased rapidly. The Ministry of Agriculture and Forests estimates that the traditional rainfed subsector grew at a rate of more than 20 percent per annum during the drought-free 1990s. This was a major reversal compared with a declining growth rate of 12 percent per annum in the last half of the 1980s. If one adds to this the 10 percent per annum growth in livestock production, with a value more than double that of the crops produced in the traditional farming areas, then the story is one of a buoyant traditional rainfed subsector during the 1990s. However, expert opinion is that the welfare of those in the traditional farming areas has not improved appreciably. The question is why. Answering this question is not possible without some data on household expenditures. Nevertheless, information about production and employment in traditional farming areas indicate that although production has increased, the pace has not kept up with the growing number of dependants. Income distribution is also highly skewed.

3.23 First, much of the production growth in the traditional areas represents a rebound from the stagnation and decline of earlier decades, rather than a structural transformation of the subsector to sustained higher production levels. For example, the total production of sorghum averaged 858,000 metric tons during 1995/96-1999/00, about the same as it was for the average of 1977/78-1981/82. The long-term stagnation in traditional rainfed crop production took place despite increases in harvested area (from 1.29 million ha to 1.70 million ha during the same period). Productivity, therefore, remained low and in some years declined because of the absence of significant technological change. To address this problem it is vital that improved technologies become more accessible to farmers in the traditional farming areas so that existing areas can become more productive without resorting to an expansion of area planted, thereby increasing the risk of natural resource degradation.

3.24 Second, the contribution of the traditional rainfed crop and livestock-producing areas is less than the share of population working in these production systems, even in years of high

growth. For example, whereas the traditional rainfed areas⁴⁵ accounted for about 56 percent of agricultural GDP in 1999, about 70 percent of the population contributed to the production. In other words, even in a period of high production (such as the 1990s) the traditional rainfed crop and grazing areas do not produce a share of GDP that is equal to their share of the population in the agricultural and pastoral subsectors.

3.25 In addition, it is likely that, because of the substantial capital required for livestock production, the benefits from livestock sales accrue to only a small portion of the people involved in livestock production, such as herders and those who lease grazing land. Of course, it is the relatively small share of GDP that accrues to those who live in traditional crop and grazing areas that drives labor migration to the irrigation and semi-mechanized areas. In contrast to the traditional rainfed areas, the irrigated areas produce 22 percent of GDP from agriculture and need to sustain only about 12 percent of the population engaged in agriculture. The semi-mechanized areas account for about 7 percent of GDP but have only about 0.7 percent of the people. Clearly, there is a skewed distribution of income from an aggregate agricultural growth that is quite substantial. Therefore, in relative terms, those who live and work in large numbers in the traditional farming areas fell behind those occupied in other farming systems. This is probably the main solution to the puzzle of persistent poverty across the large areas covered by the traditional farming areas.

3.26 The conclusion is that there is a growth-poverty reduction nexus for the agricultural sector because growth in the volume and value of production in all farming systems has benefited people who are resident and work in those areas. On the other hand, the distribution of growth among the farming systems is not in accordance with their share of the population. Obviously, there are large numbers of people resident or working in the traditional areas, and as long as they depend on those areas for their livelihood they will (on average) remain poor relative to other subsectors in agriculture, unless the marginal productivity increases or income distribution favors those in the rainfed areas. Some of the issues that need to be addressed include land redistribution within farming systems, migration out of the rainfed areas to alternative permanent employment outside agriculture, the development and use of improved technologies, and improved human capital (through better access to education, health, and so forth). Solutions will require structural change based on improvements in land policy; better credit mechanisms; modernized agricultural technologies; and improved infrastructure, education, and training to make it possible for those who wish to move off the land to receive fair prices for their land and improvements, and to enhance their chances of gaining remunerative employment in other sectors of the economy. These issues are pursued in Chapters 6 and 7 of this CEM.

C. CONCLUSIONS AND ISSUES

3.27 This chapter finds that poverty rates are high and with large regional variations. Inequalities have risen since the end of the 1960s. Poverty is also widespread and deep, especially in the countryside and war-affected areas.

3.28 High growth rates for the economy as a whole along with a more pro-poor distribution of the fruits of economic growth throughout the economy are needed for poverty to come down. Although macroeconomic reforms removed some major obstacles for growth, these need to be

⁴⁵ Including traditional farming food crop areas along with other crops (e.g., karkadeh) and livestock that are produced on grazing lands in these areas.

supplemented by pro-poor reforms and policies, particularly regarding decentralization (see Chapter 5), income distribution, and broad based rural development. Peace would provide a basis for sustainable development and allow a greater integration of the whole country. Resource inflows from petroleum production could help to relax the severe infrastructure constraints on incentives to produce and could help raise current low levels of human resource development by increasing access and quality of social services. Few countries have been able to achieve sustained economic growth with the low literacy and enrollment ratios, as well as the concerns about the quality of education, that currently prevail in Sudan.

3.29 In agriculture, pro-poor distribution of income and increased marginal productivity require improved technology and structural reforms. Policies and investments required to achieve these goals will need to be established. The most important policies will revolve around agricultural policies that change land policy, raise yield levels, eliminate government interventions in produce marketing, and focus the role of government on providing infrastructure and support services to people in rural areas. Investment in rural infrastructure and rural services should focus on better roads, improved health services, improved education facilities and quality of education, more efficient markets and better market information, agricultural credit, improved stock routes and veterinary services, and improved and sustainable water supplies for domestic use and for livestock. In other words, there is an urgent need for broad-based rural development.

3.30 The following two parts of the CEM report take a closer look at how history and new developments have shaped public policy (Part II) and sectoral outcomes (Part III). Part II examines the government's reform program in the areas of macroeconomics, public resource management, and public administration. Part III concerns agriculture and human resource development.

PART II
REFORMS

4. MACROECONOMIC REFORMS

A. INTRODUCTION

4.1 The previous chapter concluded that the 1990s had been a period of rapid economic growth in those parts of Sudan under government control. In this chapter, the underlying factors that contributed to the high economic growth are investigated. It concludes that the main factors behind the high growth rates are economic reforms, in addition to favorable weather conditions for agriculture and high investments in oil and oil-related industries and services.

4.2 The economic reform program was both successful and unusual. It was successful because it restored macroeconomic stability, revived economic growth and resulted in increasing GDP per capita. It was unusual in the sense that reforms were pursued without external financing or technical assistance. Arrears on external debt continued therefore to accumulate. This chapter points out that the debt problem was a heavy constraint to social and economic development. Stabilization was therefore reached mainly through large cuts in public expenditure. The expenditure adjustments and resource claims by the war made it difficult to provide adequate financing for basic public services, including infrastructure and human resource development. The roots of fiscal instability are still present. Continued low revenue-to-GDP ratio compared to other SSA countries, political and social pressure for higher expenditure, and strained access to foreign finance and aid render the fiscal situation unstable and not sustainable.

4.3 It is important to point out that the government's economic reform program did not embrace all parts of Sudan. The war-affected areas are lagging behind in terms of economic growth, reforms, institutions, and capacity.

4.4 There are several problems with the data used in this chapter. It is unclear how much of the country is represented in the National Accounts. It is not likely that surveys could cover war-affected areas in the southern parts of the country. Thus, estimates of the real value of production and GDP may be uncertain because of coverage problems. Other uncertainties relate to the quality of sector surveys. The agricultural sector, which is the most important for production in Sudan, has not had a census since 1968. Moreover, price deflators have not been updated since 1981-1982.

4.5 Few national surveys exist. As already mentioned, the last household expenditure and income survey was made in 1978. The most recent population census is from 1993, but it is based partly on estimations, as access to non-government-controlled areas in southern Sudan was limited. Population information is therefore highly contested, and no consensus about the size of the population exists. The accuracy of the consumer price index is questionable because its weights are based on the 25-year-old household survey, and price information was extracted only for Khartoum. No National Accounts have been assembled that cover production, and no consistent information exists on price movements, household income, or consumption in the southern regions outside of government control.

B. MACROECONOMIC MANAGEMENT

4.6 As far back as the late 1970s, the government in Khartoum initiated a series of reform efforts aimed at arresting economic deterioration. The early wave of reforms covering 1978-1984 were neither well sequenced nor fully implemented; macroeconomic and price stabilization were not emphasized. A second wave of reforms was initiated under the National Comprehensive Plan of 1992-2002. A "Salvation Program" advocating national self-reliance was subsequently

initiated and merged with the National Comprehensive Plan. While the reforms in the beginning of the 1990s revived growth performance somewhat and reduced fiscal imbalances, inflation rates escalated and other macroeconomic imbalances persisted. Efforts to suppress inflation through administered prices were unsuccessful, and economic growth recovery did not seem sustainable.

4.7 The escalation of inflation during the first half of the 1990s was accompanied by a sharp deterioration in the balance of payments. Part of the problem was that there were many distortions and government interventions in the economy, including fixed and controlled exchange rate regimes, import controls, export retention controls, and cumbersome investment policies that dampened private investment, exports, and economic growth. The fiscal deficit, on a cash basis, was equivalent to 11 percent of GDP in 1991-1992. Macroeconomic and price stabilization became the focus of a strengthened reform program during 1997-2001. The government's program came to rest on four cornerstones:

- Restore a stable macroeconomic management and combat runaway inflation through a program of enhanced revenue collection, expenditure control, and prudent monetary stance.
- Restore incentives for production and exports through measures emphasizing market-oriented policies, deregulation, and abolition of controls.
- Take a number of structural measures to limit the role of the state by privatizing public enterprises and extending the role of the private sector in all sectors of the economy, including education, health, and the utilities.
- Encourage savings, which had fallen sharply, by stabilizing the economy and reforming the banking sector through prudential regulations and the introduction of new savings instruments.

Table 4.1: Macroeconomic Indicators

	1981-85	1986-90	1991-95	1996-00	2000	2001
Growth rate a/						
Real GDP b/	-2.0	2.3	3.5	5.7	5.1	8.0
Agricultural GDP	-4.2	-1.2	0.7	10.9	5.3	5.6
GDP per capita	-5.5	-0.8	1.6	3.6	2.8	5.6
Inflation	32.1	43.3	106.4	43.6	8.0	4.9
Gross fixed capital formation/GDP c/	15.5	9.2	12.8	14.2	12.5	...
Government savings/ GDP d/	-4.9	-8.7	-4.2	0.4	1.8	1.6
Export/GDP	5.6	1.9	2.2	8.4	16.1	13.6
Import/GDP	11.6	4.0	4.4	14.0	11.8	12.1
Trade balance/GDP	-6.0	-2.6	-2.2	-5.6	3.9	2.4
Current account (cash basis)/GDP	-1.7	-1.0	-2.3	-7.2	-4.9	-7.9
Fiscal deficit (cash basis)/GDP	-9.9	-12.6	-6.6	-0.9	-0.8	-1.4
Federal government revenue/GDP	11.4	8.8	7.3	8.0	11.4	11.3
Federal expenditure (excl. interest arrears)/GDP	21.3	21.4	13.9	8.9	12.2	12.7
External debt stock/GDP (%)	NA	197.5	282.1	204.5	179.4	161.4
Scheduled external debt service/exp of GNFS	NA	175.8	290.9	173.9	75.5	57.5
Actual external debt service/exp of GNFS	NA	18.0	12.5	8.9	5.0	5.0

a/ Growth rates for the periods are exponential growth rates apart from annual rates for 2000 and 2001.

b/ GDP at factor costs (constant prices, 1981/82=100).

c/ Average for 1991-95 covers only four years. No data for 1994/1995.

d/ Government revenue less recurrent expenditures. 2001 is estimated.

Source: Central Bureau of Statistics, Government of Sudan, IMF.

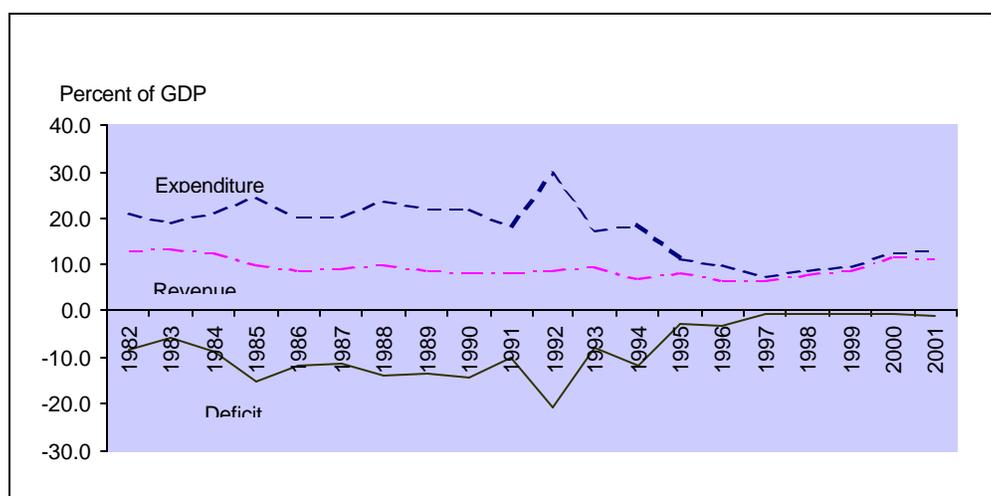
Fiscal Stabilization

An Overview

4.8 During the 1970s and 1980s, external aid and loans helped to finance public investments and expansionary government policies. The oil crises, loss of purchasing power, and increased interest rates contributed to a worsening economic situation, and Sudan found it more and more difficult to service its debt. In turn, access to external financing dried up as arrears began to accumulate. Expenditure expansion, a low and declining revenue-to-GDP ratio, and limited access to foreign finance resulted in a surge of government borrowing from the central bank, fueling inflationary pressures. Measures to cut budget deficits were, therefore, of utmost importance for stabilizing the economy and curbing the inflation rate.

4.9 The National Comprehensive Plan of 1992 prescribed a fiscal stabilization program that included (i) rationalizing the tax and customs system, including to improve tax administration, (ii) monitoring and control public expenditures, (iii) streamlining the budget process, and (iv) reforming fiscal accounting. The centerpiece of the stabilization effort was expenditure control through a cash budget system.

Figure 4.1: Budget Revenue, Expenditure, and Deficit as Percentages of GDP, 1982-2001



Source: Ministry of Finance and Economy

4.10 The objective of reducing the level of the fiscal deficit was achieved, mainly through firm adherence to the cash budget system. The cash deficit fell from about 13 percent of GDP annually during 1985/1986-1989/1990 to less than one percent of GDP during 1996/2000 (Figure 4.1 and Table 4.1). The reduced fiscal imbalance was a result of large cuts in expenditure, mainly reductions in transfers to the states, goods and services, debt service payments, and public investments. Total revenue remained low and declined as a percentage of GDP until 1999, when the oil sector became an important source of income.

Table 4.2: Federal Government Budget

	1981/82-84/85	1985/86-89/90	1991/92-94/95	1996-00	2001
	Percent of GDP				
Total revenue	11.4	8.8	7.3	8.0	11.3
Tax revenue	9.7	6.3	5.5	5.8	5.8
Oil revenue	0.0	0.0	0.0	1.0	5.0
Total expenditures (excluding interest arrears)	21.3	21.4	13.9	8.9	12.7
Current expenditures	17.5	17.7	12.6	7.3	10.2
Extrabudgetary	0.0	1.2	0.1	0.4	0.1
Capital expenditures	3.8	2.5	1.2	1.2	2.4
Overall cash deficit	-9.9	-12.6	-6.6	-0.9	-1.4
Financing	9.6	12.3	6.7	1.4	...
External	7.8	6.7	2.7	0.3	...
Net domestic borrowing 1/	1.8	5.6	4.0	1.1	...
Memo item					
Government savings 2/	-6.1	-8.9	-5.3	0.7	1.1

Source: MoFNE.

1/ Net domestic borrowing includes net domestic bank borrowing and exceptional domestic borrowing.

2/ Total revenues less recurrent expenditures.

Expenditure Controls

4.11 Under the cash budget system, prescribed under the government's Comprehensive National Strategy (1992-2002), public disbursements is restricted to take place only when liquidity is available. A monthly reporting system was introduced in order to closely monitor government accounts and to avoid overspending. A new approval system was put in place. All cash releases had to be approved by a centralized Cash Committee who approved disbursements based on available liquidity and a broad system of prioritized budget items. The cash budget system curbed effectively expenditures, especially nonwage-recurrent expenditures such as transfers to the states, debt service payments, O&M, and development expenditures.⁴⁶

4.12 Strict rules established first priority for release of funds to federal wages and salaries. O&M had second priority. Transfers to the states had third priority, and the development budget was last⁴⁷. In order to mitigate the effects of the downscaling of the public sector, legislation was introduced to facilitate private delivery of social services, including education and health.

4.13 As both recurrent and development expenditures declined, total federal expenditures, excluding interest arrears, dropped from 18.4 percent of GDP during 1985/1986-1989/1990 to 9.3 percent of GDP during 1996-2000. The main cuts (in percentage points of GDP) took place in transfers to the states (4.6 percentage points), payment of debt service (2.9 percentage points), spending on O&M (2.6 percentage points), and development expenditures (1.5 percentage points). Part of the cuts in federal expenditure (as well as the low revenue-to-GDP ratio) may also be explained by the introduction of the federal system. In 1994-1995, some central government

⁴⁶ See the chapter on public resource management for a discussion of development expenditure performance.

⁴⁷ Beginning in January 2003, however, transfers to cover the states wages and salaries have first priority.

functions (on both the expenditure and revenue sides) were transferred to the states. Due to data limitations it was not possible to assess the magnitude of these changes, but it appears to be rather limited.⁴⁸

4.14 Table 4.3 concerning economic classification of federal-level expenditures highlights four main points:

- The considerable decline in transfers to the regions has implications for social service delivery. See Chapter 7 for a discussion about social outcomes.
- The total wage bill of 2.8 percent of GDP (during 1996-00) can hardly support a well-trained and motivated civil service. This is addressed in detail in Chapter 5.
- Development expenditure amounting to just above one percent of GDP (during 1996-00) is not sufficient to cover needed investment in public infrastructure and human resource development.
- Efforts to service the debt are limited.

Table 4.3: Economic Classification of Federal Government Expenditures

	1981/82-84/85	1985/86-89/90	1991/92-94/95	1996-00	2001
	Percent of GDP				
Total expenditures (excluding interest arrears)	21.3	21.4	13.9	8.9	12.7
Current expenditures	17.5	17.7	12.6	7.3	10.2
Wages and salaries	0.3	1.1	1.4	2.8	3.9
Goods and services	6.4	4.6	3.5	2.0	1.5
Transfers	4.2	5.2	3.7	0.6	1.0
To regions	3.1	2.2	0.4	...	...
To institutions	1.1	3.0	3.3	...	...
Debt service paid	2.8	3.8	0.5	0.5	1.0
Other	3.8	3.0	3.5	1.4	2.8
Extrabudgetary	0.0	1.2	0.1	0.4	0.1
Development expenditures	3.8	2.5	1.2	1.2	2.4

Source: MoFNE.

4.15 Table 4.4 shows the functional classification of the federal government development budget during 1998-2001. It also compares actual expenditures to the budgeted allocations. Investments in health and education stand out as low, barely reaching 0.1 percent of GDP. Economic services accounted for about 2 percent of GDP in 2001, out of which almost all spending was for irrigation, industry, and energy. About 24 percent of total development expenditures during 1998-2001 was spent on irrigation, compared with 1 percent for mainly rainfed agriculture. Energy accounted for an average of 25 percent the development budget; recent projects funded include expansion of electricity generation and distribution, restoration, and maintenance. Industry acquired the third largest share of expenditures. Despite the privatization program, industries' share of total development expenditure doubled from 1998 to 2001. According to the Ministry of Finance and National Economy (MoFNE), no outlays on defense and security are channeled through the development budget.

⁴⁸ The CEM team did not succeed in getting statistics on the budgeted amounts for those central functions that were removed to the states budgets in the process of decentralization. However, by 1998, the states' total expenditures amounted to about 2.6 percent of GDP only.

Table 4.4: Functional Classification of the Federal Government Development Budget

	1998		1999		2000		2001	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Percent of total capital expenditure								
Administrative services	6.7	4.5	6.5	4.7	5.9	3.2	3.1	3.9
Defense and security	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Social services	7.3	3.8	6.5	3.7	4.2	3.2	2.4	4.6
Education	1.7	0.6	2.2	0.6	1.9	0.6	0.8	1.5
Health	5.5	3.2	4.3	3.1	2.3	2.6	1.6	3.0
Economic services	70.3	76.3	68.8	77.2	77.7	76.7	73.3	80.2
Agriculture	5.5	1.3	4.3	0.9	3.9	1.0	4.2	1.3
Irrigation	21.0	25.6	20.4	26.1	15.0	28.5	14.5	17.3
Drinking water	1.7	1.9	1.6	1.6	5.0	4.2	3.2	2.8
Industry	16.9	10.8	18.9	11.2	11.5	20.1	15.4	21.4
Transport	5.0	9.0	6.1	8.7	7.0	10.5	10.3	5.1
Energy	20.1	27.6	17.3	28.0	35.3	12.4	25.3	32.4
Other	15.7	15.4	18.2	14.9	12.2	16.9	21.0	11.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Percent of GDP								
Administrative services	0.11	0.03	0.11	0.06	0.15	0.08	0.11	0.10
Defense and security	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Social services	0.12	0.03	0.11	0.04	0.11	0.08	0.09	0.11
Education	0.03	0.00	0.04	0.01	0.05	0.01	0.03	0.04
Health	0.09	0.02	0.07	0.04	0.06	0.06	0.06	0.07
Economic services	1.12	0.56	1.14	0.91	2.01	1.88	2.64	1.95
Agriculture	0.09	0.01	0.07	0.01	0.10	0.02	0.15	0.03
Irrigation	0.34	0.19	0.34	0.31	0.39	0.65	0.52	0.42
Drinking water	0.03	0.01	0.03	0.02	0.13	0.10	0.11	0.07
Industry	0.27	0.08	0.32	0.13	0.30	0.48	0.57	0.52
Transport	0.08	0.07	0.10	0.10	0.18	0.25	0.37	0.12
Energy	0.32	0.20	0.29	0.33	0.91	0.30	0.91	0.79
Other	0.25	0.11	0.30	0.18	0.31	0.40	0.76	0.27
Total	1.6	0.73	1.66	1.19	2.58	2.39	3.60	2.43

Source: MoFNE.

4.16 As shown in Table 4.4, there are large discrepancies between budgeted and actual outlays. This is a result of the low prioritization of development expenditures in the cash budget system. Funds to the development budget are authorized after recurrent wage, operational expenditures, and federal transfers to the states have been covered. In 1998, actual expenditures reached 46 percent of the planned budget. In 2001, two-thirds of the planned budget expenditure was financed. The sector focus of development expenditure programs often shifted when resources fell short, but the prioritization of energy, irrigation, and industry remained fixed. The unpredictable funding had consequences, such as delayed completion of projects, resulting in cost overruns or waste in cases where delays are followed by cancellation, and poor cost-efficiency as contractors factor the funding delays into their contracts. The lack of linkage between recurrent and investment costs undermines efficiency as operation and maintenance costs are not funded to make the completed investment projects productive.

Federal Revenues

4.17 Revenue mobilization lagged behind both inflation and GDP growth from the 1980s to 1999, when oil revenues came on stream. Total federal revenues deteriorated from 11.4 percent of GDP during 1981/1982-1984/1985 to 8.0 percent of GDP during 1996-2000. In 2000, the first full year of oil revenues, the federal revenue amounted to about 11.4 percent of GDP, out of which about 5 percent was oil revenue. Consolidated revenues, taking into account collections at the state level (estimated at no more than 2 percent of GDP) would be equivalent to about 10 percent of GDP during 1996-2000, much lower than in the first half of the 1980s.

4.18 Before a tax reform was launched in 1998, the revenue system was a complex web of a number of different taxes, tax exemptions, and tax brackets, which spawned loopholes. Lack of enforcement encouraged abuse of tax exemptions. The tax bases eroded, partly as a consequence of the weakening economy with falling trade and profits, and partly as a response of failures of the tax system to adjust the value of traded goods and tax brackets to multiple fixed exchange rates.

4.19 The tax reform raised the efficiency and yield of the tax system. The most important measures were the introduction of unified systems for trade taxes and the value-added tax (VAT) in June 2000. These reforms simplified the system, but they did not result in higher tax collection. With the commencement of oil production in 1999, public revenue increased. Since 2000, the first full year of oil production, the government has been collecting about US\$700 million a year in oil revenue (see Appendix A: National Income from Oil Production).

4.20 In 2001, federal revenues were equivalent to 11.3 percent of GDP. If state revenues are taken into account, consolidated federal and state revenues were equivalent to about 13 percent of GDP. Inclusion of the Zakat funds, which are collected by the government, but administered outside the budget, would raise revenues by an additional 0.6 percent of GDP. By all standards, total revenue raising performance is still low. Other African countries collected about 19 percent of GDP in revenue on average during 1999. Kenya collected 24.2 percent of GDP, Ethiopia (17.8 percent), Tanzania (11.1 percent), and Uganda (10.8 percent).⁴⁹

4.21 As shown in Table 4.5, indirect taxation of domestic goods and services was the second most important source of revenue in 2001. The VAT is even more important than what is shown in the table, since 43 percent of all VAT revenues bypass the federal budget and are allocated directly to the states, in accordance with the Constitution (see Chapter 5). Total VAT revenue was about 2 percent of GDP at the federal level, but in addition, about 1.5 percent of VAT was collected at the federal level and transferred directly to the states.

4.22 VAT replaced a wide range of taxes on sales, consumption, and companies when it was introduced in 2000. The tax administration improved with the VAT as a result of technical assistance and training of staff and tax auditors. According to the VAT tax audit at the end of 2001, VAT collections could have been higher if tax evasion had been less widespread. Another SDD 20 billion, or 0.4 percent of GDP, was VAT losses resulting from exemptions.⁵⁰

⁴⁹Comparator figures are for 1999. Low-revenue-effort countries comparable to Sudan are Niger (9.1 percent) and Chad (8.0 percent).

⁵⁰IMF, May 2003.

Table 4.5: Federal Government Revenue

	1998	1999	2000	2001	2002 Budget
	Percent of GDP				
Total revenue	7.8	8.4	11.4	11.3	13.4
Tax revenue	6.3	6.3	5.5	5.8	6.7
Nontax revenue	1.5	2.1	5.9	5.5	6.7
O/w: oil	0.1	0.6	4.9	4.6	4.8
Taxes on income and profits	1.6	1.5	1.3	1.3	1.4
Personal income tax	0.2	0.1	0.2	0.1	0.2
Business profits tax	0.4	0.9	0.8	0.7	0.8
Sudanese working abroad	0.2	0.2	0.1	0.2	0.2
Other	0.6	0.2	0.2	0.2	0.2
Taxes on domestic goods and services	2.2	2.1	1.8	2.3	2.5
Excise duties	1.1	1.0	1.1	1.0	1.1
Sales taxes	0.2	0.3	0.1	0.0	0.0
VAT	....	....	0.6	1.3	1.4
Consumption/VAT	0.9	0.8	0.3	0.6	0.9
Taxes on international trade	2.7	2.7	2.1	1.7	1.9
Import duties	1.8	2.2	1.8	1.7	1.9
Export taxes	0.1	0.1	0.0	0.0	0.0
Other	0.8	0.4	0.3	0.0	0.0

Source: MoFNE.

4.23 Taxes on international trade amounted to about 1.7 percent of GDP in 2001. The effective tariff rate was about 19 percent in 2001. Discretionary as well as tax exemptions granted by law, particularly the Investment Encouragement Act, have undermined revenue collection. In 2001, revenues forgone at customs because of exemptions amounted to some SDD 57 billion (equivalent to 1.8 percent of GDP), compared to SDD 54 billion collected from import duties. All export duties have been abolished with the exception of the 15 percent export duty on raw hides (leather).

4.24 Income and profit taxes generated about 1.3 percent of GDP during 2001, mainly from profit tax on companies. Beginning in June 2001, taxation on large private and public companies and banks has been made through flat rates; companies are taxed 30 percent, and banks and insurances companies pay 35 percent. The rate for private entrepreneurs is progressive with a maximum of 35 percent. Compared to its potential tax base, revenues from the profit tax have been low mainly because of several and prolonged tax exemptions. Inefficient tax collection and a lax penalty system further reduce the revenue-raising performance. According to the IMF, currently more than 200 companies and several banks benefit from exemptions that are valid up to 10 years.⁵¹

Tax Exemptions Have Opportunity Costs

4.25 Tax exemptions are intended to provide incentives for investment in designated strategic industries. However, investment promotion is not the only purpose of the discretionary tax exemptions.⁵² It is important to recognize, value, and compare expected losses and gains from tax

⁵¹ IMF, "Sudan – Recent Economic Developments," October 2001.

⁵²Investments account for an average 87 percent of fiscal exemptions that have been granted officially.

exemptions, and to take into consideration opportunity costs of exemptions in terms of public services, especially in education, health, and infrastructure. Public investments in these areas are essential to attract complementary private investments but are forgone because of the revenue losses. Non-transparency in tax exemptions carry large inefficiency costs. There are different ways to reform tax exemptions, including limiting their scope by abolishing them or applying them narrowly to achieve targeted objectives. Other options are to implement tax exemptions on re-exports through a duty-drawback system; this makes it easy to monitor that exemptions are used as intended. All tax exemptions should be registered, and records should be updated frequently. At a minimum, the public should have access to estimates of the value of total tax exemptions, and broad sector descriptions.

4.26 In summary, all main taxes suffer from large tax exemptions that contribute to low collection rates. The result is low tax-to-GDP ratios and an unequal and erratic tax burden.

Revenue Collection in War-Affected Areas

4.27 In areas outside of government control in southern parts of the country, there is no formal comprehensive tax system. Taxes, customs, and excise duties have been collected, mainly at informal and local levels, to finance salaries for soldiers in the war. Collection takes place in rather informal and disorganized ways in various villages and border points, with the result that the tax burden is erratic and increases with the distance a good is transferred. The tax ratio could amount to 60-70 percent when livestock are transferred to the borders for export. Such high ratios are harmful for production and trade and act as disincentives. In an attempt to formalize tax collection and avoid negative growth effects, the SPLM issued a provisional revenue law, including taxes, customs, and excise duties at the end of December 2000. A system for registering imports, exports, and revenue collection was set up. The CEM team was exposed only to trade statistics collected at the Kenyan border. No public information on tax revenue collection seems to exist.

4.28 The provisional revenue law was made with no technical or financial international input, and with limited domestic experience of modern tax systems. The revenue law contains a plethora of different taxes, licenses, customs, and excise duties. The large variety of taxes proposed are combined with a wide range of tax rates, which risks making administration and collection heavy and inefficient.

4.29 The revenue law aims at being progressive with the wealthier part of society, including expatriates, who are targeted for higher taxation in terms of both labor taxes and indirect taxation. Furthermore, the system aims at preventing health injuries. For instance, tobacco is heavily taxed on the premise of discouraging smoking. Also, taxes and duties are being used to protect local production from competition abroad. The large plethora of taxes has made the system nontransparent and inconsistent. Moreover, some taxes add to each other to create a cascading effect. High taxes and licenses for registering new companies constitute effective entry barriers and discourage entrepreneurs from starting up business.⁵³ In addition, the problem with uncontrolled and high informal taxation continues to hamper production.

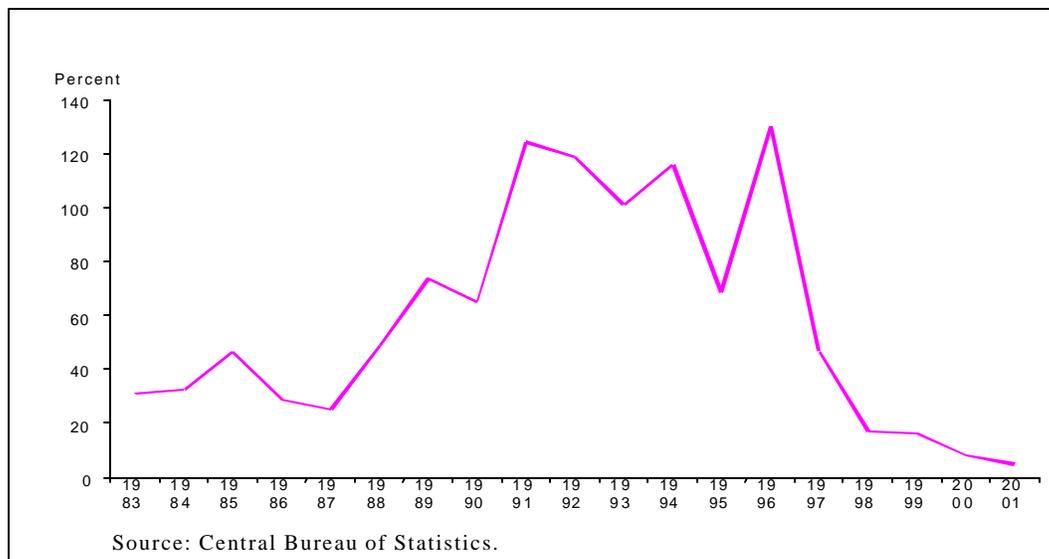
⁵³ Interview with private businessmen in Yambio.

Monetary Policy and Inflation

4.30 The Comprehensive National Strategy of 1992-2002 was the first published official document that stated that monetary policy should maintain price stability and low inflation. Even so, low inflation was stated as just one objective among several general economic objectives, and it did not signify as a top priority for the Bank of Sudan. In practice, the main goals of the Bank of Sudan have been to finance the government's budget deficits (including net lending to the state enterprises) and to prescribe credit ceilings for priority sectors. Historically, all sectors of the economy were subdivided into priority sectors, nonpriority sectors, and sectors prohibited from bank financing. As late as 1996, the government issued a list of 13 priority sectors, which were intended to receive 90 percent of total credit. Up to 40 percent of commercial banks' total lending had to be allocated to agriculture, and within agriculture certain amounts were prescribed to various subsectors. Furthermore, the cost of credit was regulated and differed depending on which sector the lender belonged to.

4.31 Tightening of fiscal policy and the sharp cut in central bank financing of budget deficits beginning in 1997 have changed the role of the Bank of Sudan and facilitated the development of a more active and market-oriented monetary policy. Also, the inflation rate dropped substantially, from about 130 percent in 1996 to single digits in 2000. See Figure 4.2.

Figure 4.2: Annual Inflation Rate, 1983-2001



4.32 Since 1997, monetary policy reforms have primarily aimed at strengthening the central bank's capacity to pursue a low inflation rate policy and to increase the role and the capacity of the financial system to act in a market economy. The central bank has started open market operations through indirect instruments. Sudan is one of the few countries in the world with its financial system based completely on Islamic principles,⁵⁴ and monetary policy has to be

⁵⁴ In addition to Sudan, there are only two other countries, Iran and Pakistan, that have fully adopted the Islamic financial system. Approximately 50 other countries operate conventional interest-based banking systems alongside Islamic banking.

conducted within the framework of interest-free measures and instruments.⁵⁵ Interventions are facilitated by the central bank and government Musharaka⁵⁶ certificates (CMC and GMC), which are Islamic substitutes for traditional indirect monetary instruments. The CMCs are issued against the value of the government's and the Bank of Sudan's shares in commercial banks; the GMCs were issued against the assessed value of the government's assets in a number of public companies. The return on the GMCs is generated from the profit and capital gains of these companies.

4.33 Monetary policy decisions are taken by the Bank of Sudan in coordination with the Ministry of Finance and National Economy. The governor and deputy governors are members of the High Macro Economic Committee, headed by the MoFNE. The committee's main purpose is to review overall macroeconomic policies. In addition, a Coordination Committee, with members from both the Bank of Sudan and MoFNE, has been established to coordinate and harmonize monetary and fiscal policies, and to monitor benchmarks. This committee is not a decision making body. The move to more flexible exchange rates has contributed to an increasing need for closer monitoring of monetary aggregates and use of indirect monetary instruments. A Monetary Operations Unit was recently established at the Bank of Sudan and it will be responsible for the day-to-day monitoring of economic policy and use of financial instruments.

4.34 There has been steady but slow progress in financial liberalization, bank supervision and regulation, introduction of monetary instruments, and promotion of interbank markets. Administrative restrictions on bank credit and sectoral allocations have been abolished. Since 2001, commercial banks have been allowed to allocate credit freely to the various sectors of the economy. The Bank of Sudan still recommends that banks lend some proportion (recently 30 percent) of their total lending to agriculture, but banks are not obliged to follow. A comprehensive restructuring program to strengthen and increase the capital base of banks is headed by the Bank of Sudan. One major outstanding issue relates to dealing with nonperforming loans (see section on structural reforms in the financial sector).

4.35 Overvalued, multiple exchange rates together with import and export controls have distorted the incentive system, especially for exports. During the first 22 years following Independence, the official exchange rate remained unchanged at one Sudanese pound for US\$2.87. There were special administrative exchange rates related to certain products and customs valuation. In addition, exporters were subject to complex registration, investment, and pricing requirements. As indicated in Figure 4.3, a wide spread between the official and parallel rates persisted up to 1995.

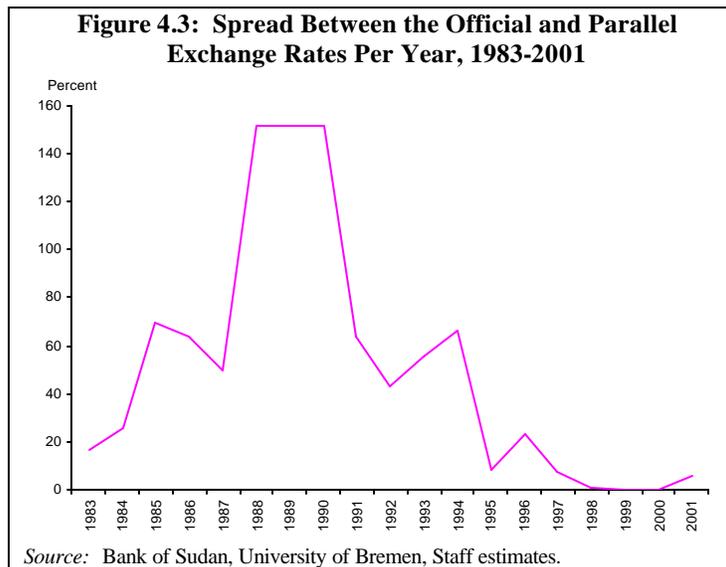
⁵⁵ The main difference between Islamic and conventional banking is the prohibition of interest rates according to Shari'a law. Operations are conducted under various purchase and sale agreements or on the basis of profit- and loss-sharing contracts, determining ex post rates of return.

⁵⁶ Musharaka is a partnership contract, where the bank and its client share a project and its profit.

Exchange Rate Reforms

4.36 Market and price reforms focused on abolishing controls and deregulating trade and investments. The first devaluation of the pound in 1978 involved a 14 percent correction of the exchange rate relative to the U.S. dollar; this was followed by several other devaluations, but they all failed to correct the overvaluation of the Sudanese pound. Lack of supporting financial policies, ineffective monetary instruments, and lack of foreign exchange reserves undermined exchange rate reforms. The real exchange rate

tended to appreciate, because of weak demand management and persistent inflationary pressure; thus a wide spread persisted in the official exchange rate relative to the parallel market rate. The reforms began to reduce the wide spread between the official and parallel rates in the early 1990s, though the spread persisted until the end of the decade.



4.37 In 1998, a more comprehensive strategy for exchange rate reform was introduced, including elimination of surrender requirements on foreign exchange receipts from exports and development of indirect monetary instruments for mopping up excess liquidity. Oil-related inflow of foreign currency has contributed to a stable exchange rate, but the Bank of Sudan has also intervened heavily in the foreign exchange market to keep its currency stable against the U.S. dollar. As a result, the real exchange rate appreciated significantly while foreign reserves declined. In light of the low level of foreign reserves, and in order to strengthen competitiveness, the foreign exchange policy has recently been revised from a de facto fixed exchange rate to a managed float with a wider band length.

4.38 In areas outside of government control, the most common currency used is the old Sudanese pound, which in theory ceased to be in circulation when it was replaced by the Sudanese dinar. Other currencies used are Ugandan shillings, Kenyan shillings, Sudanese dinars, Ethiopian birr, and U.S. dollars. There are four currency areas. *Zone one* caters mainly to cross-border trade linked to the Ugandan economy and consists mainly of Western Equatoria, Yei, and the trade road to Kaya. The main currencies used for exchange along this zone are the U.S. dollar, Ugandan shillings, and old Sudanese pounds. The exchange rate between the Sudanese pound and the Ugandan shilling is fixed, while the exchange rate for the dollar fluctuates in relation to the movements of the rate inside Uganda. *Zone two* consists of the Lakes and South Bahr El Ghaza, and is linked to the Kenyan economy, mainly through the airport in Rumbek. Here, Kenyan shillings, old Sudanese pounds, and the U.S. dollars are the main currencies. The exchange rates are floating depending on demand and supply. *Zone three*, which operates along the northwest corridor in North Bahr El Ghazal, is linked with government-controlled areas. Thus, the Sudanese dinar is the main media for exchange, together with the old Sudanese pound and the U.S. dollar. *Zone four* operates along the northeastern areas, in eastern Equatoria, Jonglei, and southern Upper Nile, is linked with the economies of both Ethiopia and Kenya, and is based on the Kenyan shilling, Ethiopian birr, and Sudanese dinar.

External Debt Management

4.39 Sudan is a heavily indebted poor country (HIPC) that has struggled with a high and rising external debt burden since the late 1970s. Up to mid-1980, Sudan borrowed, largely at non-concessional terms, mainly for investments in state-owned enterprises. Total external assistance per capita rose from an average US\$1.6 per year during 1965-68 to US\$14.2 during 1974-77 and peaked at an average US\$40.1 a year during 1985-89. Investment funded by these external assistance inflows did not generate surpluses large enough to repay the loans. On the contrary, they resulted in losses that contributed to sharp increases in the overall deficit of the public sector. Sudan's inability to pay back the loans has resulted in rapid accumulations of interest arrears and associated late interest penalties. Most of the stock of debt is in arrears.

4.40 External debt is projected at US\$21.1 billion for the end of 2003, most of it on non-concessional terms. In net present value terms (US\$20.4 billion), the debt is about 10 times the value of exports, 14 times the value of government revenue (including oil), and 135 percent of GDP.⁵⁷ About 86 percent of the country's total external debt is in arrears. Of the US\$21 billion, approximately 19 percent is due to multilateral creditors; 30 percent to Paris Club creditors; 36 percent to non-Paris Club official creditors; and 15 percent to commercial banks. Saudi Arabia, Kuwait, the United States, and the United Kingdom are by far the largest bilateral creditors, followed by France and Italy. In order to manage and monitor the enormous debt better, the government has taken steps to improve data reporting and institutional management. In January 2001, the Bank of Sudan established an external debt unit that is the sole agency in Sudan responsible for managing the external debt portfolio.

4.41 Inability to finance the debt has constrained Sudan's access to international financial assistance, which in turn has restricted investment and economic growth. Recently, with oil receipt inflows, Sudan has taken initiatives to normalize relations with some of its creditors in the Gulf area. Sudan has had four Paris Club reschedulings, the most recent in 1984, none of which was on concessional terms. Given the size of the debt, a comprehensive and phased approach, including coordinated multidonor support, will be essential for Sudan to benefit from the program for HIPC.

4.42 Reactivating multilateral financial support to Sudan will require that arrears be cleared. Sudan will need to build a good track record of policy performance, including continued strong policy implementation. Bilateral donors would also need to be involved in facilitating the brokerage of bridge loans for arrears clearance. Principles for arrears clearance should be based on broad agreements reached among multilateral development banks in Rome in February 2003. These principles include the early involvement of as many creditors as possible, timely sharing of information among them, and ensuring positive net transfers. In the case of Sudan, clearing arrears to international financial institutions would generate enormous debt service obligations that would be unsustainable. Thus, it is crucial that the arrears clearance process also set the stage for Sudan to be considered rapidly for HIPC debt relief. Moreover, given the pressing financing needs of reconstruction, it will also be important that the period between arrears clearance and the HIPC decision point be as short as possible.

4.43 A comprehensive strategy for arrears clearance is needed in order to normalize relations with all creditors—multilateral, bilateral, and commercial—and rapid debt reduction must follow. Engineering debt sustainability is complicated not only by the sheer size of the financing

⁵⁷ IMF and Bank staff estimates.

needs for arrears clearance and debt relief, but by the parallel needs for short-term humanitarian support, quick impact interventions, reconstruction, and development. Therefore, extraordinary efforts will be required from all parties—multilaterals, official bilateral creditors, and commercial creditors.

4.44 For its part, the Government of Sudan needs to address simultaneously a number of critical issues in relatively short order, including: (i) establishing lasting peace; (ii) establishing credible, transparent, and appropriate management of public resources; (iii) establishing an appropriate expenditure program; and (iv) preparing an inclusive and pro-poor interim PRSP that genuinely reflects the needs and voices of the country.

C. STRUCTURAL REFORMS

Financial Sector Reforms

4.45 The financial sector consists of 26 operating banks and a number of other financial institutions, including insurance companies and informal lenders. The commercial banking sector comprises some 17 joint-venture banks and 2 state-owned commercial banks; there are also 3 foreign bank branches, and four specialized banks.

4.46 Traditionally, the financial sector has been characterized by heavy government intervention and regulations. The central bank imposed detailed requirements for lending, dividing the economy into priority sectors and subsectors for which the banks were required to extend credit. Credit to agriculture was a priority, other sectors were less prioritized, and some were prohibited from bank financing. The central bank prescribed different prices for credit depending on priority status and geographical allocation. Large loans had to be approved by the central bank. Credit to public enterprises was extended directly by the Bank of Sudan. Banking supervision was lax, there was no unified accounting system, and the banks accumulated portfolios of non-performing loans.

4.47 Elements of Islamic banking were introduced in 1984, and government-controlled Sudan has based its financial system completely on Islamic principles since 1992. The adoption of a full-fledged Islamic banking system poses certain challenges to modern banking. Development of suitable financial and monetary instruments is restricted by the prohibition of interest rates. Only a few countries in the world are based fully on an Islamic system; most Islamic countries allow a mix of Islamic and conventional banking. Therefore, the experience of systems based on only Islamic financial instruments is more limited, though continual updating and development are taking place with the aim of meeting the requirements of a modern economy. The process for approving instruments is somewhat more complicated, since instruments need to fulfill both conventional financial efficiency and religious criteria. Box 4.1 gives an overview of the most commonly used Islamic financial instruments.

Box 4.1: Most Common Islamic Financial Instruments Used in Sudan

Murabaha is a buy and resell contract. The bank purchases the goods ordered by the client and resells it to the customer at a higher price (markup), usually on a deferred payment basis. This is the preferred instrument from the banks' point of view, and it is also the instrument that is most close to conventional interest-bearing financial contracts. Banks are allowed to have a maximum of 30 percent Murabaha contracts in their portfolios, and 12 percent is considered as markup.

Salaam is also a buy and resell contract, but exactly the opposite of Murabaha, in the sense that the bank purchases the good from its client, but the client delivers the goods at a later point in time. This contract is used mostly for agriculture. The bank pays the farmer on the day the contract is signed and the farmer delivers the crop to the bank after harvest.

Musharaka is a partnership contract, wherein the bank and its client share a project and its profit. Ownership is distributed according to each party's share in the financing. Profits are shared according to an agreed-upon ratio, but losses are shared according to ownership.

Mudharaba is also a partnership contract, wherein the bank and the client share a project, but the bank provides the capital, whereas the client provides labor. The profit is shared according to an agreed-upon ratio, but if there is a loss, the bank loses its financial input.

4.48 Since 1997, the Bank of Sudan has been dismantling restrictions and liberalizing the financial system. As credit allocation requirements to priority sectors were abolished, certain sectors found themselves in a difficult position to acquire finance. New methods for meeting the financing needs of the public-owned irrigated schemes were introduced. In 1999, the government started to provide direct lending and guarantees for agricultural loans within a consortium of commercial banks. The size of the government lending and the contingent liabilities in the form of government guarantees are constraints for further development of the financial sector.

4.49 The financial sector is continuously under pressure to become more efficient. Bank supervision is being strengthened. A unifying bank accounting system as well as regulations on capital adequacy ratios according to Basle standards have been introduced. A program for the central bank to monitor non-performing loans monthly was established in 1999. A banking sector restructuring strategy was initiated in 2000 with the aim of strengthening the capital base of the banks. This will include restructuring and privatizing public banks; merging, liquidizing; or recapitalizing small banks; reducing non-performing loans; and improving loan evaluation. The share of non-performing loans is still high, and most banks did not fulfill the Basle requirements for capital adequacy by the end of 2001. One way of handling non-performing loans has been to establish Band of Sudan committees that negotiate directly with the banks' boards and directors about how to decrease the share of non-performing loans.

4.50 In the parts of Sudan that are controlled by the SPLA/SPLM and where Shari'a law is not applied, the financial sector consists of informal exchange bureaus that can also provide loans at an interest rate. In addition, some microcredit schemes funded by NGOs or bilateral aid organizations are in place. No formal financial institutions exist. Hence, financial intermediation is an acute problem.

Trade and Tariff Reform

4.51 Reforms in trade policy have focused on removing restriction in imports and exports and on the retentions of export earnings, abolishing state monopolies in the export of commodities and rationalizing taxes and tariffs (see section on revenues and tax reforms). The government abolished export and import licensing and replaced import licensing with a negative list in 1992. There are, however, restrictions on imports determined on the basis of security, religion

(particularly consumption of alcohol), and public health. Export licensing has been replaced by administrative procedures. The state monopoly of gum arabic exports was abolished in 2001. A number of bilateral agreements have been concluded. Sudan joined the COMESA free trade zone in 2000 and has reapplied for WTO membership (see section on international relations).

4.52 To rationalize the tariff structure and simplify tax administration, tariff bands were reduced from 13 in 1996 to 4 currently, comprising a zero rate, 10 percent, 25 percent, and 45 percent in 2002. The effective tariff rate was lowered from 25 percent in 1999 to about 19 percent in 2001. Export duties have been abolished, with the exception of a 15 percent export duty on raw hides.

4.53 In the areas that are controlled by the SPLA, exports and imports are strictly governed by import and export duties. There is a provisional customs and excise law approved in December 2000 that levy duties on all sorts of imported and exported goods, with just a few zero rates. Import duties range from 1-20 percent. There is clearly a motive of protecting local production from imported competition. Luxury and unhealthy products are also levied with high duties. Some goods are prohibited from importation, mainly out of environmental concerns and to protect wildlife. No fertilizers and agricultural chemicals can be imported, according to the provisional law. Export duties range from 1-30 percent. The highest duties are on re-exports. Forbidden exports concern protection of wildlife and antiquities.

Public Enterprise Reform

4.54 Public enterprise reforms to reduce the size of the public sector, and limit subsidies and contingent liabilities have been critical for the progress of fiscal stabilization and economic liberalization. The public sector began to expand at Independence, when some previously privately managed schemes in irrigation, water, and electricity supply were handed over for direct state management and control. The expansion accelerated with the nationalization, confiscation, and “Sudanization” program of the 1970s.⁵⁸ The enlarged public sector strained the capacity of the government and became a financing burden through budgetary subsidies and loans from the Bank of Sudan, which were guaranteed by the government.

4.55 The Public Sector Enterprises Disposition Bill (1990) and the State Corporation Act (1992) provided legal backing to the implementation of the privatization program. A number of technical committees and a High Council for the Disposition of Public Enterprises were set up to be responsible for implementing the privatization policy. The High Council for the Disposition of Public Enterprises recommended that some 107 state-owned enterprises should be included in the privatization program. The method of privatization varied, including direct sales to the private sector, partnership, lease, management contract, free transfer to state governments, employee associations and NGOs, creation of holding companies, debt swap arrangements, and liquidation. Some 72 enterprises were disposed of using these methods. Only a small number, fewer than 20 enterprises, have so far been sold to the private sector. Some 30 large state-owned corporations, including Sudan Airways, public banks, transport corporations, large-scale irrigation entities, and manufacturing industries remain to be privatized. According to Table 4.6, most of the companies sold were industries or in the energy sector.

⁵⁸ Twenty-seven private enterprises were nationalized in 1970, of which 15 were later returned to the government.

**Table 4.6: Privatized Companies
(1992-2002)**

Instrument	Industry & Energy	Agriculture	Tourism & Transport	Miscellaneous	Total
Sale	10	2	3	4	19
Partnership	1	1	0	-	2
Leasing	-	-	1	-	1
Joint ventures	-	-	1	3	4
Restructured	-	3	-	3	6
Liquidated	2	2	0	-	4
Transferred to public sector	11	10	7	8	36
Total	24	18	12	18	72

Source: Technical Committee for the Disposition of Public Enterprises.

4.56 In addition to the uncertainties created by the war, implementation of the program has been constrained by: compensation costs of affected workers; limited market of buyers; resistance from managers; and lack of direct institutional base and dearth of technical expertise to prepare and manage transactions. The main criticism of the privatization program inside Sudan relates to the transfer of enterprises to state governments. Increased transparency and publicity about the disposition or transfers of public enterprises would have been welcomed.

4.57 Although the response of the private sector to the reforms has been modest, the privatization program has had some impact. The performance of a few enterprises, such as in telecommunication (SudaTel), has improved and increased competition. The reforms have reduced the budget deficit and the risks of contingent liabilities. Subsidy claims and loan guarantees to the state-owned enterprises have declined, and receipts from sold enterprises raised government revenues. Finally, the reforms have shifted the debate on the roles of the state and the private sector.

4.58 The most notable success has been the sale of shares in SudaTel, which has undergone an expansion program, and been modernized. The results have been a four time doubling of mainline connections and a rapid increase in mobile lines since 1999. A second privately owned mobile network has just been licensed. The government received about US\$10 million for part of its shares in SudaTel. For the other 18 companies that were sold, the government received about US\$6 million.

4.59 At the end of 2002, negotiations were concluded for the sale of Real Estate Bank, Atbara Cement Factory, the Friendship Hotel, and the General Foundation for Printing Publications and Advertisement. The Sudan Duty Free Zone Company, Khartoum Bank Group, and Sudan Airways were all in the final stages of preparing for sale. All of them had been reorganized, their assets were corporatized into a joint stock company, and officials were marketing the shares to potential foreign investors. Other state-owned enterprises such as Sudan Ren Chemical Factory, Kadro Slaughterhouse, and Rabac Cement Factory had been listed for sale for some time, but failed to attract investors.

Investments and Savings

Investments

4.60 The government promulgated an Investment Promotion Act in 1990. Amendments to it (1993, 1996, and 2000) were designed to rationalize the cumbersome investment procedures and to provide incentives to private investors.

4.61 The initial investment reforms were envisaged to deal with the following issues:

- Provide assurances against state expropriation of private investments.
- Establish a “one window” system of uniform facilities to provide a “level playing field” for all investors.
- Rationalize fiscal exemptions by allowing those already granted to expire as originally sanctioned, while eliminating those exemptions that are open-ended.
- Limit new tax exemptions. In the rare instances where exemptions are deemed necessary for equity or social policy reasons, they would not be discretionary; they should be statutory and transparent with clearly targeted beneficiaries.
- Redefine overlapping licensing roles of the federal and state level authorities. Simplify cumbersome and overlapping investment regulations. Eliminate investment sanctioning procedures for smaller investors, based on an established threshold.

4.62 Efforts to rationalize fiscal exemptions have not materialized. The existing Investment Encouragement Act provides discretionary powers for the administration of fiscal exemptions for investors. Discretionary tax exemption authority is spread among various federal and state departments, and its administration varies, depending on the sector of investment and whether or not the investment is considered strategic. At the federal level, there are some 18 contact points for investors. In addition, states have their own contact points. There are discrepancies in the treatment of investors, with line ministries providing exemptions with revenue consequences not necessarily coordinated with the MoFNE. The length of approved tax holidays appears to be renewed and prolonged without sufficient investigation. By and large, the system lacks satisfying transparency which has resulted in abuses. Much more remains therefore to be done in rationalizing fiscal exemptions. The impact of the whole exemption system on sector investment incentives and protection needs to be assessed.

4.63 The main impact of the investment reforms has been to provide consistent assurances about government support for private sector development. The investment reform combined with the privatization program has provided some impetus to private sector investments in various sectors, especially oil and oil-related investments. In addition, there are investments in transportation, pharmaceuticals, and agroprocessing. Progress in the peace process remains critical for attracting investments to the nonextractive industries. Five states that have some basic infrastructure (Khartoum, Gezira, El Gedarif, Red Sea (east), and White Nile) have benefited the most from the investment inflows.

**Table 4.7: Investments Inflow
1996-2001 (US\$ millions)**

	1996	1997	1998	1999	2000	2001
Direct investments	0.40	97.90	370.70	370.80	392.20	574.00
Portfolio investments	0	0	0	0	0	0.70
Exceptional financing	n.a.	n.a.	n.a.	33.00	38.10	75.60
Total	0.40	97.90	370.70	403.80	430.30	650.30

Source: International Financial Statistics, IMF, 2002.

4.64 Investment inflows to Sudan have increased substantially since 1996, mainly as a result of developments in the oil industry, although reforms in investment policy and privatization were also important reasons. The combined amount of foreign investments and exceptional financing increased from almost zero in 1996 to about 5 percent of GDP in 2001, well above investment inflows in other African countries. Direct investments increased in 1998 when construction of the oil pipeline and a refinery began, at the same time that the Port of Sudan terminal work

commenced. Oil-related investments are still important, but also other sectors have received significant inflows, notably power projects, telecommunications, and food-processing industries.

4.65 A large part of these investments have targeted urban areas. First and foremost, growth has been very strong in Khartoum and Port Sudan. However, growing investment in food-processing industries such as sugar factories, is promising for increasing employment opportunities in rural areas. The regions of southern Sudan outside of government control have so far not registered any inflows of foreign investments. A company law was recently submitted by the SPLM in order to encourage investments in the area. As of September 2002, there were only six large companies registered. In order to get a license to run a business, the applicant has to register at the Commission in Charge of Economic Production, Human Resource Development, and Physical Infrastructure. The commission may approve the license after studying three necessary statements from the applicant: the definition of the business, its articles of association, and its sources of finance. The registration fee is a nonrefundable US\$100, whereas the costs of licenses depend on the size of the business. Licenses have to be renewed every year. Apart from licenses, various taxes and tolls constitute considerable entry barriers for starting up a new business. There are plans to facilitate the licensing process and to make registration refundable. A focal point for investors will be placed in Nairobi, and a website with information about the investment climate is being set up.

Savings

4.66 According to Table 4.1, government savings were negative up to end 1990s. It averaged –4.9 percent of GDP a year during 1981-1985, falling to an annual average equivalent to –8.7 percent of GDP during 1986-1990. Reduction of expenditures and implementation of public enterprise reforms, including the liquidation of unviable public enterprises, raised public savings, averaging 0.4 percent of GDP a year during 1996-2000 (1.6 percent of GDP in 2001).

D. CONCLUSIONS AND ISSUES

4.67 The process of stabilizing the economy started with selected reforms in the late 1970s. However, these were not implemented as part of a consistent program. After years of economic decline, isolation, and decreasing access to foreign finance and aid, a more comprehensive economic reform program was launched in 1997. These renewed reforms contributed to higher economic growth, but because of the civil war not all parts of the country benefited from this growth.

4.68 Favorable weather conditions and startup of oil exploration added to the high economic growth during the 1990s. Reforms were successful in a number of areas, and removal of inefficiencies and bottlenecks encouraged growth in areas such as trade, investments, and agriculture. The inflation rate fell sharply as a result of tight fiscal policy and a reversal of lax monetary policy.

4.69 Large cuts in public expenditure improved the budget deficit and curbed inflation rates from triple to single digits. However, the roots of fiscal instability still exist. Continued problems with low revenue, political and social pressure for higher expenditure, and strained access to foreign finance and aid render the fiscal situation unsustainable.

4.70 Stabilization might have contributed to increasing inequalities in Sudan. The bulk of adjustment took place through reduced transfers to the states and diminished development budgets? expenditures that normally would favor the poor through education, health, water, and so forth (see Chapter 7). Lower tax ratios, in particular as a result of tax exemptions, are assumed to favor the wealthier part of society. In addition, unequal growth patterns, with higher growth in

urban areas and higher returns to capital-intensive activities reinforced the process. On the other hand, part of the stabilization program worked in the opposite direction, and contributed to less inequality through protection of the value of real wages and increasing agricultural growth. Wage earners saw their purchasing power being maintained as inflation was reduced towards the second half of the 1990s.

4.71 Future elements of the reform agenda should focus on maintaining high economic growth and low inflation rates at the same time as contributing to more equal allocation of resources and employment opportunities outside the urban areas. An oil revenue reform is urgent, in terms of equalizing revenue sharing, increasing transparency, and decreasing the federal budget's dependence on oil. Further tax reforms, especially a review and action plan for how to reduce and come to grips with tax exemptions in an investment friendly environment, would be welcome, together with efforts to increase the growth of the private sector. Financial intermediation needs to improve, in particular credit to agriculture and small-scale businesses. Development of major public infrastructure, including the transport network, agriculture, health, education, water, and sanitation need urgent attention.

4.72 Arrears on external debt accumulated both before stabilization and in the course of stabilizing the economy are a major problem. The analysis in this chapter points out the heavy constraint the debt problem places on social and economic development. Only extraordinary efforts from all stakeholders can provide a solution.

4.73 Most important for success will be underlying stability and peace. There are great challenges ahead, but a large peace dividend is likely. The expenditure adjustments and resource claims by the war made it difficult to provide adequate financing for basic public services, including infrastructure and human resource development, that are necessary for sustained economic growth and poverty reduction. The reform program has lacked external financing support to protect basic public services for vulnerable goods.

5. PUBLIC RESOURCE MANAGEMENT AND ADMINISTRATION

A. INTRODUCTION

5.1 This chapter is about aspects of governance and decentralization, focusing on public resource management and public administration. Major decentralization reforms were implemented in the mid 1990s when Sudan adopted a federal system. The new structure involved three levels of government: the federal, state, and local community. In such a large country as Sudan, decentralization is important for bringing service provision and decision-making closer to the beneficiaries so that needs can be better identified. Being closer to the beneficiaries, lower levels of government have an informational advantage over the federal government. They also know local conditions better. For these reasons, decentralization is supposed to improve service delivery as well as the voice of the grassroots. Realization of these benefits with a decentralized system is however not automatic or guaranteed. This chapter will show that the decentralization process in Sudan is in its first stages. In order to progress, major political, administrative, and fiscal reforms are recommended for decentralization to work as intended.

5.2 In view of the data limitations and the fact that this is a first attempt by the World Bank staff to review public resource management and public administration in a decentralized environment in Sudan, the focus is on basic issues in order to develop the background for further work. The analysis is more on breadth than depth. Overarching institutional arrangements such as constitutional arrangements, intergovernmental fiscal relations, the budget process, fiscal transparency, accountability, spending priorities, and the planning and execution of development expenditure programs are discussed. The chapter also examines institutional capacity for delivering basic social services.

5.3 While it looks mainly at the country as a whole, the chapter also gives a brief description of governance structures in war-affected parts of the country now under the control of the SPLM, where different administrative arrangements, albeit in embryo form, have been put in place. These areas have not had a formal budget process, and no budget has been publicly disclosed. They do not receive transfers from the federal budget, and they do not contribute to revenues to the federal or state budgets. It was therefore premature to include those areas in the analysis of resource management issues. There is, however, an urgent need to prepare an action plan for putting in place institutions and budget arrangements that the whole country needs for ensuring an equitable allocation and management of resources both from domestic and external sources. Capacity building will be at the heart of creating well-functioning institutions for resource management and service delivery. Here, capacity building entails not just the training of staff, but also creating, modernizing, and institutionalizing the processes of policymaking, planning and budgeting, accounting and auditing, human resource management, and public procurement.

B. DECENTRALIZATION

The Federal System

5.4 Sudan became a federal state in 1992, when a three-tier system of government was created (the federal government, states, and local communities). There are currently 26 states, 16 states in the northern parts and 10 in the south. Each state is headed by a governor, and organized as decentralized governments with state assemblies and state ministers. Within a state there is an

intermediate layer of provinces, headed by a provincial commissioner. Provincial commissioners do not create additional bureaucratic or administrative layers to the structure. They are represented at the state Council of Ministers, with a mandate to coordinate economic and social policy. The state governor, ministers, and commissioners are appointed by the federal President. Senior management appointments at the state government level are federal civil servants, on temporal assignments to strengthen state administrations. Below the states, there are some 500 local communities—the number has been reduced recently by consolidating some localities into single local governments for cost-effectiveness. Under the Local Government Law, the state governor has the right to appoint the staff of local governments and to select the chief executive—the senior civil servant in a locality.

5.5 The Constitution of 1998 lists the responsibilities of respective tiers of government. The states' and localities' main responsibilities include basic education, health services, and water supply. Primary and preschool education are decentralized to the localities. The states are responsible for providing secondary school education and for purchasing and distributing textbooks to all pupils. The federal government has responsibility for higher education and for deciding on the curriculum and textbooks for all levels of education. Planning and education policy, monitoring the quality of instruction, and managing transfers to the poorer states to finance schooling are also the federal government's responsibilities.

5.6 Similarly in health, the management and supply of primary health care are the responsibility of localities, which are also responsible for environmental sanitation, including garbage collection and sewerage management. The states are responsible for health care at hospitals and for dental care. The federal government has responsibility for basic and continuing education of high-level medical personnel; it is also responsible for posting higher-level health personnel (doctors, pharmacists, and dentists). The financing and construction of small water schemes and their operation and maintenance are the responsibility of water corporations established under each state government. The role of local and community organizations in water delivery is minimal, mainly because of high investment costs. The state governments have primary responsibility for agricultural development, although the federal government has responsibility for large-scale federally-owned irrigation projects and for water policy; as well as transport and communication, energy, and mining. The federal government is also responsible for imports of goods and services for public use. Other functions assigned to the federal government are national in scope, such as monetary and fiscal policies, foreign relations, exchange rate policy, defense, etc.

Governance Systems in War-affected Southern Parts

5.7 In the areas under the control of the SPLM, an alternative decentralized system is being put in place. Box 6.1 describes this system, and the extent to which this skeleton of a governance system has been given flesh and bones. Thus, there are two public service systems in southern Sudan, one operated by the government in the areas it controls, and the other by the SPLM. If the outcome of the peace discussion is to merge the two systems, there will need to be a process of amalgamation of cadres, screening of existing staff, and agreement on the organizational structures and how they will be staffed.

Box 5.1: Governance Structures in the SPLM-Controlled Areas in Southern Sudan

The governance framework features a five-tier structure, comprising in ascending order the following categories: (i) boma (village); (ii) payam (large village or cluster of villages); (iii) county; (iv) region (equivalent to states); and (v) national (the apex structure of the southern political entity).

In the SPLM's scheme of governance, at the lowest level of the boma, a boma congress would be elected under universal adult suffrage. This in turn would appoint a boma legislative body (boma liberation council), which in turn would select a boma executive. Representatives of the boma congresses, organized in 10 stakeholder categories rather than political parties (women, youth, farmers, workers, disabled persons, teachers, businesses, chiefs and veterans, professionals, SPLM chapters abroad), would then form an electoral college to vote membership of the payam congress, in turn voting a payam legislature (liberation council) and appointing a payam executive, repeating the process all the way up to the apex structure of national government in southern Sudan, with a national congress, national liberation council (NLC), and national executive council (a form of cabinet).

For understandable reasons this structure has been only partially implemented, most fully in the regions that have been longest under the control of the SPLM. In the latter there are embryo structures in place, staffed with a small number of part-time, unpaid workers. At the highest level of executive organization, the National Executive Council (NEC) has been established in rudimentary offices in Yei. Nineteen secretaryships have been designated, corresponding to ministerial departments, and the office of Auditor General has been created.

The most recent development, however, has been the creation by the SPLM High Command of a Leadership Council with 14 commissioners, over the NLC and NEC, amalgamating the executive and legislative arms of the structure and acting, effectively, as a political oversight body. The NEC in turn has been divided into five commissions, essentially portfolio groupings, each supervised by a member of the NLC, comprising: (i) defense, (ii) finance and economics, (iii) external relations, (iv) administration, and (v) social services. In recent years, the SPLM has begun to staff up this structure, creating functional divisions within each portfolio, though the numbers are still very limited.

The governance structure also entails an independent judiciary, comprising at the lowest level chiefs' courts, and ascending through regional chiefs' courts, payam courts, county courts, and high courts in each region, to an apex court of appeal. A process of review of existing laws has commenced, and new laws have been promulgated by the leadership.

C. PUBLIC RESOURCE MANAGEMENT

Public Sector Budgets

5.8 Budget management is still fairly centralized. States effectively control the budgets of localities, and the federal government issues guidelines for state budgets. Local revenue sources are small—other than in the larger municipalities—and local communities are dependent on the state government to fund all of the wage bill and part of their local development budget. States, in turn, are subject to scrutiny in budgeting and personnel management by the federal government. At this stage in the evolution of the system, power, especially fiscal authority, has yet to be delegated.

5.9 On a national basis, there are attempts to consolidate the budgets for the three levels into a general government budget (summarizing the federal government, states, and local communities). However, not all 26 states and local communities have prepared formal budgets, especially not in the war affected areas outside of government control. At present, consolidated budgets are available for 15 states with its localities. Such budgets, although not publicly available, were presented to the CEM team. Budget linkages between the three levels' fiscal affairs are many. The federal government budget includes both revenue and expenditure relations with the state budgets. Local community budgets are fully integrated into the states' budgets.

Some state budgets were provided to the CEM team (Khartoum state, North Kordofan, Blue Nile), but no separate accounts for the local communities.

5.10 According to Table 5.1, the total resource envelope for all three levels of government accounted for about 13 percent of GDP in 2001. The federal government dominates both revenue and expenditure assignments. About 87 percent of aggregate public revenues were allocated to the federal budget. But almost all revenue, about 98 percent, was *collected* by the federal government. Local own tax bases and revenue sources are small, because all major revenue sources and tax bases are concentrated within the federal domain. For example, 100 percent of all oil revenue, the single largest source of public revenue, is collected by the federal government. However, through a revenue-sharing system, 15 percent of oil revenue (and most taxes) is distributed to the states. The section on state budgets and intergovernmental transfers will describe revenue-sharing systems between the different levels of government.

5.11 The federal government also dominates on the expenditure side. In 2001, it spent about 77 percent of total expenditure. The total public deficit for all three levels deteriorated from about 0.2 percent of GDP in 1998 to 3.6 percent of GDP in 2001. This was mainly attributed to the state budgets, where revenues decreased and expenditure increased with about one percentage point of GDP each. Although there is some uncertainty about the amounts of states revenue, the decrease in states' revenue probably reflects diminishing collection and fiscal authority for own resources. Part of the decrease in own revenue could reflect the abolition of states' sales taxes (replaced by VAT in 2000) and agricultural taxes (replaced by a federal transfer to the states in 2001).

Table 5.1: Consolidated Public Sector Budgets

	1998	1999	2000	2001
	Percent of GDP			
Total Revenue	10.5	10.5	13.3	13.0
Federal revenue	7.8	8.4	11.4	11.3
States revenue	2.7	2.1	1.9	1.7
Total expenditures	10.7	11.7	15.5	16.6
Federal expenditures	8.1	8.7	12.2	12.7
States expenditures	2.6	3.0	3.3	3.9
Current expenditures	9.5	10.1	12.7	13.2
Federal expenditures	7.7	7.5	9.8	10.3
States expenditures	2.4	2.6	2.9	2.9
Wages				
Wages-Federal	2.9	3.3	3.4	3.9
Wages-States	....	1.1	1.4	1.3
Development expenditures	1.0	1.6	2.8	3.4
Federal	0.8	1.2	2.4	2.4
States	0.2	0.4	0.4	1.0
Total balance	-0.2	-1.2	-2.2	-3.6
Federal	-0.3	-0.3	-0.8	-1.4
States	0.1	-0.9	-1.4	-2.2

Source: MoFNE, own calculations.

5.12 States are required to balance their budgets, and have, in practice, no access to finance from the banking system since the states are not considered legal entities. Localities, however, are considered legal entities and may in some cases have assisted the states in covering deficits. Neither states nor localities, however, are allowed to borrow from the central bank.

5.13 The trend of increasing expenditure in the states is mainly reflected in an increased development budget, but amounts are still small. Considering the important responsibilities for social service provision for the states and localities, Sudan spends much less than comparator countries. Kenya, for example, spends about twice as much on health and education compared with Sudan. Sudanese outlays on wages and salaries in states and localities (1.3 percent of GDP in 2001) are low relative to what might be expected to support a decentralized administration, including teachers and health workers.

The Federal Budget

5.14 Management of the federal budget is highly centralized. It is divided, according to the 1995 act, into four broad chapters that determine the order of priority of fund releases. *Chapter One* receives top priority within the cash budget system. It consists of expenditures for wages and employee insurance. *Chapter Two*, mainly non-wage O&M activities, are next in priority. *Chapter Three*, transfers to the state governments, has third priority. *Chapter Four* is the development budget. It contains the lowest priority expenditures.

5.15 As from January 2003, federal transfers to cover states' wage bill are moved from *Chapter Three* to *Chapter One* in order to get first priority.

5.16 These broad guidelines are often relaxed as new priorities emerge. For example, security is of great concern in light of the civil war. Emergency situations and special programs may also override established priorities. The annual financing problems are evident in large discrepancies between budgeted and actual outcomes, especially for expenditures with lower priority (*Chapters Two to Four*). Moreover, critical activities, including O&M and development projects are underfunded, and staff sometimes get paid without having an adequate operational budget to perform or deliver services.

5.17 Federal budget preparation is carried out in several successive stages. In the first stage of the budget, which starts in June, a macroeconomic framework, including revenue and financing projections, is prepared. By the end of August, MoFNE sends out a circular to line ministries outlining the broad strategy and priorities for the budget, with indicative provisions for line ministries asking them to present detailed bids. Usually, the budget proposals of the line ministries are based on last year's expenditure allocation plus an incremental adjustment. MoFNE prepares a schedule of expenditure ceilings to guide its allocations for the ministries. In September, line ministries present bids to MoFNE, followed by discussions to resolve discrepancies between funds proposed by MoFNE and funds requested by line ministries.

5.18 A draft of the budget is sent to the Economic Committee of the Cabinet to check its consistency, and a revised draft is submitted to the Council of Ministers, which resolves any final disputes. The budget is finally presented to the National Assembly in December. The budget law is final and is published in the official Gazette. MoFNE sends a circular to line ministries outlining the funds allocated for them in the budget.

5.19 Overall, preparation of the federal budget and the release of budgeted funds are highly centralized. While spending authority to units in line ministries is distributed, the cash budgeting system constrains actual disbursements. A Cash Committee meets twice a month at MoFNE to determine actual cash allocations, based on available liquidity.

The State Budgets and Intergovernmental Fiscal Transfers

5.20 The state budgets are structured in the same way as the federal budget, with a strict order of prioritized expenditures organized in Chapters. State and localities budgets are prepared by the states' Council of Ministers and approved by the state assemblies. Thereafter it is made law. Circumstances vary, but in general *Chapter One* commitments dominate. In North Kordofan, for example, the 2002 budget allocated close to 57 percent to salaries and about 43 percent to O&M outlays. Development expenditures were negligible. Each state is obliged, in accordance with Financial Rules and Regulations, to report actual revenues and expenditures to the Accounts Chamber (at the MoFNE). When this CEM was being completed (June 2003), 15 states had closed their accounts for 2002 and sent them to the Auditor General, with copies to the Accounts Chamber. These state accounts also include all the localities in the 15 states.

5.21 All three levels of government have their own sources of revenue, but considering that most states and localities have extremely meager tax bases, own resources have to be supplemented by intergovernmental transfers—revenue sharing and grants—from the federal government. Most states and localities depend more on intergovernmental transfers than own revenue resources. The states and localities receive both grants and a share of VAT-revenues. Rights to receive revenue from these sources are stipulated in the 1999 Law on the Distribution of Financial Resources. The major revenue sources for the states and localities are described below.

- A share of total federal budget revenues is transferred from the federal budget to the National State Support Fund (NSSF), which allocates the transfers to the states. Currently, the states receive 15 percent of total federal revenues excluding VAT. This transfer appears in *Chapter Three* of the federal budget, and on the revenue side of the states' budgets.
- A share of the centrally collected VAT is transferred directly from the tax administration to the High Council on Resources (HCR), which allocates the VAT to the states. Currently, this share is 43 percent of total VAT collection. The part of the VAT that is transferred directly to the HCR is not accounted for in the federal budget, but it appears on the revenue side of the states' budgets.
- Compensation from the federal government to cover the loss of the states' agriculture tax (abolished in 2001) is transferred from the federal budget's *Chapter Three* to the NSSF, which allocates it to the states. The item appears on the federal and the states' budgets expenditure and revenue sides, respectively.
- States and localities collection of taxes, fees and user charges from their own revenue sources and tax bases. The CEM team did not succeed in getting detailed information about the amount of own resources collected by the states. However, information can be derived by subtracting VAT revenue and transfers from total state revenue. This residual would equal own resources.

5.22 **Transfers through the NSSF.** The budget transfer constitutes the most important revenue source for the states and localities, especially for the poorest. According to Table 5.2 below, about SDD 29.1 billion was transferred to the states through the NSSF. The main part of the funds is allocated on the basis of criteria aimed at mitigating income inequalities. The richest states are not eligible for these allocations; hence in 2001, Khartoum, El Gedaref, and the Red Sea states did not receive funding.

5.23 However, all states are eligible to compete for those parts of the funds that are earmarked for development projects. The development grants are allocated to strategic development projects, based on their relevance for government's policy and prioritized sectors.

5.24 The NSSF also transfers funds to the states to compensate for the removal of the agricultural tax in 2001. The agricultural tax was abolished because it was cascading and believed to harm agricultural production. In 2001, the federal government channeled about SDD 6 billion in compensation to the states (Table 5.2).

Table 5.2: Geographical Distribution of Intergovernmental Transfers to the States (2001)

Region	States	Population Share (%)	Budget Transfer (bn SDD)	VAT (bn SDD)	Compensation for Removal of Agriculture Tax (bn SDD)	Total (bn SDD)	Transfer per capita (US\$)
North-East	Northern, River Nile, Red Sea, Kassala, El Gedaref, Khartoum	32	5.0	11.7	2.2	18.9	7.1
Blue Nile	Blue Nile, White Nile, Gezira, Sinnar	21	8.7	2.9	2.1	13.7	7.7
North-West	Kordofan, Darfur	30	7.6	1.5	1.6	10.7	4.2
Total, North		84	21.3	16.1	5.9	43.3	6.2
South	Bahr El Ghazal, Equatoria, Unity, Bahr el Jebel, Jonglei, Lakes, Warap, Upper Nile	16	7.8	0	0.2	8.0	6.0
Total		100	29.1	16.1	6.1	51.3	6.1

Source: European Commission. "Country Strategy Paper for Sudan," October 2002.

5.25 **VAT allocation through the High Council on Resources.** According to the Constitution, states have the right to receive a share of the federally collected VAT directly through the HCR. The HCR decides about the distribution of VAT to particular states on the basis of compensating for states' sales taxes that were abolished in connection with the introduction of VAT in June 2000. At that time, the states' share of total VAT revenue was determined at 35 percent. In 2001, it was increased to 40 percent, and in 2002 it was further increased to 43 percent.

5.26 According to Table 5.2, about SDD 16 billion was distributed in 2001. These funds were allocated mainly to the richer states that hosted the taxpaying companies for the sales taxes which the VAT replaced. Because most such companies were located in Khartoum and Gezira, these two states received about 75 percent of total VAT allocations in 2001.

5.27 **Collection of own revenue.** The capacity for raising own revenue is low in most states and localities. Not only is the tax base limited, but the rights of the states to collect own revenue are limited to a few fees, licenses, and land taxes. According to Table 5.2, total transfers and VAT allocations from the federal to the state level amounted to about SDD 51 billion in 2001. Since total states' revenues amounted to about SDD 58 billion in 2001,⁵⁹ about SDD 7 billion would

⁵⁹ Table 5.1 shows state revenue in 2001 as 1.7 percent of GDP, equaling about SDD 58 billion.

have constituted own revenue collection. Own revenue would amount to about 2 percent of total public revenue.

5.28 The weak revenue situation illustrates the current precarious situation in the decentralized system:

- Revenue raising capacity varies widely among the states. It is low and declining, and most states do not have adequate revenues to support the service delivery responsibilities assigned to them by the Constitution. The states are far from achieving the fiscal autonomy that would be essential to meet the stated objective of moving decisions on service delivery closer to service users and being responsive to their priorities.
- The capacity to collect own revenues is strictly limited. First of all, the tax base is limited, but second, states' revenue raising decisions are constrained by the authority of the federal state. State and local authorities are strictly forbidden to impose any tax or duty on the transit of persons, goods, and animals. They are not allowed to tax communication services, and as of 2001, taxes on agriculture have been forbidden.

Expenditure Relations

5.29 Table 5.3 shows estimated total federal and states' expenditure. Total expenditures rose by the equivalent of 4.2 percentage points of GDP during 1998-2000. The increased expenditures were feasible mainly because of oil-related revenue inflows.

Table 5.3: Consolidated Functional Classification of Federal and States' Actual Recurrent and Capital Expenditures, 1998-2000

	1998	1999	2000	1998	1999	2000
	Percent of GDP			Percent of total expenditures		
Administrative services	2.8	2.8	3.1	27.1	24.0	21.6
Defense and security	1.8	2.3	2.8	22.6	27.2	23.0
Social services	2.8	2.1	3.0	27.0	17.6	20.6
Education	1.5	1.0	1.1	14.3	8.8	7.8
Health	0.9	0.7	0.8	8.5	6.2	5.4
Social subsidies ¹	0.4	0.3	1.1	4.2	2.6	7.5
Economic services	2.6	2.1	3.4	22.9	18.0	23.6
Agriculture	0.7	0.6	0.7	7.1	4.9	4.6
Irrigation	0.4	0.5	0.9	3.6	4.1	5.8
Drinking water	0.3	0.3	0.4	3.3	2.2	2.5
Industry	0.3	0.1	0.7	1.3	0.6	3.8
Transport	0.5	0.3	0.6	4.5	2.8	4.2
Energy	0.3	0.4	0.4	3.1	3.5	2.7
Other	0.7	2.3	2.9	0.4	13.2	11.2
Total	10.7	11.7	15.5	100.0	100.0	100.0

¹/ Includes subsidies to the student loan fund, hospitals, and for electricity

Source: MOFNE.

Defense and Security

5.30 The bulk of the expenditure increase went to security and defense,⁶⁰ which jumped from the equivalent of 1.8 percent of GDP to 2.8 percent of GDP during 1998-2000. The reported expenditures on defense and security indicate that about US\$1 million a day is being spent. A large part of the total wage bill (see economic classification of the budget in Chapter 4) is taken up by defense and security. In 2002, for which only budget data are available, defense and security services accounted for 40 percent of the total wage bill as well as 70 percent of O&M expenditures. Given high military cost, the potential peace dividend from a resolution of the civil conflict could be substantial. As indicated by the serious underfunding of basic economic and social services, the potential peace dividend would provide an opportunity for social and economic development to be strengthened.

Social Services

5.31 Minimal resources were made available for human resource development. Sudan spent just over 1 percent of GDP on education,⁶¹ less than a third that of comparator countries. Arrears on salaries for teachers in some states and localities are serious problems, contributing to teacher absenteeism and periodic school closures. For health, expenditures in percentage of GDP averaged 0.8 during 1998-2000 for Sudan, compared to 1.5 for Kenya, 1.1 for Tanzania, 1.0 for Ethiopia, 1.3 for Mozambique, and 0.9 for Uganda.

5.32 Some recent policies have aimed at improving the situation. In 2000 a new effort to address the low level of human resource indicators began to take shape. It remains to be seen if this effort will be sustained and fully implemented to yield results. Some initial actions have been taken so far in terms of institutional support, budgets, and a preliminary program:

- A Social Development and Poverty Alleviation unit headed by a state minister, has been created in the MoFNE to coordinate social development issues and policies with line ministries and ensure that budgeted funds for social services are used in line with program mandates. The unit is also responsible for preparation of an interim Poverty Reduction Strategy Paper (currently underway) and coordinates the rationalization of various ongoing safety net and subsidy programs. High-level support for these development objectives is achieved through the creation of a High Coordination Council and a Steering Committee, each chaired by a minister.
- A second unit headed by a state minister has been established in the MoFNE with responsibility for coordinating development efforts in the least developed and war-affected areas under government control.
- As a start, the federal government launched a poverty reduction program of US\$50 million (equivalent to 0.4 percent of GDP in 2001) aimed at assisting specific groups of rural poor through basic programs in education, health care, and water supply. The program was in addition to federal and state budget appropriations and targeted the poor.

⁶⁰ Data on defense and security include outlays on police, wildlife conservation, and so forth. Numbers according to government comments to CEM, September 10, 2002, and March 18, 2003.

⁶¹ Data on education include expenditures for the Ministries of Culture and Information.

5.33 The poverty reduction program currently covers the least developed rural poor in Western Darfur, Blue Nile, and Red Sea States. The water supply component of the program includes construction and rehabilitation of 104 bore holes, 32 small dams, and 32 water purification units in addition to procurement of water supply equipment and materials. The health program includes rehabilitation of some 35 health centers and rural hospitals in addition to financing programs for fighting malaria, bilharzia, and tuberculosis. In education, the emphasis is on the construction of 25 basic schools and provision of furniture for 361,000 pupils and 7,000 teachers. Two other projects identified in higher education were entrusted to the Savings and Social Development Bank for financing. One project concerned with printing and reproduction of school books was financed through the investment portfolio of the Omdurman National Bank.

Economic Services

5.34 Economic services accounted for about 3.4 percent of GDP in 2000, out of irrigation was the most important item. Expenses on irrigation more than doubled from 1998 to 2000. Despite the privatization program, industries' share more than doubled as a share of GDP. Meanwhile, the relative shares of agriculture and roads declined. The funding problem is reflected in the deterioration of assets, including inability to support the rehabilitation and maintenance of such programs as road networks and agricultural research and extension services.

Zakat Fund—Independent Budget for Social Expenditures

5.35 The *Zakat* Fund is a religious-based system of wealth redistribution founded on the moral responsibility of the rich toward the poor. Every Muslim whose wealth exceeds a certain level is obliged to give every year a fixed ratio of his accumulated wealth for the benefit of poor people. *Zakat* is distributed among eight social groups in line with the provisions of the Q'uran. These are: indigent and paupers, road farers, insolvent, for the sake of God (persons of inclined hearts and on bonds), *Zakat* collectors, construction, O&M, and collection costs. The *Zakat* is not meant to be a mere transfer of income, except for handicapped and pensioners. For other recipients, it should enable them to earn their own income through building their productive capacities so that they become *Zakat* providers in the future.

5.36 In 1984, the *Zakat* Act was passed and the fund was brought under the taxation department. In 1986, a Chamber was established to manage all *Zakat* operations, and in 1990 a new Act for *Zakat* was passed making the payment of *Zakat* mandatory on all wealthy persons and corporate bodies. The Chamber, which is independent of all other tax-raising agencies, is supervised by a board of trustees appointed by the President. Although the board is headed by the Minister of Welfare and Development, the Chamber is not accountable to any executive body. The financial transactions of the Chamber are, however, audited by the Auditor General. States' chambers and thousands of local committees at the level of villages and urban areas collect *Zakat*.

Table 5.4: Uses of *Zakat* Resources
(percent)

Beneficiaries	1996	1997	1998	1999	2000	2001
Indigent and paupers	45.2	40.1	33.8	34.5	47.5	52.4
Road farers	1.8	1.5	1.3	1.1	1.2	1.2
Insolvent	1.1	1.0	1.0	1.9	1.2	4.2
For the sake of God, persons of inclined hearts and on bonds.	18.8	30.0	30.5	29.6	18.2	15.6
<i>Zakat</i> collectors	13.1	9.5	13.4	15.2	17.5	17.9
Construction	5.9	0.2	5.1	2.1	2.2	1.8
Operations & maintenance	8.6	10.9	9.0	9.0	8.3	7.0
Collection costs	5.8	7.3	7.1	6.6	3.9	--
Total	100.0	100.0	100.0	100.0	100.0	100.0

5.37 *Zakat* resources have increased steadily, from SDD 27.8 million in 1990 to SDD 13.5 billion (US\$51 million) in 2001, with a cumulative total of SDD 58.7 billion (US\$220 million). Table 5.4 shows the use of *Zakat* resources during the period 1996-2001. Most of the resources have been allocated to the indigent and paupers. The poor are classified as indigent, road farers, and insolvent, and together they accounted for 58 percent of fund distributions in 2001. The overall impact of the program remains to be evaluated.

Medium Term Budgeting

5.38 Overall, there is an urgent need to rebuild Sudan's capacity for policy analysis and planning public expenditures. Development of a medium-term expenditure framework (MTEF) is relevant if the annual budgeting process is to become guided by a set of strategic priorities aimed at restoring economic and social development as the country shifts resources from the security sector, and begins to access external donor support. Three main points are noted. First, funding depends heavily on the realization of revenue and other resource projections underlying the budget. Resource projections have to be realistic for the MTEF to be effective. Second, there is an over-commitment of the development budget, with too many projects relative to resources. An effective MTEF requires defining priorities of public policy, and budgeting projects and activities in line with policy priorities. Priorities should also be considered from a perspective of conditioning spending on reforms that will enhance efficiency. A review of performance of the major sectors is needed to inform the use of development resources. Third, there needs to be both good technical understanding of how MTEF should be prepared and implemented, and political commitment to observe the fiscal discipline inherent in it.

Fiscal Transparency and Accountability

5.39 Fiscal transparency and accountability are essential for enforcing compliance with financial rules and ensuring that the resource decisions made by the legislature are executed as intended. This is essential to safeguard proper use of public resources. A fiscal system that is transparent and enforces public accountability is critical for providing needed services from currently meager resources and from larger inflows expected from future oil sector receipts. In addition, accountability for public resources is most likely to be among key governance issues that will have to be confronted in order to resolve external debt problems so that Sudan can regain external financial assistance.

5.40 Overall, transparency and accountability need to be enhanced in most public operations. Some areas require minor adjustments, whereas others will require more fundamental changes. An important fundamental change is accounting for funds flowing from a higher to lower level of government. One example is the way civil servants salaries are accounted for. According to MoFNE, all higher-level personnel in the state administration is federal employees on temporary assignments. Since their salaries are only accounted for by the federal government, states' budget information about actual cost for administration exclude many elements. Another example is the transfer of VAT. According to the Constitution, a proportion of VAT (currently 43 percent) is allocated directly from the tax administration to the HCR and from there it is distributed to the states. The flow of funds is accounted for in the budgets of the states, but not in the federal budget. In order to increase transparency, these flows ought to be accounted for in gross terms at the federal level. By accounting for gross flows, the government's total VAT revenue as well as other allocations to the states would appear on the federal budget's revenue and expenditure sides.

5.41 A related issue concerns the process for distributing VAT revenue and budget transfers from HCR and NSSF to various states. The formula for distributing intergovernmental transfers to separate states needs to be simple, clear, and made public. Actual funds distributed would then be simple to predict for the states. More transparency is also needed regarding the basis for distributing the federal compensation to the states for the removal of the agricultural tax.

5.42 Other areas where transparency and accountability need to be enhanced are: tax exemptions, the coverage of budgets, states' own resources, states' expenditures, transfers from states to local communities, local communities' revenue and expenditure, and public procurement procedures.

Accounting and Auditing

5.43 State reporting of actual revenues and expenditures to the Accounts Chamber is varying and in practice dependent on quality and quantity of the administrative capacity at the state level. To safeguard quality, all higher-level personnel at the state level are employed directly by the federal government, and work on short term assignments in the states. The Director of State Accounts, for example, is a federal employee and technically responsible to the Federal Chamber of Accounts. There are also other avenues for safeguarding accountability. If deemed necessary, public committees are sent to the states to investigate allegations of fiscal wrongdoing. The law requires the states to submit closed financial accounts for auditing within six months of the end of the fiscal year. This is generally done, as is the completion of the audit within a further three months by the Auditor General, who is also responsible for conducting the external audit for all three levels of government. Some states reportedly complete their accounts in a much shorter time. Khartoum State Government prides itself in submitting its accounts by the end of January.⁶² How does this happen, given the limited number of computers available in government departments?

5.44 One reason could be that accountants (and auditors) reportedly receive enhanced salary terms. Certainly this appears to be the case for the Auditor General's staff. Another reason could be the coverage of accounts, which might be less comprehensive than other countries. A third factor, as far as federal ministries are concerned, could be the cash budget, in the sense that the requirement for fiscal reporting through the year to the MoFNE ahead of cash releases could make the eventual end-of-year accounting easier. If the budget estimates on which the appropriation accounts are based lack detail, the accounts themselves could be quite simple. Whatever the reason, it will be important to maintain fiduciary standards as the country moves down the road to debt relief under HIPC.

5.45 The Auditor General's Office dates back to 1920, but has since been reorganized by various laws. Under the present Constitution, the Auditor General's responsibilities were broadened to include environmental and performance audits in addition to financial audits. In carrying out its duties, the Auditor General reports directly to the President and the legislature. The Auditor General has the authority to audit accounts of the federal government, the state governments and their local councils, state-owned companies, and companies in which the federal government or the states own 10 percent or more of the equity. Although the Auditor General is well established and has performed a large number of audits, it suffers some chronic problems:

⁶² This was confirmed by the state's Director of Accounts. However, one cannot be sure about the coverage of the accounts, in absence of closer inspection.

- Need for human capacity building, qualified accountants, and auditors. Remuneration is not adequate to retain qualified staff on the service.
- Limited capacity for specialized audits. Although the annual audit includes all federal revenue and expenditure, no specific tax audit has taken place, apart from recent audits of the VAT.
- Limited budget for auditing and limited supporting facilities and equipment.
- Expanded burden from the increased numbers of government units and government interests, particularly with decentralization and the increase in the number of accounting units in 26 states as well as the expansion of the economic activities.

5.46 The Internal Audit Unit is a central unit in the MoFNE, directly responsible to the Minister. Laws and guidelines regulate the work of the Internal Audit Unit and its relations with the various ministries, agencies, and corporations. A high council headed by the State Minister of Finance for the Budget oversees operation of the Internal Audit Unit. The internal audit system faces the same problems as the external audit. These include difficulties in hiring qualified accountants and auditors, obtaining adequate training, and securing appropriate financial and physical facilities.

5.47 In the areas of southern Sudan that are not under the control of the government, accounting and auditing are reportedly rudimentary. There is some bookkeeping of amounts collected through, for example, livestock auctions and taxes on goods brought to local markets, but the system is highly informal. No consolidation is done, and there is no formal auditing. Installing a basic system of financial management and the training of staff to operate is a high priority if, once a final peace agreement is reached, resources for rehabilitation and resumption of services are to be put to good effect and the confidence of external donors maintained.

Procurement Issues

5.48 There is a procurement department at the MoFNE. A commission has been appointed to review the procurement guidelines, introduce necessary reforms, and identify the future role of MoFNE for procurement. The commission's report remains to be followed up with further steps and actions. However, the current state of the procurement system suggests some potential areas for strengthening the transparency of the system. They include (i) establishment of clear and uniform regulations for all procurement by public sector entities, issued under the authority of a separate procurement law that enshrines the principle of open and competitive procurement for all public bodies; (ii) delegating responsibilities for procurement, under the supervision of a central regulatory agency; (iii) establishing an appeals board and expanding the role of private professional bodies on the board in deciding on appeals; (iv) publicizing information on procurement decisions, including decisions on the appeal process; and (v) training staff from all levels of government in effective public procurement.

D. PUBLIC ADMINISTRATION

5.49 Meeting the requirements for efficient public resource management place substantial demands on the civil service. At present, the civil service has been weakened by many years of attrition and mismanagement. The improvement of staff efficiency and incentives for Sudan's civil servants at federal and state levels presents an enormous challenge. Many reforms are urgently needed.

Size of the Public Service

5.50 There are no firm numbers on the total size of the public service. The Ministry of Manpower estimated the current size of the public service (civil servants at all three levels of government, teachers and health workers, but excluding armed forces and police) at 700,000 in 2000. However, other officials felt that a figure of 450,000 was more appropriate. One source of the discrepancy could be double counting. If the payrolls of all tiers of government were added separately, the total might be close to the 700,000. But public officials serving in the states and local communities are mostly on assignments from the federal or state levels, and may already have been counted by their main employer. It is therefore difficult to get a firm grip on the total numbers. The federal government is planning to send out staff to the states to make an assessment of the situation.

5.51 By and large, the public service has continued to grow, driven partly by the need for more teachers as the population grows, but also as a result of the creation of a federal system. Based on the more conservative figure of 450,000, the public service seems to have grown by 45 times in the four and a half decades since Independence, even while the whole economy stagnated or contracted for much of that period. Government revenues did not increase to support the expansion in the size of public service personnel that occurred after Independence. On the contrary, revenue effort stagnated and declined. The perception of experienced government officials consulted by the CEM team is that Sudan had an effective public service administration, until the early 1970s, with well-qualified and effective civil servants enjoying realistic pay scales.

5.52 In the areas under SPLA control, no data exist for the number of people working in the embryonic governance structures. The SPLM has not issued any formal contracts of employment. At present, the SPLM is unable to pay regular salaries to the small numbers occupying posts, and the result is a system of part-time, voluntary employment. Schools exist, but teachers are often maintained by community contributions. In the health sector, though, staff in clinics and health posts are paid by mostly international NGOs, which run them largely independently. While they are delivering public services, they are employees of NGO-funded service delivery enclaves rather than public employees.

Staff Compensation and Incentives

5.53 One thing is clear: The government currently cannot find the resources in the budget to pay its civil servants a living wage, let alone a motivating one. The present pay structure is based on 17 grades. G1 is the highest, G9 the graduate entry point, and G15-17 laborers. There are three super-scale grades for Directors General and heads of public enterprises. The scales apply to all three tiers of government and to state-owned companies. With a few exceptions, senior civil servants do not enjoy the range of benefits in kind that accrue elsewhere, and all grades get small cost of living allowances and a small grant on top of the salary. A civil servant on G1, according to the pay scales that were in effect in March 2002, received in base pay and allowances the equivalent of US\$61 per month. At G14, the lowest permanent grade position, the equivalent amount was US\$25, dramatically illustrating both the paucity of official pay scales and the compression between grades. Those elevated to the highest super-scale grade would still be earning only US\$74 per month.

5.54 Real pay has eroded significantly compared to past decades. A graduate entering the public service in the early 1970s made over US\$100 per month with the much greater purchasing power of the currency of that time. Today, a graduate receives the equivalent of US\$31 in current purchasing terms. Thus, when everything is taken into account, public sector salary scales are

between one-tenth and a one-fifteenth of earlier levels—broadly consistent with the reported trade union demands for a government minimum wage roughly 10 times the G17 base pay plus allowances. New salary scales were announced in April 2002, compensating for inflation by a 10 percent across-the-board increase, hardly a material improvement.

5.55 As in other countries, a variety of pay augmentation methods have come into play to compensate for the collapsed official pay structure of the government in Khartoum. The formal mechanisms include sitting allowances for senior officials on state-owned companies' boards; special contracts for key staff (covering political patronage appointments and key technocrats); the designation of certain cadres, especially lawyers and accountants, to receive pay above and outside the main pay structure; and ad hoc pay for performance incentives for staff called upon to put in extra effort for special purposes such as getting the budget ready in time. Informal compensation mechanisms, if any, are more difficult to judge. While it is reported that some staff come to work late or leave early to attend to private business, others maintain that the sign-in/sign-out procedures established in government departments are strictly enforced. Another informal mechanism to compensate for low pay that has been noted is “forced cost recovery” by service providers from users.

5.56 This picture of seriously eroded pay mitigated by highly selective additional payments tallies with developments in other areas of the economy. On the one hand, the government has been impressive in the past few years in curbing inflation by controlling the fiscal deficit—a policy intensive activity amenable to implementation by a small number of adequately remunerated and skilled professionals. On the other hand, there has been little maintenance: public assets have become run down, and the picture from the field is one of government departments at all levels failing to deliver services. This manifests itself in primary health care facilities being badly stocked (with some even closed), public school systems without desks or textbooks, and static or declining agricultural productivity resulting in part from a dysfunctional extension service and marketing system. In short, it is a system that can get a limited number of priority tasks done, but not deliver a broad range of services on a sustained basis.

Brain Drain and Capacity

5.57 A serious brain drain of skilled technicians and professionals started in the mid-1970s, with Sudanese professionals (including teachers) moving abroad, mainly to Egypt and the Gulf countries. The trend appears to have accelerated during the 1990s, which included a period of hyperinflation and deterioration of real public sector pay. Anecdotal evidence and brain drain data from the Ministry of Manpower show that staff leave their positions for greener pastures abroad as well as in the local private economy. But movements to the private local economy may be limited and happen more in Khartoum than in other states, where employment opportunities outside the traditional economy are limited.

5.58 In 2001, the total wage bill of the federal government absorbed 3.9 percent of GDP, 38 percent of current expenditures (Table 4.3 in Chapter 4), or 58 percent of total tax revenue. It is difficult to raise wages significantly, given the low tax collections. It is hard to understand how civil servants can survive on such meager salaries. Government officials maintain that corruption is not a factor, and that cultural and religious values mitigate strongly against it. Others outside government concede that corruption exists, and that one form that needs watching is the award of contracts to firms willing to make political contributions. Reports of the Auditor General do substantiate cases of misuse of public resources. Lack of transparency in the budget is clearly a predisposing factor. It is claimed (in Nile State, for example) that people would work even if they

were not well paid, because there is little else to do. However, a myriad of formal and informal compensation arrangements operate that enable key staff and other staff to remain at their posts.

5.59 In addition to the brain drain, another strain on the government's stock of skilled staff arises from the need to staff all three tiers of government. The problem, particularly acute in the newer states and localities, has been mitigated partly by seconding federal staff to the states and local communities. These staff, however, tend to regard themselves primarily as federal government officials, and this may compromise the autonomy of the lower tiers. Staff shortages are reported to be particularly acute at remote and those typically hardship rural areas.

5.60 The skill shortages exist side by side with overstaffing in other skill categories. For example, in southern Sudan, overstaffing is an issue in government controlled areas only. Outside these areas, the skill shortages are massive, and few if any of the routines of public administration are in place. Just as there has been a loss of professionals and other skilled workers from the main parts of the country, there has been a similar (though starting from a much smaller initial stock) drain from the war-affected areas, to the SPLA, to NGOs, and to the diaspora of Sudanese spread across the world.

5.61 Once peace is firmly established, basic organizational structures of governance need to be put in place. The requirement is not just to consolidate the government and SPLA systems, but also to find staff with the skills required for public administration in order to re-establish the basic systems of functioning government. There has been no formal annual budget process in areas outside of government control. Indeed, no official budget has been published. Institutions as well as qualified staffing need to be built up from scratch. No administrative infrastructure for budget management, such as treasury offices, are in place to systematically collect revenues and make payments. Nor are there means established for controlling expenditures, reporting spending, or maintaining accounts and auditing them.

Public Administration Reform

5.62 Across the country, Sudan's institutions of public administration display many of the classic signs of developing countries under extremely severe strains and failing to deliver basic public services. At the national level there have been periodic conferences, strategy papers, and expert reports on the public service. The most relevant was in April 2001, when the government organized a major conference on public administration, and a number of papers were presented by local consultants.

5.63 This resulted in the adoption of a National Public Service Strategy (2002-2026). The strategy covers: (i) human resource development, (ii) structure and organization, (iii) salaries and benefits, (iv) work system and environment, and (v) legal framework. The next step is the development of a technical assistance project to underpin implementation. The project support document for the latter was completed in February 2002. These public administration reform initiatives have their counterpart in areas where the three-tier government system have not been implemented, where the debate, in less formal settings, has been on the form of government that should be in place and what this implies for public administration and capacity building.

5.64 Most of the contents of the Government of Sudan's program are uncontroversial, such as enhanced training, a more conducive environment for the private sector, greater transparency in recruitment, an improved human resource data base, better records management, modernization of performance appraisal systems (the government currently operates a classic closed appraisal system), improved job description and classification systems, salary improvements, and salary

decompression. One question under consideration is whether to revive the Public Service Commission abolished by President Nimeiri in 1969, on the grounds that a politically neutral civil service was an anachronism. If a less partisan and more professional civil service is to be created, a mechanism like this is needed to protect the merit principle in both recruitment and promotion.

5.65 In other areas, much more needs to be done to review critically what is recommended in the reform program. First, there is need for caution to ensure that the proposed approach is relevant and workable in the Sudanese situation. For example, the implementation of zero-based budgeting (ZBB) that has been recommended entails ranking of programs and applying a cutoff, which in turn requires the budget to be converted into a program format. Similarly, implementing Total Quality Management requires conditions (such as reliable budget flows and motivating salary scales) that are not found in Sudan. The proposed strategy is comprehensive: Public service needs are to be identified by a government-wide manpower survey; there will be a national approach to wage and salary policy, with all salary categories improved at the same time, effectively ensuring that pay reform would stall as resources run out.

5.66 The fact that the strategy has a 25-year horizon is an acknowledgment that not all things will proceed at the same rate, and there have to be priorities. Experience in other countries suggest that successful reform programs go forward when the government identifies a few immediate steps to take, and as successful implementation of these opens up space for further steps, more progress is made. Within the broad horizon of a comprehensive 25-year strategy, what is needed in the next steps is identification of and action in a few areas early in the reform sequence. As more knowledge is gained, one can build on the initial steps. For example, rather than embark on the conversion of the budget to program format and apply ZBB, an alternative is to stick with the present budget system and take steps to improve transparency (progressively reducing extra budgetary accounts), modify the classification system in line with government finance statistics concepts, and develop some sort of medium-term expenditure framework. Better screening of projects through the development of a public investment program would help selection and implementation of projects.

E. CONCLUSION AND ISSUES

5.67 Public resource management has been characterized by low revenues, imbalances in the allocation of expenditures, and under-funding of basic social services. First, low revenue raising capacity is a serious constraint to delivering public services. In addition, the civil war, large external debt, and arrears have made it extremely difficult to augment domestic revenues through external assistance. Second, basic economic and social services do not receive funding priority within the federal system. Reforms should be undertaken with the aim of switching public spending to target the poor. A comprehensive review of public spending patterns and expenditure implications for the poor would be of utmost importance. Third, a result of these shortcomings is that economic and social infrastructure has deteriorated with detrimental effects on investments, employment, and social service.

5.68 Federalism has decentralized many public sector responsibilities to the states and local communities, but without sufficient revenue to undertake their commitments. States and localities lack the power, authority, and capacity needed to achieve fiscal autonomy. Rather than strengthen the power of the states and local communities, policy changes have increased the revenue raising and distribution authorities of the federal government. As the own resource bases for the subnational governments erode, decentralization is evolving towards greater fiscal dependence on the federal authorities.

5.69 Given the dominant role of the federal government over the major tax bases and revenue sources, the most promising scope for expanding states and local governments' resources will necessarily come from greater revenue sharing with the federal government. Own revenues have to be supplemented by intergovernmental transfers. The formula for distributing intergovernmental transfers to separate states needs to be simple, clear, and made public. Actual funds distributed would then be simple to predict for the states.

5.70 But increased financial resources alone will not be sufficient. Decision-power and autonomy in leadership and staffing have yet to devolve to the states and local communities. While government-wide organizational change may be indigestible, change is clearly needed in selected areas immediately. At the heart of creating a well-functioning public service will be capacity building. The content of training programs and the capacity of existing training organizations and their staff, together with training policies and incentives, will need attention. An immediate necessity is gathering data about the actual numbers of civil servants, where they are located, their educational qualifications, and experiences.

5.71 Rather than embark upon wage reform across a broad front (a process almost guaranteed to stall), it might be better to proceed selectively, building on the existing areas of competence, and adjusting staffing levels as one proceeds. Getting some key agencies to work better might have early payoff benefits. Accompanying organizational change needs to be policy reform to identify functions that should not be carried out by the public sector in the future. And somehow, a way should be found to tackle the politically and socially difficult issue of overstaffing.⁶³

5.72 As the peace process reaches completion, and the governance arrangements for the country as a whole are settled, the government will be able to devote more energy to rehabilitation generally, and to the renewal of the machinery of government, organizational and human, in particular. In this preliminary assessment, it is impossible to suggest meaningful sequencing of public administration reform. However, as the dialogue deepens and the experience of other countries becomes more familiar to policymakers in Sudan, strategies and sequences for reform should emerge.

5.73 One lesson from other countries is to address the role of government, organizational structure, and staffing issues early and ahead of pay reform, to avoid inflating unnecessarily the costs of retrenchments. As peace creates the fiscal space for budget resources to be shifted from military spending to development, this is likely to unleash demands from managers for additional personnel, and from staff themselves for improved pay and conditions. This, too, needs to be watched and disciplined by affordability.

⁶³ There was retrenchment in the early 1990s, when some organizations were privatized or closed. But at the same time, new ministries and departments were created, increasing the former from about 17 to 27 today, and the number of states was enlarged from 9 to 26. As a result, the public service as a whole grew. Government has legal authority to retrench, but currently pays generously for voluntary retrenchment. Mandatory severance pay appears to be quite modest compared with other SSA countries. No formal studies have been done of appropriate public staffing levels. As an anecdotal measure of current overstaffing, it is said that the tax administration could be reduced from 8,000 to 3,000 without loss of effectiveness.

**PART III AGRICULTURE AND HUMAN RESOURCE
DEVELOPMENT**

6. AGRICULTURAL SECTOR DEVELOPMENT

A. BASIC RESOURCES

6.1 Agriculture is the main source of economic growth, dominating the livelihoods of the majority of Sudanese. Sixty-five percent of the population lives in rural areas. Agriculture remains the main source of employment and household income in rural areas, and was the main source of exports until the start of oil production in 1999. Sudan's substantial agricultural resource base covers several agro-economic zones that include forests, swampland, arable cropland, and grazing land for livestock, as well as fisheries in the Nile Basin and the Red Sea.⁶⁴ The area currently cropped is estimated at 41 million feddan⁶⁵, about 20 percent of the potential arable land. The relatively light infertile soils and the limited availability of water are, however, serious constraints to agricultural production in most areas. Rainfall varies from near zero in the extreme northwest to a high 1,600 mm per year in the temperate and rich forest zones in southern Sudan. About half of Sudan is susceptible to periodic severe droughts that often span two years. Even with average rainfall, large areas are ecologically sensitive and require careful management in order to achieve sustained production.

B. FARMING AND PASTORAL SYSTEMS

Farming

6.2 Sudan has three major farming systems: irrigated, rainfed semi-mechanized, and rainfed traditional agriculture. Irrigated agriculture accounted for an average of 21.1 percent of the value of total agricultural production between 1991 and 1999; semi-mechanized rainfed agriculture accounted for 6.3 percent; and traditional rainfed agriculture, 12.5 percent. (see Table 6.1). Pastoralism (predominantly livestock production in the traditional rainfed areas) has always been classified as a separate farming system, even though it is integrated with other farming systems, particularly with traditional rainfed farming. From 1991 to 1999, the average value of livestock production accounted for 47.0 percent of the total value of agricultural production. The following paragraphs provide a brief review of the systems of production in the agricultural sector.

6.3 **Irrigated farming.** Historically, large-scale Nile-based irrigation has been one of the pillars of Sudan's strategy for agricultural development. There are between 4 and 5 million feddan of land suitable for irrigation within the Nile Basin, in the Northern, Khartoum, Gezira, Sinnar, Blue Nile and White Nile States. The Gezira irrigation scheme, established in 1925, accounts for almost half of that area, with a gravity-fed command area of 2.1 million feddan (about 882,000 hectares). Three other schemes along the Nile (Rahad, Suki, and New Halfa) have a total command area of 1 million feddan (420,000 hectares). These four irrigation schemes are owned and managed by the central government and are significant in four respects.

⁶⁴ The latest estimate of land use is from 1975, reported in World Bank Report no. 6502-SU, "Sudan: A Strategy for Rainfed Farming – A Commentary on the Government Steering Committee Report," April 28, 1987. This report indicated that of Sudan's total area of about 2.5 million square kilometers, 35.4 percent was suitable for agriculture, with around 3.3 percent cultivated at any one time (the remainder would be out of use or fallow); 10.1 percent was pasture; 38.5 percent was forest and scrub; and 16.0 percent was not usable for agriculture, grazing or forestry. There have no doubt been changes in these proportions since 1975. For example, there can be little doubt that the area under cultivation has probably doubled since 1975.

⁶⁵ One feddan is 0.42 hectares, or 1.038 acres.

- They are highly capital-intensive, requiring regular maintenance.
- They produce a considerable volume of commodities for domestic consumption and export; for example, they produce almost all of Sudan's cotton exports and wheat for domestic consumption.
- Initially, the schemes performed efficiently when they were managed as private entities with the government retaining a share of ownership. Gezira's performance deteriorated after it was taken over by the government. Since then, all schemes have been subsidized by the federal government because of low productivity and excessive costs.⁶⁶
- The social and economic infrastructure associated with large-scale irrigation has accentuated the substantial geographical disparities associated with the unequal natural resource endowment among states. For example, about 21 percent of total agricultural GDP is produced in the Nile State (irrigated wheat farming). Gezira State alone produces more than 50 percent of irrigated agricultural output, including 90 percent of the nation's cotton and almost half of its wheat.

6.4 **Rainfed semi-mechanized farming.** This farming system developed under the auspices of the government as mechanized crop production schemes in 1945 on generally alkaline clays and loams, which are not suitable for cultivation by hand or by oxen. While farms of about 1,000 feddan were initially based on share cropping with the government, this was not successful, and in 1953 farms were transformed into government leasehold. The area under this system of management increased rapidly and by the beginning of the 1970s was estimated to have reached 2 million feddan. It has spread to about 14 million feddan in the states of El Gedaref, Blue Nile, Upper Nile, White Nile, Sinnar, and Southern Kordofan (Nuba Mountains). Semi-mechanized farms are now usually well over 1,000 feddan as a result of amalgamations of leases and family partnerships. The government also allocated large tracts of land (between 50,000 and 1 million feddan) to Sudanese and foreign investors (mainly from the Gulf countries). Land preparation, seeding, and most threshing on these farms are mechanized, whereas weeding, harvesting, and some threshing are done by seasonal labor.

6.5 **Rainfed traditional farming.** The traditional rainfed farming system includes nomadic, transhumance (moving with livestock and growing short-maturity subsistence crops), and sedentary agriculture which also includes a significant number of livestock. This system exists to some extent in every state. It is most prevalent in the three Kordofan states, the three Darfur states, Sinnar, and the Blue and White Nile States. Livestock provide an important capital asset and are a risk management tool for pastoralists and farmers in times of drought. The non-nomadic small farmers typically have 10 to 15 feddan on which they produce food crops as well as cash crops such as karkade, sesame, and water melon seeds. The total cropped area in this system is estimated at 18 million feddan. Gum arabic, to be discussed in more detail later, is harvested in the woodland forest areas. The growth rates and production shares of the irrigated, semi-mechanized, and traditional areas are shown in Table 6.1.

⁶⁶ Issues associated with reform programs for irrigation projects will be covered later in this chapter.

**Table 6.1: Growth Rates and GDP Shares for Subsectors in Agriculture
(1981/82-1999)**

Item	1981/82-1990/91		1991/92-1999	
	Growth Rate (percent per annum)	Share of GDP within Agriculture (percent)	Growth Rate (percent per annum)	Share of GDP within Agriculture (percent)
Irrigated crops	1.5	25.8	6.6	21.1
Rainfed semimechanized crops	-9.2	8.1	-6.7	6.3
Rainfed traditional crops	-8.4	10.0	24.6	12.5
Minor crops	1.2	1.1	-1.4	1.2
By-products	7.5	6.8	2.4	5.9
Total crops	-0.8	51.8	8.5	47.0
Livestock	2.0	36.9	15.9	46.9
Forestry	0.7	9.9	-21.5	4.8
Fisheries	1.0	1.4	9.0	1.3
Total	0.6	100.0	10.8	100.0

Source: Central Bureau of Statistics; a/ No data available beyond 1999. Note: The years 1983-1985 and 1990/91 were drought years

6.6 There are three ecological zones in southern Sudan that are predominantly traditional farming systems, namely the central rainlands, the flood plains, and the equatorial zone. The major features of these zones are as follows:⁶⁷

6.7 The **central rainlands zone** in the Upper Nile State is an extension of the central rainlands of central Sudan (described above as the traditional rainfed farming system), which receive less than 800 mm of rainfall per year. The vegetation is typically open grasslands alternating with bush thickets and thorn woodland. Soils are predominantly heavy alkaline clays and loams. Because of the low rainfall and short duration of rain (four-five months), rainfed crop production is confined to quick-maturing grains and oilseeds that are produced under traditional systems of rough-hand cultivation. Increasingly semi-mechanized farming has taken over where farm size is large enough to justify the investment in machinery.

6.8 The **flood plains zone** includes the rest of the Upper Nile State, as well as the eastern and northeastern parts of Bahr El Ghazal and parts of northeastern Equatoria. Rainfall ranges from 800 to 1000 mm per year and extends over six-seven months. Because of lack of slope and heavy impermeable soils, the whole zone is subject to heavy waterlogging and flooding when it rains. It is mainly open grasslands interspersed with acacia woodlands. Part of this zone is a large and ecologically sensitive area known as the Sud, which is a permanent or semi-permanent swamp where the predominant vegetation is papyrus. Only the higher, relatively flood-free land is suitable for cultivation, while the lower (partly flooded land) is used extensively for grazing. It is the most important cattle-grazing land in southern Sudan because of its good dry season feed supply and because it is relatively free of tsetse fly.

6.9 The **equatorial zone** includes the Ironstone Plateau, the Central Hills, and the Green Belt in the extreme southwest of Equatoria. The vegetation is mainly broad-leaved woodland and tussock grass species.⁶⁸ Annual rainfall is typically 900-1,300 mm per year over six-eight

⁶⁷ Most of the material in this section is taken from Bank Report No. 119a-SU, "Report of a Special Mission on the Economic Development of Southern Sudan," June 1, 1973, pp. 10 and 11

⁶⁸ The main ones are *Hyparrhenia* species, commonly known under many names including elephant grass. They grow in large clumps or tussocks and are suitable only for grazing in their early stages of growth. These grasses are also widely used as thatching material.

months, although it does reach 1,300-1,600 mm per year over a eight- to nine- month season in the Green Belt. The agricultural potential includes perennial tree crops (coffee, tea, and oil palm) and annual crops such as tobacco, cotton, maize, sorghum, groundnuts, sesame, and vegetables. Livestock production suffers from heavy tsetse fly infestation and is therefore unimportant throughout most of this zone.

Livestock

6.10 Cattle, goats, sheep, and camels constitute the bulk of the livestock. As mentioned already, livestock are prevalent in the traditional rainfed farming system throughout Sudan, where they are raised under nomadic and transhumance systems. At the same time, cattle and sheep play an increasingly important role in irrigated areas. Livestock were originally prohibited from the irrigation systems by law. This is no longer the case, and they are now integrated in irrigated agriculture, contributing a significant proportion of farmers' incomes in irrigation areas. This change has, however, become a source of conflict between farmers and nomadic herdsman. Traditionally, herdsman were able to feed their cattle and sheep on crop residues in the Gezira on their way to markets in Wad Medani and Omdurman, but access to this source of feed has been drastically reduced because irrigation farmers are using crop residues to feed their own animals. Lack of clear demarcation of public stock routes and inadequate livestock services accentuate the conflict over feed supplies. There are few livestock in the large-scale semi-mechanized areas because of the absence of underground water.

Other Activities

6.11 Forests and woodlands are typically tall shrubs in areas of low rainfall in the north, and tropical high forest in south. Thirty-five percent of the land in Sudan is classified as forest, of which one-quarter represents timber resources and 3 percent are forest reserves.⁶⁹ There are also some plantation forests and community woodlots. Fishery resource potential is significant, though there is no reliable quantitative information. There are five main fishery sites concentrated around the Red Sea area; Lake Nuba; White Nile and Blue Nile; swamps, marshes, and lakes of southern Sudan; and canals of the Gezira irrigation scheme.⁷⁰

C. PERFORMANCE OF THE SECTOR

Trends in the Value of Production

6.12 **Aggregate picture.** The share of agriculture in total GDP was estimated at 37 percent in the early 1980s. As agriculture declined between the mid-1980s and the early 1990s, its share of total GDP fell to 28 percent, but recovered to about 37 percent by the year 2000. The agricultural growth rate achieved during the 1990s reflected a rebound from the decline in the 1980s that was mainly to the result of serious droughts and the government's interventionist policies, which reduced incentives for farmers to increase production. The rebound was not the result of a major technological transformation of the sector; rather, it was a return to earlier levels of output. Nevertheless, it confirmed the agricultural sector as the most important source

⁶⁹ Forest areas in the north are best described as "scrubby forest" or "forest not used for sawn timber, whereas in the south there are tropical forests.

⁷⁰ Estimates by FAO indicate that 80,000-100,000 tons of fish could be harvested annually from the extensive southern tributaries of the Nile. See M. Bellemans. "Fisheries for Food Security in Southern Sudan." The current total fish production in Sudan is estimated to be about 60,000 tons (Table 6.7).

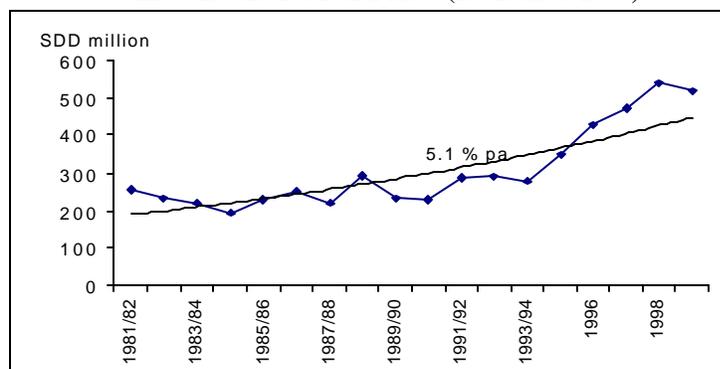
of sustainable growth in the Sudanese economy, despite the sharp increase in the production and export of oil.

6.13 The development of agriculture presents a special challenge in southern Sudan. Because of the chronic civil war, food insecurity is widespread. Nevertheless, agriculture still dominates the minimal economic activity. The potential for growth is large; less than 2 percent of the areas suitable for agriculture was estimated to be under cultivation even before the civil war. Apart from annual crops, tree crops and livestock, as well as lumber are other significant economic activities in southern Sudan. It is not possible to measure the aggregate growth of southern agriculture, but there can be little doubt that over the last two decades it has been below the rate of population growth because of the devastating impact of almost continual civil war. Crops are grown on a subsistence basis, but livestock production has been above subsistence in some areas, with animals exported to neighboring countries such as Kenya and Uganda. A Bank report in 1973 noted that southern Sudan was the key development challenge. It “has a good agricultural potential and it is possible to develop a north-south complementary production relationship which could have a favorable impact on Sudan’s balance of payments.” The report went on to point out two major constraints to development of the agricultural sector in the south, namely, manpower and finance.⁷¹ Thirty years later the situation is still the same. Given the absence of data for southern Sudan on trends in agricultural and livestock production, the next sections on agricultural growth will cover only northern Sudan.⁷²

Factors Contributing to Growth in Crop Production in the North

6.14 **Depressing impact of drought and government interventions in the 1980s.** Studies conducted in the past show, and recent analysis reconfirms, that without market distortions northern Sudan has a strong comparative advantage in the production of livestock and major crops, especially cotton, groundnuts, gum arabic, and rainfed sorghum.⁷³ Yet actual performance has been less than expected. Agricultural GDP growth during the 1980s was negligible (Figure 6.1).⁷⁴ The

Figure 6.1: Trend in GDP from Agriculture in Constant 1981/82 Prices (1981/82 to 1999)



⁷¹ See Bank Report No. 119a-SU, “Report of a Special Mission on the Economic Development of Southern Sudan,” June 1, 1973.

⁷² A paper by Lual Deng (“Sketching the Macroeconomic Environment for a Post-Conflict Southern Sudan Economy,” draft, April 14, 2003) shows how inadequate statistics on the economy and agriculture are in southern Sudan.

⁷³ Sudan: Supply Prospects for the Agriculture Sector,” World Bank, October 10, 1995. See also Eltighani M. Elamin, Dirdiri H.M. , and Nassir A. El Naam, “Pricing Policies and Agricultural Export Performance in Sudan: Lessons from the 1970s through 1990s,” El Obeid Research Station, August 2000.

⁷⁴The source for all statistics in the chapter is the CBS. The quality of agricultural production data and the variations in data from different sources warrant caution when interpreting the numbers, especially the specific growth rates. The last agricultural census took place in 1968, thereafter agricultural production is based on estimations. A least squares regression method is used in this report in order to minimize the potential distortion of growth estimates for particular years.

agricultural sector reached a low point in 1984/1985, at the end of the severe drought of 1983-1985. There was also a drought, though less severe, in 1990/1991. These droughts were particularly difficult for farmers in traditional rainfed farming areas.⁷⁵ The poor performance during the 1980s, a decade experiencing severe droughts, was also attributable to serious deficiencies in macroeconomic and sectoral policies, including market and price controls on crops by government and a deterioration of public infrastructure.

6.15 Improved agricultural GDP in the 1990s. The rebound in agricultural GDP during the 1990s, shown in official statistics, was caused by substantial reforms in macroeconomic and agricultural policy and more favorable weather. The policy reforms focused on reducing macroeconomic instability and distorting production incentives. They also aimed to give agriculture a leading role in the economy.⁷⁶

6.16 Specific actions included eliminating the fixed and overvalued exchange rate that imposed implicit taxes on agricultural exports, and curbing the power of commodity boards that had undermined production incentives through price and marketing controls as well as heavy marketing charges. The removal of state agricultural taxes in March of 2001 further improved production incentives. The difference between the 1980s and 1990s was remarkable. From 1981/1982 to 1990/1991, the growth in GDP from agriculture was only 0.6 percent per annum, whereas during the next 10 years average growth reached 10.8 percent per annum. Over the 1980s and 1990s as a whole, GDP from agriculture averaged 5.1 percent per annum (Figure 6.1).

6.17 Subsectoral growth varied considerably. While the aggregate value of total crop production in Sudan increased strongly in the 1990s, the trend value of production in the three main subsectors for crop agriculture varied considerably (Table 6.1).⁷⁷ The value of crop output in irrigated areas grew rapidly at an average annual rate of 6.6 percent between 1991/1992 and 1999 compared with 2.3 percent a year during the last half of the 1980s.

6.18 The semi-mechanized rainfed farming areas, however, continued its decline in value of production throughout the 1980s up to the end of 1999, although at a much reduced rate of decline during the 1990s (-6.7 percent per annum) compared with the late 1980s up to the drought year of 1990/1991 (-9.2 percent per annum). Traditional rainfed farming areas showed the highest growth in GDP (24.6 percent per annum between 1991/1992 and 1999). Growth in the value of livestock production was very strong in the 1990s, at 15.9 percent per annum, and by 1999 it accounted for 53 percent of the total GDP in agricultural sector, which was higher than in any previous year over the last two decades. It is worth briefly examining the factors that lay behind these trends.

⁷⁵ Sudan experienced six major drought periods in its recent history: 1888-1889, 1913-1914, 1933-1939, 1951-1953, 1983-1985, and 1990-1991. There was also a major drought in southern Sudan in 1998. In 2001, considerable crop damage was done to crops by insects (particularly locusts), birds, and other pests.

⁷⁶ See Republic of Sudan, Ministry of Animal Wealth and Natural Resources, "Ten Year National Strategy of Sudan: Agricultural Strategy," October 1992; and "Strategy for National Development of Agriculture: Horizon – 2015", op cit.,p. 25.

⁷⁷ Note that there are no official GDP data available from the CBS for the separate farming systems after 1998.

Table 6.2: Growth Rates of Major Crops Across all Farming Systems (1971/1972 to 1999/00)

Crops	1971/72- 1980/81	1981/82- 1990/91	1987/88-1999/00 ^{a/}		
	Output	Output	Output	Area	Yield
Cotton	-8.8	-6.4	-7.21 (3.07)	-4.63 (2.09)	-2.64 (2.85)
Groundnuts	6.4	-11.4	12.26 (3.18)	11.31 (3.24)	0.48 (0.29)
Gum Arabic	--	--	2.68 (0.61)	--	--
Millet	0.4	-10.4	11.74 (2.81)	7.01 (2.31)	4.16 (1.81)
Sesame	-3.5	-4.1	7.25 (2.39)	7.40 (2.87)	0.09 (0.05)
Sorghum	3.7	-3.5	4.69 (1.45)	3.46 (1.69)	4.52 (2.40)
Sunflower	n.a.	-23.2	-10.17 (2.75)	-14.73 (5.26)	4.52 (2.40)
Wheat	4.1	14.9	0.55 (0.13)	-2.86 (0.81)	2.40 (1.60)

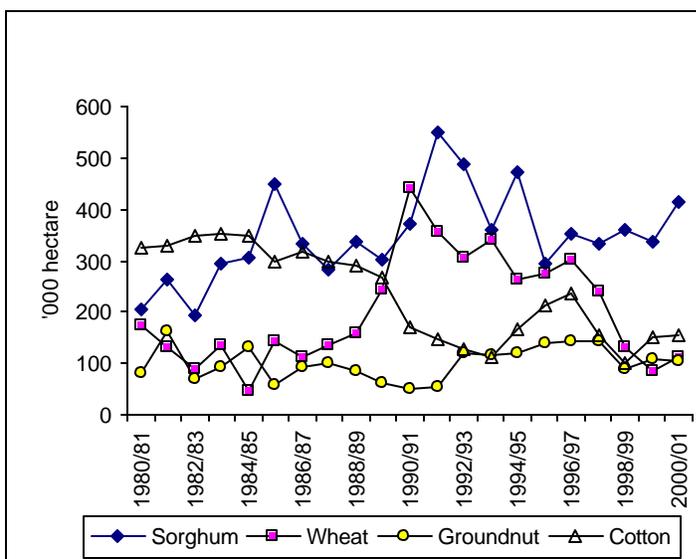
Source: Ali Abdel Gadir Ali, "Economic Growth and Growth Prospects in Sudan," Background Paper for this CEM, mimeo, April, 2002.

^{a/} Growth rates calculated using least square fit of semilog function to the base e. Numbers in parenthesis are t statistics that indicate the degree of statistical confidence in the growth rates; if above 2, t statistics usually indicate 95 percent confidence.

6.19 For the three major farming systems, the sources of growth were different combinations of growth in area harvested and yield (Table 6.2). Figure 6.2 shows that the area of irrigated crops harvested fluctuated substantially between the mid-1980s and the end of the 1990s. The main reasons for the substantial changes in these areas harvested were government pressures for changes in land use in the large, central government-owned and -operated irrigation schemes. In 1990 to 1992 the central government requested irrigation schemes to increase the production of wheat and sorghum as a contribution to the government's food security initiative, which had been introduced because of concerns about the impact of drought on rainfed sorghum production. Farmers were strongly encouraged, and assisted through credit programs, to produce wheat.

With many farmers attracted by the inducements, the area of wheat increased sharply in 1990/1991, but then declined steadily because of disappointing profits. Yields for wheat improved only slightly and the production of irrigated wheat declined considerably. Figure 6.2 also shows that the cotton area harvested declined but the area of sorghum, which like cotton is a summer crop, increased for a few years in the early 1990s, after which areas slumped to about

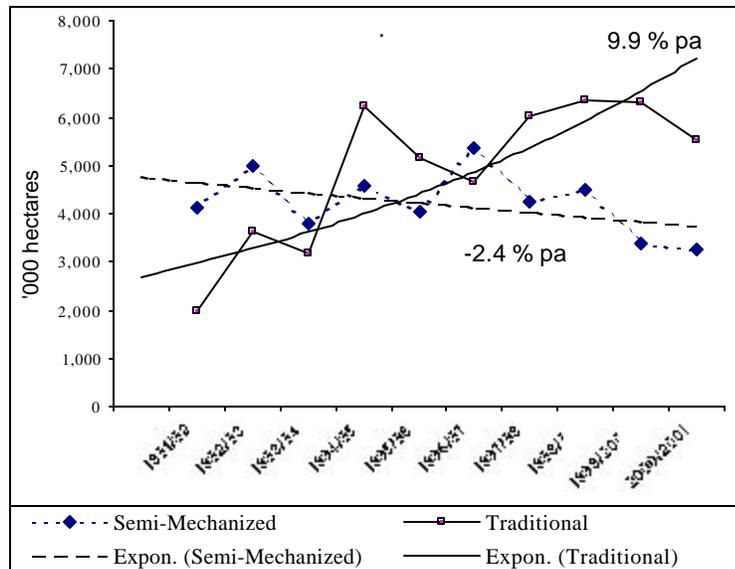
Figure 6.2: Area harvested for Major Irrigated Crops (1981/82 – 1999)



the same level as in the late 1980s. At this time, the government abandoned its efforts to administratively increase grain production as part of its food security strategy.

6.20 A significant feature of the semi-mechanized farming system was the large year-to-year variation in area harvested. The reasons for these fluctuations were analyzed in an earlier Bank report. It was concluded that a substantial part of the reason for fluctuations in area harvested was the unpredictability of central government policy on whether it would restrict exports of sorghum (as part of its food security strategy). The uncertainty about policy in turn created uncertainty among farmers about their prospects for selling surplus sorghum on the international market and created a reluctance to plant sorghum in some years, or when they did, it was planted too late, resulting in low yields.⁷⁸ As it turned out, the area of crops harvested in semi-mechanized areas for the whole of the 1990s declined by 2.4 percent per annum (see Figure 6.3), but yield declined even more (5.1 percent per annum). The decline in GDP from semi-mechanized farming of 6.7 percent per annum up to 1999 shown in Table 6.1 is broadly consistent with the trends in area and yield.

Figure 6.3: Trends in Rainfed Crop Area Harvested (Semi-Mechanized and Traditional Farming Areas)



Source: CBS

6.21 The rainfed traditional farming subsector became the driving force behind the rebound in the aggregate value of crop production in the 1990s. GDP from rainfed crop production in traditional farming areas reportedly increased at the extraordinarily high average rate of 24.6 percent annually during between 1991/1992 and 1999 in rainfed areas, mainly because of recovery from serious droughts (1983-1985 and 1990/1991). A major factor in the sharp growth in the value of output was a 9.9 percent per annum growth in area harvested, although this rate of increase has declined in recent years underlining the unsustainability of such high rates of increase in area harvested (see Figure 6.3).

6.22 A remarkable feature of the growth in the traditional rainfed system during the 1990s was the strong growth in the production of oil seeds such as sesame (14.9 percent per annum and groundnuts (25.5 percent per annum), which was to a large extent the result of increases in area harvested.⁷⁹ Nontraditional crops such as melon seed and karkade also became prominent in the rainfed areas, with sharply increased exports in recent years.⁸⁰ Sudanese sesame

⁷⁸ "Sudan: Supply Prospects for the Agricultural Sector," unpublished internal World Bank report, October 10, 1995.

⁷⁹ The higher rate of growth in oilseeds production had been anticipated by a Government Steering Committee report. See "Sudan: A Strategy for Rainfed Farming," op cit., page 10. For Sudan as a whole, the growth rate of sesame production during the 1990s was 9 percent per annum and for groundnuts, 15.7 percent per annum.

⁸⁰ Detailed analysis of the competitiveness of irrigated and rainfed crops for the period 1984-1993 is reported in Sudan: Supply Prospects for the Agricultural Sector, op cit. See also Hag Elamin and El Mak (1997) for aggregative competitiveness analysis.

accounted for an average of 24 percent of the world market over the five years ending 2000 and has become an increasingly prominent export.⁸¹

6.23 Dominant impact of area increases in traditional rainfed farming. An analysis of the most important crops confirms the relative importance of area expansion as the main determinant for production increases. As Table 6.3 shows, positive and statistically significant crop production growth rates were accompanied by statistically significant increases in the area harvested, except for sorghum, from 1987/1988 to 1999/2000. The importance of yield was not nearly as uniform. Millet and sorghum registered statistically significant increases in yield, while the increases in yields for groundnut and sesame were not statistically significant. Cotton recorded a statistically significant decline in both area and yield, while wheat recorded an insignificant decline in area and an insignificant increase in yield. The conclusion from this analysis is that since the latter half of the 1980s through to the end of the 1990s, area increases have been the main explanation for the positive growth in rainfed crop production.⁸²

6.24 Yields need to be increased. Trends in crop yields vary considerably among the major farming systems. In addition, the absolute yield levels are generally low by international standards. In the irrigation schemes there have been some improvements (based on hybrid varieties) in farmer yields for wheat (mainly in Northern state) and sorghum, but the yield levels achieved are still considerably less than research yields. Average cotton yields in the major irrigated areas were no better at the end of the 1990s than they were in the 1970s (Figure 6.4). Yields in the Gezira Scheme are well below potential and research levels (See Table A8.6 in Volume II of this CEM). The disappointing situation is underlined by comparisons of performance in major cotton-producing countries (despite difficulties inherent in making such comparisons). Yields of irrigated cotton in the Sudan in the 1990s, at that time the country's main cash export crop, were equivalent to only 47 percent of Egypt's average yield and 53 percent of the average in China.

6.25 If one examines yield of rainfed sorghum (the most important food crop in Sudan), the trend has remained stagnant or has declined during the last three decades. The trends in Figure 6.5 reveal the decline in yields⁸³ and minimal differences between average sorghum yields in the fertile semi-mechanized areas and the less fertile traditional farming areas in the late 1990s. The reasons need to be explored but they almost certainly include (i) a reduction in fertility in areas that have been continually cropped for decades in the semi-mechanized areas without fallow and no conservation practices; ii) the well-documented expansion of sorghum cultivation into marginal areas (both semi-mechanized and traditional) where the probability of substantial destruction of soil structure, soil erosion, and hence low yields is close to 100 percent; and (iii) in the traditional rainfed subsector, particularly, the low yields reflect a serious lack of support services such as research, extension and credit for smallholders.⁸⁴

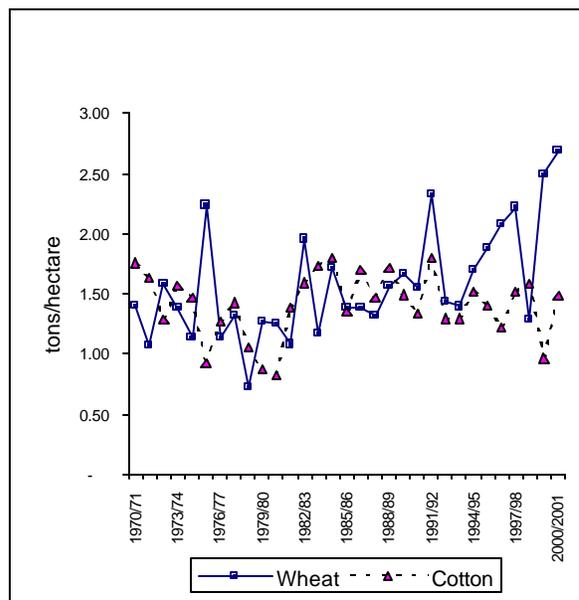
⁸¹ Data for 1995-2000 from the FAOSTAT database. The CEM team was advised that the deregulation of the oilseeds market had created quality problems in the export market, but this could not be confirmed.

⁸² This is consistent with many previous analyses of rainfed crop production. See, for example, Bank Report No. 6502-SU, "Sudan: A Strategy for Rainfed Farming – A Commentary on the Government Steering Committee Report," April 28, 1987, p. 5.

⁸³ Between 1977/1978 and 2002/2001 the average yields in semi-mechanized and traditional areas declined by 2 percent and 1.1 percent per annum, respectively.

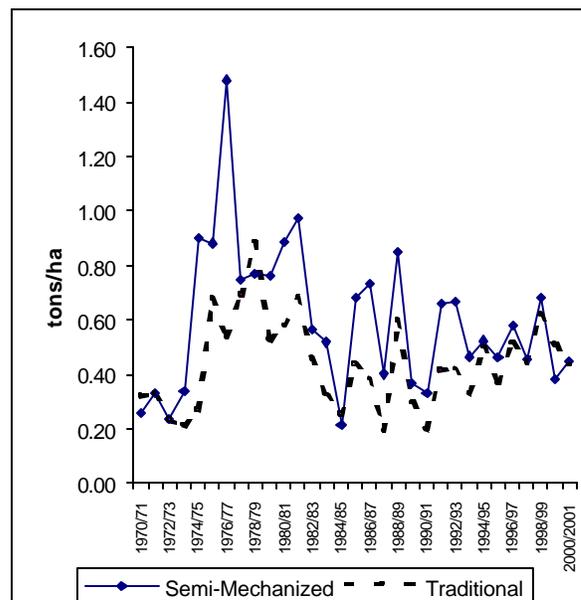
⁸⁴ The "Strategy for National Development of Agriculture – Horizon 2015" (draft), op cit, noted the increased resource degradation as one of the three major constraints to agricultural development and food security in Sudan. The recommended policy action is to maintain environmentally sound practices in semi-mechanized farming areas. This is probably not a strong enough recommendation to address the problems.

Figure 6.4: Cotton and Wheat Yields in Irrigated Areas



Source: CBS

Figure 6.5: Sorghum Yields in Traditional Rainfed and Semi-Mechanized Areas



Source: CBS

6.26 Although international yield comparisons are fraught with difficulties because of different circumstances such as policies and technologies, the differences between Sudan and some benchmark countries are unlikely to be entirely the result of lack of comparability. For example, average yields of rainfed sorghum in Sudan are typically only about 25 percent of the world average, and only 15 and 17 percent of average yields for China and the United States, respectively. Destructive land management, low yields, and inadequate support services are not new issues in discussions about Sudanese rainfed agriculture. They need to be urgently addressed at the highest level of government because of the importance of rainfed agriculture to the long-term economic growth of Sudan and the welfare of millions who derive their livelihood from the rainfed areas.

Table 6.3: Average Annual Growth in Yields for Major Crops (1971/1972-2000/2001)

	Irrigated			Semi-mechanized			Traditional		
	71/72-80/81	81/82-90/91	91/92-00/01	71/72-80/81	81/82-90/91	98/99-00/01	71/72-80/81	81/82-90/91	91/92-00/01
	percent per annum								
Sorghum	8.6	1.8	2.4	12.8	-5.1	-3.5	12.5	-7.3	2.9
Wheat	-2.2	1.8	3.4	na	na	na	na	na	-2.1
Millet	-3.8	-5.1	-2.2	na	-1.6	-0.9	na	-7.3	-2.0
Sesame				-4.5	-4.8	-1.3	1.1	-10.4	5.0
Groundnut	0.4	3.7	-0.8				2.9	-10.0	5.7
Cotton	-6.5	-0.7	-1.8				-3.2	8.6	-10.7

Source: Central Bureau of Statistics.

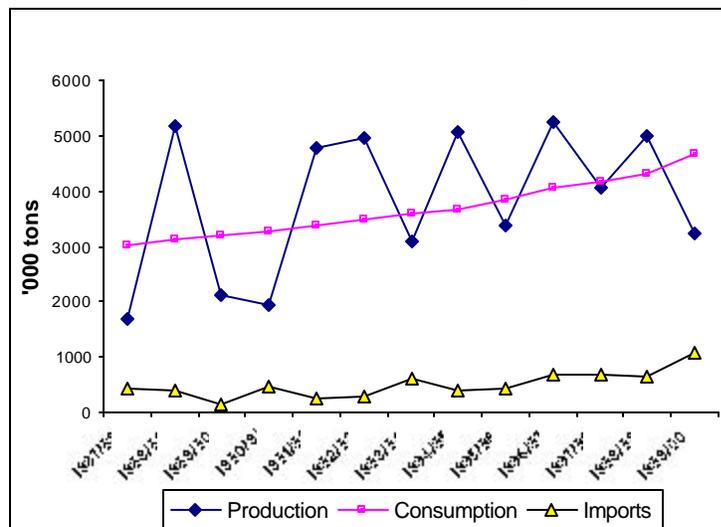
6.27 **Fertilizers and chemicals not a major factor in crop production.** There are no chemical fertilizers produced in Sudan, although there is now obviously some potential for nitrogen fertilizer production from local oil deposits. Most fertilizer is used in irrigated areas (for cotton and other crops). Fertilizers have been applied on a pilot basis by some large companies in the semi-mechanized rainfed sector for sorghum, sunflower, and short staple

(acala) cotton production on a trial basis. Insecticides and pesticides are applied mostly on irrigated cotton, but as a result of integrated pest management (IPM) the number of applications of insecticides has declined substantially. For example, it was common practice in the Gezira Scheme to apply 10 aerial sprayings per season in the 1980s, whereas now the number is 2-3. This has had substantial beneficial effects for the environment and has reduced costs.

Food Balance

6.28 One of the government's strategic objectives for agriculture is to ensure food security.⁸⁵ Of course, this does not necessarily imply that all food should come from domestic sources. But for Sudan, the prospect for food security to be achieved efficiently from domestic production and imports is considerable. Figure 6.6 shows that, although grain production (used here as an indicator for total food production) fluctuates from year to year according to seasonal conditions and as a result of the government's policies on sorghum exports (as explained earlier), there are many years when there has been a surplus production.⁸⁶ Storage of

Figure 6.6: Production, Consumption and Imports of Foodgrains



grain from one year to the next, supplemented by imports (predominantly wheat) in years when the total domestic production has been inadequate, made it possible to ensure food security throughout the 1990s. This physical balance was not achieved during the drought of 1990/1991, when the government controlled food imports.

6.29 At the same time, the balancing of a shortfall between domestic production and estimated demand through trade does not ensure access to an adequate amount of food for all people. The main problems will be to ensure that consumers can gain access to food in areas remote from main markets and, when food is available in markets, that all consumers be able to afford to purchase grain. Both of these constraints have proved to be critical in Sudan because of weak infrastructure, resulting in substantial increases in prices for grain in remote locations, and widespread poverty, particularly in years when there has been a decline in domestic production and therefore almost inevitably a decline in wages for most of the rural poor, who rely on the agricultural sector for much of their employment. Problems of access should be addressed through targeted programs financed by the central government and based on

⁸⁵ See "Strategy for National Development of Agriculture—Horizon 2015," (draft), op cit., p. 25.

⁸⁶ Sources of data for 7.6 are as follows. Domestic grain production (sorghum, wheat and millet) and estimated consumption of grains (Ministry of Agriculture and Forestry). Imports of wheat (Ministry of Trade). The sum of production and imports is equal to supply in the figure. Obviously, the annual surpluses above the consumption requirements are either put in storage or are exported.

identification of needs by administrations in affected localities. Implementation should be by state and local governments.

Livestock Production has Increased Significantly

6.30 The value of livestock production represented close to 40 percent of agricultural GDP in 1998. To a large extent, livestock are an integrated part of the traditional farming areas that make a considerable contribution to the welfare of people in those areas. Total livestock production increased rapidly during the 1990s because the off-take of sheep quadrupled between 1989/1990 and 1999/2000 in response to a strong export market in the Gulf countries, especially Saudi Arabia, until veterinary problems brought a temporary halt to the boom during 2000-2001. Table 6.6 shows the trend in livestock exports since 1996, including the slump in sheep exports in 2000 and 2001.⁸⁷ Exports of sheep rebounded significantly in 2002 following the resolution of veterinary problems.

6.31 Sudan has a rich and diversified livestock sector. The range of products includes live animal exports, meat, hides and skins, and dairy. There is also a significant poultry industry in Khartoum. In terms of animals, the number of sheep and camels increased at a higher rate than cattle and goats during the 1990s.

6.32 The government's principal strategy for livestock development is to improve the delivery of veterinary services and the transport and marketing infrastructure. The current approach to the organization and delivery of veterinary service delivery is as follows:

- The federal government is responsible for controlling infectious diseases through veterinary clinics, animal health centers, and hospitals at the district, provincial, and regional levels. State responsibilities are focused on the control of general diseases (mainly parasitic and noninfectious). Veterinary centers are located in the 26 states, including 3 centers in the government-controlled areas in southern Sudan. In high-risk areas communities deliver services through local vaccination campaigns and other types of crash programs.
- The strategy for infectious disease control includes eradication; establishment of disease-free zones; integrated treatment and inoculation; use of mobile units; encouragement of private service providers; and creation of emergency programs for eradication.
- The infrastructure for marketing and control of livestock movements is being strengthened. Exports are permitted from disease-free zones only. Amendments to the Animal Disease Law in 2001 have vested increased powers in the central government to improve the control of infectious diseases.
- The federal government is also responsible for veterinary colleges, training of veterinary personnel, support for research, and the diagnosis of communicable diseases. It is also taking steps to improve disease surveillance, rehabilitate community animal health centers in the stable rural areas, and strengthen the capacity of personnel at these institutions.

6.33 The structure of the livestock marketing is based on primary markets at the village level, secondary markets at the provincial level, and five terminal markets (of which

⁸⁷ These data from the Ministry of Animal Resources are not the same as data on livestock exports from the Central Bureau of Statistics shown in Statistical Annex Table A4.2, although the trends are the same.

Omdurman is by far the largest) for final domestic sales or exports. Marketing margins are extremely high in Sudan because of the large distances traveled by animals on the hoof. In July 2002, the average price of cattle at the primary market level was about one-eighth that of the f.o.b. price.⁸⁸ Five major traders have traditionally dominated the terminal livestock markets in Sudan. While this is typical of many livestock markets in the world, the government's recent decision to give export authority for Sudan's trade with Gulf countries to only one trader has changed substantially the dynamics of both the domestic and export trade to the detriment of the producer because competition for export quality animals has been weakened. This change in the export marketing arrangements for livestock to Sudan's main customers from a competitive one to a monopoly will have immediate and long-term detrimental effects on Sudan's livestock producers and cannot be justified on any basis. Those who will suffer most will be the poorer small-scale producers.

Forestry

6.34 The value of forestry output was 9 percent of total GDP from agriculture in 1998 and essentially constant from the mid-1980s to the mid-1990s, when it declined. Factors that influence the value of forestry production include the charcoal market in Saudi Arabia⁸⁹ and forestry reforms, which granted forestry management responsibilities to the central government rather than to the states. A disappointing aspect of the reforms in the agricultural sector is the continued control of the gum arabic market through restraints on the right of any private company to independently export unprocessed gum arabic.⁹⁰

6.35 The discrimination against gum arabic producers is revealed in Figure 6.7, which shows the percentage that floor prices (paid by the government-owned Gum Arabic Corporation) have been of export prices (f.o.b. Port Sudan). Note that gum arabic requires minimal processing and packaging and it is therefore extraordinary that during the 1990s the prices that producers received as a proportion of world market prices had declined to 21 percent in 2000/2001. This was a much lower proportion than in the 1980s. The extraordinary rise in the share of export prices that producers received from 1990 to 1992 was to the result of a brief period during which market controls were waived, only to be reintroduced in 1992/1993.⁹¹ Paradoxically, that was the year when all other agricultural markets were de-controlled.

⁸⁸ This is likely to be an upper limit to marketing margins since July is usually extremely hot, with little grazing remaining on stock routes. Costs of marketing livestock under these conditions are inevitably high.

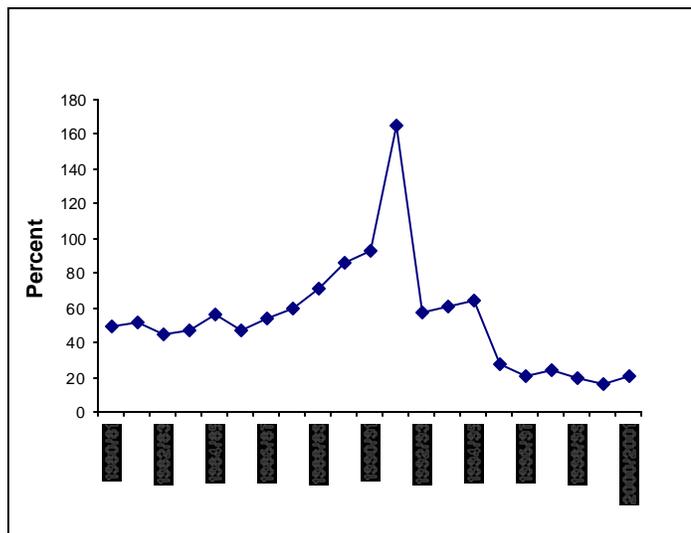
⁸⁹ Charcoal is made from slow-growing hardwood including valuable acacia species. Acacias are an important part of the forest and scrub cover in Sudan, which, apart from controlling erosion, is the main feed source for camels and goats in average years and a feed source for all animals during droughts. Some of the acacia species also produce gum arabic. Continued exports of charcoal will lead to further desertification, which is already a major problem. Therefore, in the interests of a sustainable pastoral subsector, exports of charcoal to Saudi Arabia and other Gulf countries should be banned.

⁹⁰ The monopoly powers were reinstated recently and are to be reviewed by Parliament within three years. It is understood that under certain circumstances some traders or large-scale producers may export their gum stocks independently.

⁹¹ The extent of the increase in the ratio in 1991/92 shown in Figure 7.7 is quite extraordinary. The accuracy of these data provided by the Gum Arabic Company could not be independently verified.

6.36 This report concludes that derminating the current monopoly export powers held by the Gum Arabic Corporation is important because of the potential benefits of such deregulation through increased prices and hence higher incomes for small-scale farmers in the traditional rainfed areas, increased incentives to rehabilitate and plant gum arabic gardens, and the improvement of the environment. Deregulation would also avoid the smuggling of gum arabic to neighboring countries such as Chad and Ethiopia.⁹² The argument against deregulation has been that the quality of Sudanese gum arabic would deteriorate and, as a result, export quantities and prices would decline. Official export statistics indicate that there was a reduction in export volume in 1992 and 1993 following the deregulation of the gum arabic market (see Statistical Appendices Table A4.2).

Figure 6.7: Gum Arabic: Ratio of Floor to Export Price



Source: Gum Arabic Corporation

6.37 On the other hand, there is no evidence of a reduction in the export price. Indeed, data from the Gum Arabic Company show an increase in export prices from 1990/1991 to 1994/1995 and then a decline to almost constant low prices from 1997/1998 to 2000/2001 (see Volume II, Statistical Annex Table A8.8). These recent prices are reminiscent of export price levels recorded in the late 1970s and early 1980s. The potential problem of low export quality for gum arabic exports cannot be ignored, if that is indeed a problem, but the straightforward solution is export inspection by an independent authority.

Fisheries

6.38 The fisheries industry generated some significant growth during the 1990s, but it was from a relatively small base. The physical production of fish products by regions is shown in Table 6.7. The potential for total fish production in Sudan is estimated by the Ministry of Livestock Services to be 150,000 tons per annum from inland fisheries (including 60,000 tons from southern Sudan) and 10,000 ton from the Red Sea. Much of this production is expected to be produced as a result of private investment.

⁹² The value of official exports of gum arabic from Ethiopia have increased well above the trend line since 1994 (when Eritrean exports can be separated from those of Ethiopia), but the total value of those exports is quite small compared with official Sudanese exports. On the other hand, there are strong indications that some of Chad’s exports have been derived from gum Arabic smuggled out of Sudan. Since 1993 the volume of Chad’s exports to the EU, Japan, and USA (the dominant importers) has increased 3 times as much compared with Sudan’s export.

**Table 6.4: Fish Production by Regions
(1999-2001 in '000 tons)**

Year	Red Sea	Lake Nuba	Regions			Total
			Southern states	White and Blue Nile	Other states	
1997	5	2	24	16	3	50
1998	6	2	24	16	4	52
1999	7	2	24	16	4	52
2000	5	1	30	17	4	57
2001	5	1	31	17	4	58

Source: Ministry of Livestock Services.

Agricultural Exports

6.39 The volume of agricultural exports increased during the 1990s. Table 6.8 shows average annual percentage growth in export volume during 1990s for sugar (18 percent), livestock (12 percent), karkade ⁹³ (11 percent), oilseed cake (10 percent), sesame (9 percent), vegetable oils (7 percent), and gum arabic (6 percent). Except for gum arabic and some of the sugar, all of these successful export commodities were handled by the private sector. In 2001, agricultural exports accounted for 25 percent of total exports. This is an important contribution, but of course a big change from 1990, when agriculture accounted for virtually all merchandise exports. The more important issue, however, is that exports based on the agricultural sector continue to grow, led by a strong performance from the livestock sector.

6.40 Livestock and sesame surpassed cotton as the largest foreign exchange earners in recent years. Livestock exports have been significant since the last decade, except in part of 2000 and all of 2001, when Gulf countries banned imports from Sudan citing veterinary health problems, causing livestock earnings to drop from US\$114.3 million in 1999 to US\$66.5 million in 2000. Cotton-weaving thread and melon seed, both nontraditional exports, increased by 34 and 26 percent, respectively, during the 1990s, starting from relatively low bases, and earning US\$7.6 million and US\$12.6 million, respectively, in 2000. The performance of other nontraditional exports, such as vegetable and fruit horticulture, including mangoes, was unsteady.⁹⁴ Difficulties included coping with quality standards; marketing services, such as grading and packaging; limited penetration of off-season markets; and lack of facilities to airlift perishable products.

6.41 Exports of cotton and groundnuts declined during the 1990s, but for different reasons. In the case of cotton, the decline corresponded to the performance by Sub-Saharan African countries and was linked in part to falling world price. Moreover, the specific conditions of the Sudanese environment, especially weak management of irrigation schemes, were not helpful. Increases in domestic consumption of some exports, such as groundnuts, sesame, and melon seeds might have affected exports. Groundnuts and sesame, for example, are processed into cooking oil for local use.⁹⁵

⁹³ Hibiscus tea.

⁹⁴ Fruits increased temporarily from a range of 3000-4,000 tons during the 1980s to 6000-10,000 tons during the 1990s; they did, however, drop off to 4,000 tons in 2001.

⁹⁵ Eltighani M. Elamim, Dirdiri H.M., and Nassir A. El Naam, "Pricing Policies and Agricultural Export Performance in Sudan: Lessons from the 1970s through 1990s", El Obeid Research Station, August 2000.

Table 6.5: Agricultural Exports

Commodity	2000 export values (US\$ million)	Percent average annual export growth in volume (1990-2000)
Cotton weaving threads	7.6	34
Melon seed	12.6	26
Sugar	13.2	18
Livestock ^{a/}	66.5	12
Karkade	18.0	11
Oilseed cake	4.7	10
Sesame	146.0	9
Vegetable oils	1.7	7
Gum Arabic	23.1	6
Cotton	53.0	-5.4
Groundnuts	12.9	-7

a/ Lower than usual export values for 2000 and 2001, because of the ban on livestock imports in the Gulf countries.

Source: Computed from Ministry of Agriculture data. See also Statistical Annex Table A4.3.

D. TOWARD A FUTURE STRATEGY FOR THE SECTOR

Role for the Sector and Sources of Growth

6.42 The agricultural sector has always played many roles in the Sudanese economy. It has been the main source of national economic growth and, conversely, during severe drought it has been the reason for negative growth. It has provided the major source of employment in Sudan, it has been the basis for many agro-industries, it has made Sudan self-reliant for food in all but the most severe drought years, and it still makes a substantial contribution to export income. An important development during the 1990s that supported the sustained growth of the sector was the decontrol of most agricultural markets. At the same time, it is already clear from this chapter and many other reviews of the sector that agriculture has not reached satisfactory levels of productivity and efficiency.

6.43 Recent strong growth in the value of production did not result from a technological transformation of agriculture, nor did it arise because of a surge in real prices. Rather, the sources of growth were favorable weather, expansion in the area harvested, and increased livestock numbers. Despite its substantial and fortuitous aggregate growth during the 1990s, agriculture has not contributed significantly to poverty reduction. It has also not addressed the enormous environmental problems that endanger its own sustainable growth. In the future, better support services, better technology, and more effective management will need to play a large role in stimulating sustainable growth and poverty reduction.

Elements for Future Strategy

6.44 The main elements of the strategy for achieving these objectives include: (i) further reform of agricultural policies to promote efficient, market-based production incentives, and sustainable land use; (ii) land tenure policy reform; (iii) rejuvenation of agricultural research and extension to achieve technical improvements in production, particularly in traditional rainfed areas; (iv) rehabilitation and modernization of rural infrastructure such as roads and railways to reduce transactions costs and improve efficiency; (v) enhanced marketing and export services, particularly for livestock; (vi) improved access to rural credit; and (vii) improvement of rural services such as domestic water supplies, sanitation, primary health, and basic education. In essence, this strategy amounts to a far-reaching rural development program that will take many years to accomplish, but must be started now.

6.45 The government is currently undertaking a review of the performance of the agricultural sector in preparation for formulating a long-term strategic plan and a poverty reduction for implementation up to 2015. The remainder of this chapter considers these key policy issues that would increase sustainable growth in production and incomes in the agricultural sector.

More Constructive Sector Policy

6.46 **Role of government.** The government may wish to establish a firm policy on whether it intends to continue to intervene in the market for agricultural inputs and outputs or not. Evidence from Sudan, as well as many other countries, makes it clear that the withdrawal of governments from agricultural markets brings benefits for both producers and consumers. If the government intends to follow the principles of its policies decided in 1993, then much more remains to be done to reforms. For example, the extent to which the implementation of trade liberalization policies is followed through varies in different regions, depending on the capacity and policies of the regional administrators. Some trade restrictions, such as on the export of sorghum, which are still introduced from time to time to moderate food price increases and enhance food security, have not been successful (as mentioned earlier in this report). Unfortunately, trade restrictions are often decided after planting, leading to a classical cobweb cycle effect, with production increasing as prices decline and vice versa.

6.47 Another approach the government took in the past was to implement its food security objective by placing pressure on irrigation schemes to increase the production of sorghum and wheat. Though this policy involved government purchases for a “Strategic Food Reserve,” the financing and timing of government purchases of food staples have been unpredictable, and hence prices paid to farmers were also unpredictable. Marketing policy for gum arabic, the most important cash crop in western Sudan, has meant that export prices have been set by a single government-backed marketing authority (Gum Arabic Corporation). This has resulted in farm gate prices to farmers at very low proportions of world market prices (f.o.b.) at Port Sudan (see Figure 6.7 above).

6.48 The conclusion is that the government needs to consider making a clear policy decision at the earliest opportunity to withdraw completely from agricultural commodity markets and eliminate monopoly powers vested in any of its agricultural marketing agencies. At the same time, the government could clearly state its commitment to delivering important public services to support rural producers because of the public goods benefits that such a strategy would bring.

6.49 **Irrigation reforms.** Irrigation development in central government-owned schemes has for many years been the centerpiece of Sudan’s agricultural development strategy. In reality, the large-scale irrigation schemes have not been financially sustainable and therefore have needed subsidies through the federal budget as well as government guarantees for obtaining credit from commercial banks. Efforts to control the production practices, including crop choice for farmers, have resulted in decisions by farmers to produce crops (and livestock products) less susceptible to control by the management of the schemes. Performance problems in government irrigation schemes include inefficient water management, non-collection of water charges and land use fees, low productivity, and large debt burdens. Government support to these large-scale subsidized schemes starved other subsectors in agriculture of funds needed for basic infrastructure development and support services.

6.50 The conclusion is that the government could eliminate its budgetary allocations to irrigated agriculture if it adopted a forward-looking reform program based on more efficient management and greater private sector involvement in the federally owned irrigation schemes.

See Box 6.1 for further details of typical reform programs based on a review of the largest of the government-owned schemes.

Box 6.1: Reforming the Gezira Irrigation Scheme

In recognition of serious inefficiencies in the central government irrigation scheme, His Excellency the President appointed a high-level committee in 1998 to examine the performance of all the central government schemes. Having received the committee's recommendations, which centered around improving efficiency and selling the schemes to the private sector, the government asked the World Bank to examine the issues related to poor performance of the Gezira Scheme (the largest of the central government schemes) and make recommendations for its reform into a viable, sustainable enterprise entity. A joint World Bank-government report, completed in October 2000, considered the options for reform and sustainable development of the Gezira Scheme.^{a/} The key issues addressed in the report were (i) relevant roles of government, including the Sudan Gezira Board, in a large irrigation scheme such as the Gezira; (ii) relevant roles of the private sector, including farmers, in the supply of production inputs and water management; (iii) changes in the on-farm responsibility for crop and water management; and (iv) restructuring the Gezira Board of Directors to make it more responsive to the needs of farmers rather than the needs of the Sudan Gezira Board. Recommendations on critical management reforms covered land tenure (allowing the sale and purchase of tenant rights), formation of water users' associations (allowing these associations to maintain tertiary canals, manage water distribution, and collect water charges), crop choice (allowing farmers greater freedom to choose crops they wished to produce), and credit (allowing farmers to obtain credit outside the scheme from commercial banks or other sources). The report also made recommendations on the future management of infrastructure within the Gezira Scheme, such as ginneries. The Gezira Farmers Union has endorsed the report. The Ministry of Agriculture and Forestry, which has statutory responsibility for the Gezira Scheme, is engaged in implementing many of the recommendations.

a/ World Bank, 2000. "Sudan: Options for Sustainable Development of the Gezira Scheme," October 27, 2000.

Infrastructure Development

6.51 Funding for public investments in infrastructure and the delivery of basic services for rural agricultural development is negligible. Total development expenditures averaged 2.3 percent of GDP per annum during 1998-2001, of which the share of agriculture, irrigation, water supply, and transport averaged 1.1 percent of GDP. However, irrigation alone absorbed 41 percent of these expenditures; agriculture, 24 percent; and transport, 25 percent. The share allocated to drinking water was 4.8 percent. Expenditures in the development budget for agriculture, transport services, and water averaged 0.63 percent of GDP during 1998-2002. Low public investment in rural areas is a major constraint to rural producers because of the long distances from major producing areas to large urban markets. Improved road networks would reduce marketing margins and result in higher incomes for producers and lower prices for consumers. Improved roads also facilitate access to social services, especially health and education.⁹⁶

6.52 The conclusion is that, given the existing public financial resource levels, shifts in the public expenditure program are warranted in at least two respects: (i) reallocation of public expenditure from non-agriculture to agriculture, while protecting social services and (ii) reallocation of expenditures within agriculture from subsidies to irrigation and toward

⁹⁶ See Shenggen Fan, Peter Hazell, Sukhadeo Thorat: "Linkages between Government Spending, Growth, and Poverty Reduction in Rural India," International Food Policy Research Report No. 110, 1999. Investment in agricultural research and development has the second largest effect on rural poverty after transport. Similar evidence was found in Tanzania. World Bank, 1996: "Tanzania. The Challenge of Reforms. Growth, Incomes and Welfare."

increasing public support for pro-poor services such as agricultural research and extension for rainfed areas where the majority of the poor live.

Land Tenure

6.53 Land policy and land tenure rights (and responsibilities) are complex and contentious in Sudan.⁹⁷ Since the Unregistered Land Act of 1970, land is formally owned by the government. Private land is confined to lands registered before 1970 under a 1929 land ordinance and is limited to agricultural land along the Nile and a few areas along other water courses. In total, this freehold land accounts for about 1 percent of all land in Sudan. Individuals can, however, obtain leases of government land and assume only usufruct rights. Apart from the freehold land, all other agricultural land can generally be classified into one of three types:

- **Type I:** Registered leases on government land that has been surveyed. This land is usually under cultivation in large-scale semi-mechanized schemes, or in traditional irrigated farming. These types of tenure can be small and large farms. Lease rights are for specified periods of time; for example, the large semi-mechanized farm leases are typically 25 years. They carry cultivation rights and also certain lease conditions, such as protection of the environment, subleasing, and transgression of easements in the semi-mechanized farming areas. It is usually unlawful to sell land leases; hence, the leases are of no use as collateral for formal credit. In aggregate, this type covers a vast area in Sudan.
- **Type II:** Registered land with usufruct rights on government land that has been surveyed and is usually cultivated. Cultivation rights are held in perpetuity, but leases are held for specific periods of time. The extent of this type of tenure is limited, and the exact areas involved are apparently not known.
- **Type III:** Unregistered land with traditional usufruct rights but not surveyed, yet deemed to be government land. The use of these lands (often referred to as “undemarcated” land) has usually been established through its unlawful settlement and unlawful clearing and cultivation by individuals or groups. Eventual registration of this land merely formalizes an unauthorized occupation. This land, like Type I land, also covers vast areas, typically on the margins of the registered areas in semi-mechanized and traditional rainfed areas.

6.54 Within these three types there are many variants depending on location and type of land. The main variants are related to the extent of local jurisdiction over land rights and land use. Some examples are listed below.

- Communal land, though owned by the government, is under the control of the community or village leader (the sheikh) and is usually allocated to households from the village or the local ethnic group for their exclusive use. The land would normally be inherited, but it is not possible to use it as collateral; this limits access to formal credit for landholders who are sometimes small-scale farmers. There are three types of tenure on government land, irrespective of the local or communal control over its use.

⁹⁷ Land policy is one of the issues discussed at the peace negotiations, but details were confidential when this CEM was being finalized (June 2003).

- Leaseholds are allocated by the government to private farmers with water licenses to draw from the Nile for 15 years, recently changed to 25 years. This constitutes most of the irrigated land along the major rivers. Subleasing may or may not be allowed. In the past, tenants were always allowed on land with usufruct rights. Leases on land for foreign investors, usually in rainfed areas, have been granted for 25-99 years. Such land could be used as collateral.
- Some land is rented by the government by decree, or owned within the command area of an irrigation scheme, such as part of the Gezira Irrigation Scheme, and leased to tenants. The original owners still receive the equivalent of a negligible rent (10 Egyptian piastres per feddan), which is paid by the government. Neither the owner nor the tenant has the right to sell the land or the tenancy rights, even though a number of informal transactions do take place. Obviously, under these circumstances the land cannot be used as collateral for formal credit.⁹⁸

6.55 Reform of the land tenure and administration in Sudan is urgently needed. This conclusion has been drawn in numerous previous research and reports by the World Bank and other institutions. It is clear that land, like any other factor of production, should be exchanged through a transparent, formal market so long as conditions such as appropriate land use, conservation of resources, and desirable lease size are rigidly enforced.

6.56 The conclusion is that efficient and sustainable agricultural and pastoral development is severely constrained by current land policy in Sudan. First, it limits access to credit for the vast majority of farmers, who cannot use the land as collateral. Second, the current system does not provide incentives for sustainable land development and capital improvement.⁹⁹ Poor yields are linked in part to inappropriate land use as illustrated by the continual cultivation and ultimate destruction of soils in the semi-mechanized farming areas, and the destruction of forest lands for cultivation in un-demarcated areas. Third, on land not yet demarcated by cadastral surveys, conflicting land rights have been a source of civil strife, especially between nomadic pastoralists and sedentary crop farmers. Indeed, land reform should lead to the integration of farming and livestock production, and nomadic grazing rights should be established for specified common pastoral areas. Finally, the need for land reform is inseparable from the need for rural reconstruction in rainfed areas leading to the possibility of reducing the size of huge holdings in semi-mechanized rainfed areas and the enlargement of less than subsistence sized farms. Land reform is also necessary for finding a solution to the problems of establishing sustainable formal agricultural credit institutions and low yields in all farming areas.

Strengthening Research and Extension

6.57 **Research.** Until 2001, several research institutions under different ministries administered various aspects of the national agricultural research program. The Agricultural Research Corporation (ARC) was responsible for crops, forestry, and pastures. The Animal Resources Research Corporation (ARRC) dealt with livestock. The National Research Center for Genetic Engineering was responsible for applied genetic research. The Industrial Research

⁹⁸ A commission was created under the Ministry of Agriculture and Forestry in 2000 to review land tenure, land rent, and the possibility of use of land as collateral in the Gezira Scheme. The commission has submitted its report to the Minister of Agriculture and Forests, but there is no information available about its recommendations or subsequent action.

⁹⁹ See, for example, Klaus Deininger et al. "Tenure Security and Land-Related Investment – Evidence from Ethiopia," Policy Research Working Paper No. 2991, World Bank, March 2003, which concluded, inter alia, that "transfer rights are unambiguously investment enhancing."

Center was responsible for food science and medicinal plants; and the Atomic Energy Research Center was responsible for mutation breeding and food preservation and sanitation. Under administrative reforms approved in 2001, the government relocated all research institutions into the newly established Ministry of Higher Education and Scientific Research, but stopped short of merging agricultural research activities within the new ministry. As a result ARC and ARRC are still separate entities. Aside from funding and institutional constraints, the main challenges facing research in agriculture include:

- **The need to focus on small-scale farmers.** Most agricultural research programs tend to be supply driven and not based on integrated land-use management or farmers' needs. The focus is often on high-input technologies for industrial crops, which may benefit large-scale farmers or those in irrigation schemes. Innovative, low-input technologies and farming systems, which may benefit small-scale farmers in rainfed areas, has been overlooked. For instance, research is concentrated on soil analysis and fertilizer trials, rather than on improving the productive capacity (such as yields) of existing soils in rainfed areas. There has been virtually no economic evaluation of technologies tested or developed.
- **Better coordination and collaboration.** Coordination between ARC and ARRC is weak. For instance, ARC works on quality of pastures and feed production, while ARRC works on genetic improvement and livestock health. An example of some missed opportunities is that ARC breeds for good-quality grain in field crops, totally overlooking the benefits to livestock production if it were to expand the research to breed for good-quality straw as well. A closer collaboration between crop (ARC) and livestock (ARRC) research, now being handled in the same ministry, should be possible in the future.

6.58 **Extension.** Following the new national strategy for agriculture launched in 2001 and the recognition that extension is a critical factor in improving agricultural production and food security, the restructured Ministry of Agriculture and Forestry upgraded its Extension Department into a Technology Transfer and Extension (TTE) administration with the objective of bridging the gap between research and farmers. It plans to establish parallel administrations in the state ministries responsible for agriculture (8 of which have been already established) for the easy flow of information. For example, several federal centers for technology transfer and 50 extension stations (with federal and state financing, connected with the agricultural schemes) will be established. It is also planned to merge extension services for rainfed and irrigated crops.

6.59 **Improved seeds.** Only an estimated 10 percent of farmers use certified seeds. Improved seed technology is essential for bridging the gap between yields in demonstration trials and farmers' fields. Until recently, seed production and certification have been handled by the government through the Seed Unit of the Extension Department of the Ministry of Agriculture and Forestry. It was an inefficient operation. Seeds were not of good quality nor disease free; they were also expensive. National seed production was therefore limited to field crops, while horticultural crop seeds were usually imported.¹⁰⁰ In a move to improve production of good-quality seed and boost the use of improved seed, the Seed Multiplication Department in the Ministry of Agriculture and Forestry was semiprivatized in 2000 and entrusted to a new joint (public-private) ownership company. The government donated physical assets to the newly formed Arab Sudanese Seed Company representing a share of 42

¹⁰⁰ Except for the traditional Mloukchieh and okra.

percent of the company's capital. The remainder was financed by the Arab Authority for Agriculture Investment and Development (AAID), Al Aktan Company, and the Farmers' Bank. Responsibility for seed certification and oversight was retained by technology transfer and extension within the ministry.

Agricultural Credit

6.60 Lending to the agricultural sector occurs through both formal and informal credit channels. Although informal credit is an important source of finance for agriculture, because of data constraints, this section covers only formal lending.

6.61 Formal lending to agriculture started in the 1930s for large private cotton producers. Organized lending for agriculture started with the formation of a government-owned Agricultural Bank of Sudan (ABS) in 1957. ABS provides financing to irrigated and rainfed agriculture, providing about 20 percent of farmers' credit. The other major sources of credit are the commercial banks. There is also a consortium of commercial banks that, with guarantees from the government, provide credit to government-owned irrigation schemes. The Sudan Cotton Company (SCC) has more recently taken responsibility for the bulk purchase of inputs for cotton farmers, with guarantees from the government.

6.62 Formal lending to agriculture in 2001 was estimated at about SDD 44 billion. About 58 percent of this credit was extended to irrigated agriculture, mainly for cotton production. Semi-mechanized rainfed agriculture and some large animal farms received about 40 percent, while traditional small-scale farmers received only 1-2 percent. The main sources of financing were the Ministry of Finance, Bank of Sudan, and commercial banks (especially the consortium). The government provided about 46 percent of the loans, equivalent to about half of Sudan's total revenues from direct taxation in 2001. In addition, the Ministry of Finance had considerable contingent liabilities through its guarantees of loans extended by commercial banks via the consortium.¹⁰¹

6.63 The conclusion is that one of the most serious deficiencies of the credit system is the highly skewed allocation against small-scale farmers, who account for the bulk of agricultural GDP. This inequity and its significant implications for the efficiency of the rainfed small-scale farming sector need to be addressed. An important part of the solution is reform of land policy, discussed previously.

E. NATURAL RESOURCE AND ENVIRONMENT STEWARDSHIP

6.64 The most serious environmental and natural resource management issues are deforestation and land degradation, which result in continued desertification.¹⁰² Large parts of Sudan have a fragile ecosystem associated with the arid climate and light sandy soils. Sustainable production in these areas is threatened by destructive land and forest management. Sudan experiences intense periodic droughts of long duration. There have been several major droughts in recent history. In addition to the climatic stress, deforestation linked to land clearing undertaken for semi-mechanized agriculture, for fuel wood, and charcoal production have also exerted considerable pressure on fragile eco-systems.

¹⁰¹ The consortium has not been able to stem the relative decline of commercial bank credit to the agricultural sector from 29 percent in 1998 to 22 percent in 2001.

¹⁰² H. Hassan. "The Global Mechanism: Sudan Road Map for NAP Implementation." Consultant Report, August-September 2001.

6.65 Expansion of mechanized farming into marginal (un-demarcated) lands is also known to have caused soil depletion or degradation. Soil compaction is another major issue, linked to the use of heavy machinery that is inappropriate for the soil structure. Large farms often belong to traders who have integrated farming in their trading operations. They seem to trade off long-term sustained productivity, requiring the maintenance of soil quality against short-term soil mining. The lack of land ownership titles is probably an important explanation for this short-term perspective of the large-scale farmers.

6.66 The main institutional responsibility for environmental and natural resource management lies with the Higher Council for Environment and Natural Resources (HCENR). Legal support for environmental policy measures was provided through legislative action and institutions such as the National Forests Act of 1989, the Environmental Policy Act of 2001, and the establishment of the National Forests Corporation. The Ministry of Agriculture and Forests has also established a Higher Council for the Environment. Specific measures being taken include forestation programs and encouragement of the use of alternative fuel sources, such as incentives to facilitate shifts from charcoal to gas stoves for cooking. But actions are minimal because of the lack of capacity.

6.67 International environmental obligations and regional environmental coordination, including Nile Basin Initiative, constitute additional instruments for environmental management. The Nile Basin Initiative includes an environmental component aimed at coordinating environmental policy, including water resource use and watershed management among the Nile riparian countries. The World Food Programme and Finnish bilateral aid have supported forest restocking programs. Some NGOs and UNSO have similarly helped with desertification control. To be sustainable, policies would need to include land reform and enlistment of the support of communities through consultation and campaigns to involve them in the management and maintenance of environmental resources. The advent of petroleum production poses additional environmental problems, which the government has yet to address. These include oil spills and environmental hazards associated with the laying of oil pipelines.

6.68 The main conclusion is that there is sufficient information about the environmental problems and their solutions in Sudan. There are also policies, and regulations in place to reduce environmental damage which is seriously endangering sustainable agriculture, but the institutions charged with implementing them are too weak. The real challenge is to enforce the existing laws and regulations effectively. That will require more effective administration and political commitment.

F. CONCLUSIONS AND ISSUES

6.69 Agriculture remains an important source of growth for the Sudanese economy and will probably sustain a 35 to 40 percent share of total GDP for many years to come. Consequently it will also remain the pre-eminent employer and source of income in rural areas and therefore a crucial factor in poverty reduction.

6.70 While prospects for agriculture are sound, the technical performance of many sub-sectors has been highly variable, despite the improved policy environment in which the macroeconomic environment improved markedly and most commodity markets were decontrolled. There was, for example, considerable deterioration over the last 10 years in results from the irrigation and semi-mechanized sub-sectors. On the other hand, the traditional farming and livestock sub-sectors turned in very good results, but these were based on a decade of relatively good rainfall, an increase in the area harvested and grazed, and no evidence of sustained improvements in productivity. The chapter, concluded that it is important to continue policy reforms that were started in the early 1990s aimed at improving production incentives

for farmers. The need to consider reforms in gum arabic and livestock marketing attracted particular mention. Also, a vigorous program of agricultural research aimed at developing technologies useful to small-scale farmers is urgent. Such technologies would provide the basis a transformation that will sustain growth, keep producers competitive in world markets, and provide improved livelihoods for farmers and pastoralists.

6.71 Another conclusion is that market reforms and technological change should be complemented by a program of land reform leading to structural change in the semi-mechanized and traditional rainfed areas leading to reductions in very large holdings that are at present not using land efficiently. At the same time, policies should allow small holdings not capable of providing a typical family with an adequate income to be increased in size. Land tenure arrangements such as the right to buy and sell lease rights, and the termination of long term leases on very large parcels of land as the leases fall due would make such structural changes possible – mainly through market forces. A restructuring of the rural sector should improve the economics of farming in rainfed agriculture (in northern and southern Sudan) and go hand in hand with a process of rural development that provides better social services in rural areas. It was also concluded that similar reforms, some of a more complex technical nature, are needed in the operation and management of the huge government-owned irrigation schemes in Sudan.

6.72 A major issue that needs to be addressed in the context of all the reforms is the improvement of infrastructure in rural areas. The improvements needed are mainly roads and other infrastructure related to the more efficient marketing of agricultural production, as well as water supplies. The core objective should be to reduce marketing margins which at present are very high. Improvements in irrigation infrastructure will also be justified when reforms in the operation and management of irrigation schemes have been agreed. Finally, a matter related to all of the issues mentioned above is the improvement of natural resource management. There is ample evidence of substantial damage to natural resources due to indiscriminate land clearing and the cutting of forests which has had a serious impact on the resource base for irrigated and rainfed agriculture. There are opportunities to act quickly on many natural resource management issues if the current laws were to be implemented.

7. HUMAN RESOURCE DEVELOPMENT

A. INTRODUCTION AND BACKGROUND

7.1 The last CEM prepared by the Bank in 1990 acknowledged that the quality and extent of social services, particularly health and education, had declined considerably over time as a result of cuts in the budget. It noted, for example, that real per capita expenditure on health care by the central government in 1987 was less than 50 percent of what it had been in 1975. The declining fiscal support caused deterioration in public health and education facilities, a declining number of qualified staff, and lower-quality services. At the same time, the public (particularly in rural areas) was being asked to increase contributions to the cost of basic services.¹⁰³

7.2 Although up-to-date information on human resource development in Sudan is thin, this chapter makes use of valuable data collected at the beginning of the 1990s in the Demographic and Health Survey 1989/1990, and at the end of the 1990s in the Safe Motherhood Survey – 1999, and the Multiple Indicators Cluster Survey – 2000 (MICS).¹⁰⁴ There is no intention, however, to make this an exhaustive review of human resource development in Sudan; rather, the focus is on what are judged to be the most important strategic issues the government could address, and which outside assistance could support in the near future.

7.3 The SMS, MICS, and other surveys show that there are currently major deficiencies in public and private health, education, water, and sanitation services. Comparisons of the status of current services with previous years are not always possible. Nevertheless, the limited data available show that the deterioration in Sudan's basic social services during the 1980s continued during the 1990s despite the considerable turnaround in the economy described in previous chapters. The deteriorating services have had a serious detrimental impact on social welfare.

7.4 The main conclusion of this chapter is that the stabilization of the economy during the 1990s was achieved to a large extent by constraining public expenditures on social services, seriously undermining the development of human capital. These services were once among the best in Sub-Saharan Africa. The central government now faces the challenge of reviving basic public health and education programs to their former stature while also establishing conditions that will stimulate a continued increase in private sector service providers. Domestic water supplies and sanitation are also in a perilous situation, leading to a heightened risk of disease. In addition, the position of women in society cries out for improvement. These are the challenges briefly addressed in this chapter.

¹⁰³ In collaboration with the government, the Bank is already preparing more detailed education and health sector status reports.

¹⁰⁴ Department of Statistics, Ministry of Economic and National Planning and Institute for Resource Development/Macro International Inc., *Sudan: Demographic and Health Survey 1989/1990*, May 1991; Federal Ministry of Health, Central Bureau of Statistics and United Nations Population Fund, *Safe Motherhood Survey-National Report- 1999*, September 2001; and United Nations Children's Fund and Central Bureau of Statistics, *Multiple Indicators Cluster Survey – 2000*, draft April 2001. A number of other documents have been consulted on health and education, and they are mentioned in the separate sections that follow.

B. HEALTH

Policy

7.5 **Main goals for the 1990s.** The central government's current health sector goals are found in the Comprehensive National Strategy (1992-2002). In 1992, the goals included generalizing the provision of basic health care to include prevention, treatment, and rehabilitation; decreasing child mortality to less than 20 per 1,000 live births, providing maternal health care throughout the country and improving its quality; eradicating chronic and contagious diseases resulting from malnutrition; preventing pollution to reduce its impact on health; achieving a 100 percent vaccination rate of children; rehabilitating hospitals to international standards; decreasing the incidence of sick leave to 20 percent; making medicines easily available; establishing industries to produce medical equipment; developing human resources for the health sector; and updating health information systems and improving health education and awareness. Because of the public health sector's weak capacity at the time, implementation was assigned by default to the private sector.

7.6 **Slim resources allocated to public health.** The government had ambitious goals, but they are far from being achieved. The weak of the public health service was a core reason for the dismal performance of the strategy. At the same time, central and state government expenditures on health were extremely low compared to those of nearby comparator countries. As noted already average annual expenditures for Sudan in 1998 and 1999 were about 0.8 percent of GDP. This compared to about 1.8 percent, 1.5 percent, and 1.0 percent in Egypt, Kenya, and Ethiopia, respectively.

7.7 **Future policy for public health in Sudan.** A new public health strategy, which will become part of the new comprehensive national strategy for 2003-2027, is being prepared for all of Sudan. Indications are that the future policy will emphasize the following:

- generate a political commitment to the importance of a strong civil service for public health matters;
- foster the collaborative integration of public and private health services based on an acceptance of the necessary role of the public sector with respect to matters such as infectious diseases, along with the important specialized and supportive role of the private sector;
- focus on strengthening community primary health services in rural areas;
- build the capacity of public health care institutions and improving incentives for health professionals to become engaged in public health on a long-term basis; and
- plan for strengthening and expanding a national health insurance program.

7.8 The next parts of this chapter review the most important challenges that the new strategy will need to address. As a conclusion, the question of a health sector strategy is revisited with some specific suggestions for future strategy and priority actions in response to the likely shape of challenges facing the health sector.

7.9 **Health policy in southern Sudan.** A health policy for southern Sudan came into effect on October 1, 1998.¹⁰⁵ The health policy was crafted at a two-day workshop during which versions of the policy were drafted and reviewed. The policy emphasizes health as a central development issue. Presumably this strategy and the one currently being developed in Khartoum will be aligned after the successful conclusion of the peace negotiations. The main features of the policy are as follows:

- Management, while centralized, will be slim and focused on coordination and management of international assistance. The primary health care system will be backed by an appropriate referral system and integrated with disease-specific programs. Emphasis will be on health promotion and prevention of diseases as well as proper use and control of drugs.
- Communities will be mobilized to play a major part in all aspects of health services. They will be expected gradually to shoulder an increasing share of the costs and hence reduce their dependence on outside sources.
- Human resource development will include reorientation of old and new health workers and communities in the concept of primary health care.
- The structure of the health care system is based on primary health care units providing preventive care and health promotion—county hospitals that will provide referral services supporting the primary health care units, and regional and national health services providing tertiary care—but they will be developed modestly as a secondary priority when resources are available.
- Services that have a predominantly public effect or deal with vulnerable sections of the population shall be provided free of direct charge.

Status of the Health Sector

7.10 **Challenging problems.**¹⁰⁶ Improving the health status of the population is a challenge because of Sudan's vast area, climatic diversity, and the considerable (largely uncontrolled) movement of people across its borders who carry communicable diseases with them which Sudan is ill-prepared to combat. It is therefore not surprising that, following the decline in public health services, many of Sudan's health indicators are among the lowest in Sub-Saharan Africa. The decline was associated with the dominant role of the public sector in the provision of health services for many years because of the earlier emphasis on nationalization of social and economic activity. In addition, the Federal Ministry of Health (FMOH) has been a weak ministry because of an ineffective structure, poorly trained staff, and inadequate funding in relation to its responsibilities. These weaknesses in public health services stimulated substantial investment in the private sector, including NGOs and agencies of the United Nations, to be discussed below. The capacity of the FMOH has recently improved, but the challenges facing it and the private sector remain immense.

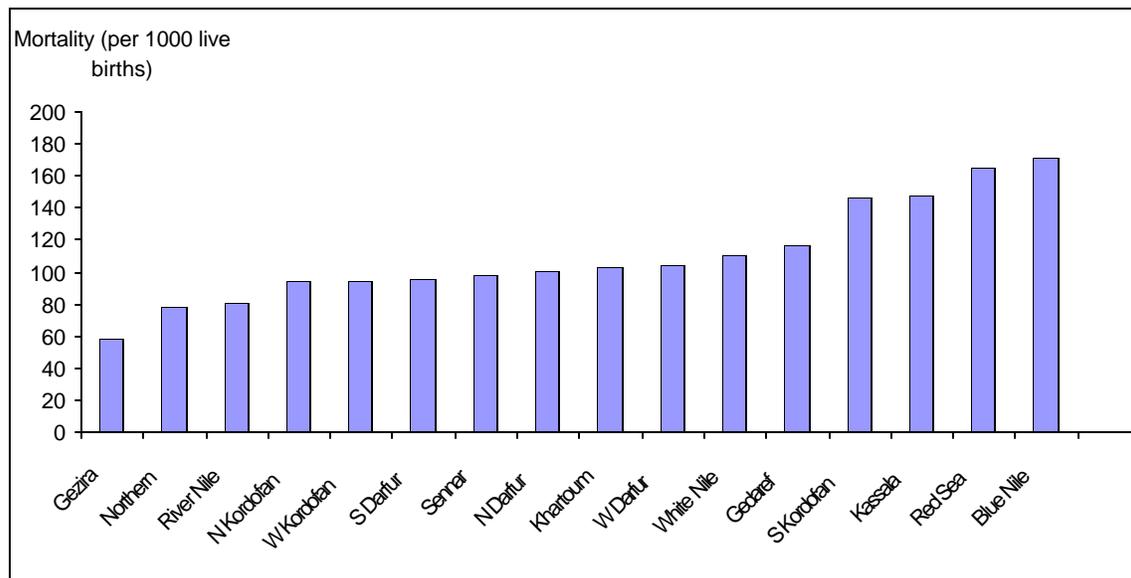
¹⁰⁵ Provisional Order No. 002/10/98, Health Policy in New Sudan, 1998, issued by the Chairman, National Executive Council and the National Liberation Council, SPLM and Commander in Chief, SPLA.

¹⁰⁶ Many of the issues and ideas in this section emerged from discussions between the Bank's CEM team and officials in the Federal Ministry of Health. Information from the SMS and MICS was valuable.

7.11 **Child mortality remains high.** The average under-five mortality rate in the early 1990s was about 123 per 1,000 live births.¹⁰⁷ Although it had declined by the late 1990s, it was still relatively high at 104. Child mortality was estimated at 38 per 1,000 live births, well short of the government’s optimistic objective to decrease child mortality to 20 per 1,000 live births. Male and female child mortality is about the same. While data for southern Sudan are not available for the early 1990s, the MICS estimated child mortality to be 54 per 1,000 live births, and under five mortality to be 132 per 1,000 live births in the late 1990s.

7.12 The average under five mortality rate (104 per 1,000 births), although lower than the Sub-Saharan Africa average of 162 per 1,000 births,¹⁰⁸ masks rates in Sudan that are sometimes higher than the SSA average, namely in South Kordofan, Kassala, Blue Nile, and Red Sea States (Figure 7.1). As the SMS notes, the average under five mortality rate (104 per 1,000 births), although lower than the Sub-Saharan Africa average of 162 per 1,000 births,¹⁰⁹ masks rates in Sudan that are sometimes higher than the SSA average, namely in South Kordofan, Kassala, Blue Nile, and Red Sea States (Figure 7.1). As the SMS notes, it is curious that in states like North and South Darfur and North and West Kordofan, where health services are expensive and difficult to come by, child mortality rates are lower than the average for Sudan. There seems to be no logical explanation for this, and note that North Darfur is identified as one of the states with the highest rate of severe wasting among children (Box 7.1). Infant mortality averaged 68 per 1,000 live births in northern Sudan compared to 82 in southern Sudan. Infant mortality in 1999 was lower than in 1990, when it was estimated to be 80 per 1,000 live births.¹¹⁰

Figure 7.1: Under-Five Mortality by States



Source: Multiple Cluster Indicators Survey, 2000

¹⁰⁷ United Nations Population Fund and Central Bureau of Statistics, *Safe Motherhood Survey*, 1999. The *Demographic and Health Survey for Sudan*, op cit. estimated under-five mortality at 143 per 1,000 in 1990.

¹⁰⁸ World Bank. “World Development Indicators, 2002.” April 2002.

¹⁰⁹ World Bank. “World Development Indicators, 2002.” April 2002.

¹¹⁰ *Demographic and Health Survey, Sudan, 1989/1990.*

7.13 While the reduction of under five mortality between 1990 and 1999 is encouraging, Sudan will not reach the MDG of a reduction by two-thirds from the 1990 level of under five mortality (41 per 1,000 live births) by 2015 unless the rate of reduction in child mortality declines faster. It will need to decline at a rate of 5.9 percent per annum from 1999 (the latest reliable data point) onward. Figure 7.2 shows trend lines based on the historical rate of decline (solid line) and the trend line required to meet the MDG for under-five mortality starting from 1999 (broken line). Obviously, the lines on this figure are very sensitive to the data being used; therefore, given that the data are rough estimates, the main point of this figure is to indicate the probable significant gap between an internationally agreed-upon target and the likely outcome on the basis of past trends. No estimate has been made of the fiscal and human resources required to achieve the MDG. Such an exercise would be useful if only to underline the need for adequate resources required to reduce the mortality of children at an internationally agreed-upon pace.

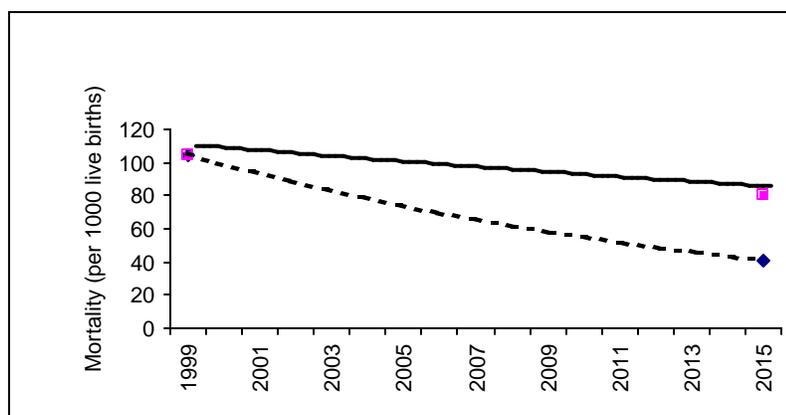
7.14 Heavy burden of disease among children.

The prospects for reducing infant, child, and maternal mortality are not good given the serious burden of children's disease. It is estimated that 63 percent of deaths among children under five are caused by pneumonia (26 percent), malaria (21 percent), diarrhea (9 percent), and malnutrition (7 percent).

The remaining causes in order of importance are dehydration, respiratory diseases, anemia, septicemia, CSM, and viral hepatitis.¹¹¹ Most of these causes are highly correlated with lifestyle, living conditions, and the nutritional deprivations experienced by the poor.

7.15 Malnutrition a chronic problem. Box 7.1 provides some crucial details about the nutritional status of children in Sudan. Malnutrition is a major concern throughout Sudan, despite food aid and relief assistance. In southern Sudan, the situation has improved since 1998/1999 during the peak of the famine. Malnutrition is particularly serious among children, though in some places the situation is better than in others. In government-held areas, malnutrition remains relatively stable. In Juba, Malakal, and Wau, the malnutrition rate is 17 percent. In non-government-controlled areas, malnutrition rates decreased steadily from 25 percent in mid-1998 to 7 percent at the end of 1999, following humanitarian response to the 1998 famine in Bahr El Ghazal. Malnutrition rates are worse in places of high insecurity where access to nutrition services is a major problem, such as Jonglei, Unity, and North Bahr El Ghazal States. In Unity State, for example, the malnutrition rate among children was 30 percent in 2000.¹¹²

Figure 7.2: Projections of Under-Five Mortality Based on Historical Trend and Trend Needed to Achieve MDG



¹¹¹ Ministry of Health, "A Study of the Status of Health Services in Sudan and their Compatibility with the Principles of Primary Health Care", August 17-September 19, 2001, unpublished, Khartoum, Sudan, Table 5, p. 23.

¹¹² United Nations. 2002. "Sudan: Inter-Agency Appeal 2002." Office for the Coordination of Humanitarian Affairs. New York and Geneva.

Box 7.1: Child Nutrition and Vitamin A

The MICS provides sobering information on children's nutritional status and intake of vitamin A.

Nutrition. Accurate data on the age of children could not be collected in the MICS because only 58 percent of children in the areas under government control have been registered or have a birth certificate. Hence, none of the nutritional measures involving a child's age could be determined. However, weight for height (a measure of wasting), usually determined by recent nutritional history, could be assessed using standard reference distributions. For government-controlled areas as a whole, almost one in nine children (11 percent) under the age of five was wasted, and 7 percent were evaluated as severely wasted. Young children (12-23 months) were the most severely wasted (close to 17 percent), with 12 percent severely wasted. In rural areas, 12 percent were severely wasted, with none only moderately wasted. In urban areas, 16 percent were moderately and severely wasted, but only 7 percent were severely wasted. The incidence of wasting among boys and girls was about the same. The worst states for severe wasting were West Kordofan and North Darfur. In non-government-controlled areas, close to 7 percent of children under five years old were wasted (as measured by mid- to upper-arm circumference of less than 125 mm) because of malnutrition. Jonglei had the highest levels of wasting. The main reasons for malnutrition in southern Sudan are high levels of insecurity, which lead to the destruction of food crops, and the frequent interruptions of food aid deliveries.

Vitamin A. Deficiency in vitamin A consumption can cause eye damage and blindness in children as well as impair their immune system. It was found that six months prior to the MICS only 44 percent of children with an estimated age of 6-59 months in government-controlled areas and 34 percent in the same age group in non-government-controlled areas had received the recommended high dose of vitamin A supplement. In government-controlled areas About 6 and 7 percent of children in Sudan had received a dose of vitamin A before 6 months of age, and 8 and 11 percent had received a vitamin A supplement at some time in the past but it was uncertain when Vitamin A supplementation is lower in rural areas than in urban areas and worst in the states of Southern and West Darfur and Malakal. The higher the mother's education, the better the chances that her children have received an adequate dose of vitamin A.

Source: Multiple Indicators Cluster Survey, 2000, op cit.

7.16 With the incidence of poverty probably between 50 and 75 percent depending on location (see Chapter 3), it is unlikely that health indicators can be improved without both a massive onslaught against Sudan's grinding poverty and a substantial improvement in health care services at the state level. Maternal mortality will be particularly difficult to reduce because mother and child health care facilities and services at the community level are weak, particularly in rural areas.

7.17 **High maternal mortality.** According to World Bank data, maternal mortality per 100,000 childbirths was 509 in 1993.¹¹³ Based on the most recent Safe Motherhood Survey, maternal mortality was estimated at 509 in 1999. These levels show a small decline from those estimated by the Demographic and Health Survey (DHS) in 1990 of 556. Maternal mortality in southern Sudan is estimated at 865 per 100,000 live births. If Sudan is to meet the MDG for

¹¹³ World Bank, "World Development Indicators, 2002," April 2002, Table 2.17, assuming the estimate was derived from the 1993 census. There is a higher "modeled" estimate made by the World Bank for Sudan for 1995 (1,500) but this is questioned by the Sudanese authorities. Such a high estimate is equal to or less than only four other countries in the world: Burundi (1,900), Chad (1,500), Ethiopia (1,800), and Sierra Leone (2,100) according to World Bank, "World Development Indicators 2002," April 2002.

maternal mortality, namely reducing it by three-quarters by 2015 (to 139 per 100,000) compared with its level in 1999 of 509, then maternal mortality would need to decline at the high rate of 6.8 percent per annum from its current level. An important part of the government's strategy for reducing maternal mortality is to increase the number of midwives. Data on health workers presented below show that the number of midwives has increased substantially in recent years. To accelerate the increase the government has established a crash training program for midwives. Midwife enrollment in 2001 was 1,750, which was an increase over an annual average of 300 in previous years.

7.18 **Malaria.** Malaria is the most serious health problem. An estimated 7-7.5 million cases of malaria occur annually. It accounts for about 21 percent of all diseases seen at outpatient departments in health facilities throughout Sudan, ranging from 14 to 25 percent according to location. Malaria accounts for 32 percent of all inpatient cases and is responsible for 20 percent of hospital deaths, which is equivalent to about 35,000 people annually. Malaria is also a major cause of child mortality. Sudan has associated itself with the global strategy for malaria control and has endorsed the international Roll Back Malaria (RBM) initiative as the organizing principle for its own National Protocol and Treatment Plan for malaria.

7.19 The main features of the RBM are early diagnosis and prompt treatment. Although a national protocol has been established,¹¹⁴ the government acknowledges that the provision of these services is not yet satisfactory. There is no doubt that increased resources for the National Malaria Administration are required to give it the capacity to tackle this serious public health hazard through better monitoring and evaluation and dissemination of information about preventive measures and the dangers of malaria. An example of the need for preventive measures comes from the MICS in southern Sudan, where malaria is a particularly serious problem. It was found that, on average, 64 percent of children under five do not sleep under a bed net. Even in the heavily malaria infested Lakes Region, some 32 percent do not sleep under a bed net.

7.20 **Other diseases and parasites.** Next to malaria, but much less important in terms of incidence, are tuberculosis, meningitis, typhoid fever, schistosomiasis, and Leishmaniasis, for which people are treated as inpatients in hospitals. There are standard preventive and curative protocols for these afflictions. For these and other diseases and parasites, the capacity of the public health care system to deal with the numerous cases (particularly in rural areas) is weak.

7.21 A feature of the disease situation in southern Sudan, reflecting the lack of access to health facilities and underdevelopment, is that there are a number of tropical diseases that have been eradicated or brought under control elsewhere in the world. The nature of the tropical environment, weak institutions, insecurity, and inadequate health infrastructure have made disease control extremely difficult. Tropical diseases include trypanosomiasis, better known as sleeping sickness¹¹⁵ (which is currently rare in the world but under control in only few other African countries), leprosy,¹¹⁶ river blindness, and guinea worm.¹¹⁷ In addition, polio is also

¹¹⁴ National Malaria Administration, Federal Ministry of Health.

¹¹⁵ Affects Angola, Cameroon, Central African Republic, Chad, the Republic of Congo, Côte d'Ivoire, the Democratic Republic of Congo, Guinea, and Uganda.

¹¹⁶ Leprosy is a disease that invades and causes significant irreversible damage to peripheral nerves, leaving patients with disabilities and deformities.

¹¹⁷ According to WHO, it is the only parasitic disease that may be totally eradicated from the world in the near future. Global incidence decreased from millions in 1980s to a mere 75,223 known cases in year 2000, 73 percent of which were noticed in Sudan.

prevalent.¹¹⁸ There are ongoing international humanitarian efforts in the southern Sudan to reduce the impact of these diseases.¹¹⁹

7.22 The incidence of HIV/AIDS was estimated by the Ministry of Health at about 1.6 percent in 2002, which is extraordinarily low by SSA standards.¹²⁰ Sudan is, however, highly vulnerable to the spread of HIV infection because of its proximity to countries that have a high incidence of infection and because of the large flow of people between these countries and Sudan. This vulnerability is accentuated by inadequate understanding of the causes of HIV infections among the population. For example, while 61 percent of urban women ages 15-49 had heard of HIV/AIDS in 2000, only 28 percent of rural women had heard about it. There are no data for rural areas in southern Sudan, but 67 percent of women in the government-controlled towns of Juba, Wau, and Malakal had heard of HIV/AIDS. Even though women had heard of HIV/AIDS, their understanding of the disease was minimal, as shown in Table 7.1. There is also evidence that the proportion of women who have ever heard of AIDS increases as living standards increase.¹²¹ These findings provide a strong argument for intensive dissemination of information about HIV/AIDS throughout Sudan. Soldiers are reputed to have a high incidence of HIV infections. They could become dangerous vectors across Sudan following their demobilization in the wake of a peace agreement.

Table 7.1: Percentage of Women Ages 15-49 Who Have Knowledge of HIV/AIDS (2000)

Region	Heard of HIV/AIDS	Know two ways to prevent HIV transmission	Correctly identify three misconceptions about HIV transmission (percent)	Have sufficient knowledge about HIV/AIDS
Northern - Urban	61.2	15.7	11.4	4.1
Northern - Rural	28.3	5.7	3.1	1.2
Southern - Urban	66.6	12.9	4.8	1.8
Southern Sudan	43.2	n.a.	n.a.	n.a.

Source: Multiple Indicators Cluster Survey, 2000, op cit. Data for southern urban are for the central government-controlled towns of Juba, Wau, and Malakal. Note that the information for northern and southern Sudan comes from a different MICS (one for northern Sudan and government-controlled areas in southern Sudan; the other for southern Sudan other than the central government-controlled areas). These surveys were done with different questionnaires and are therefore not directly comparable.

7.23 There has been a vigorous response to the threat of HIV/AIDS. The federal government has established a National AIDS Control Program and has involved UN agencies that are coordinated by a United Nations Country Thematic Group (UNCTG).¹²² The joint government-UN HIV/AIDS program aims to: (i) promote effective coordination mechanisms to use available resources in support of sexually transmitted infections (STI)/HIV/AIDS interventions among all stakeholders; (ii) prevent and reduce the exposure to the risk of STI/HIV/AIDS; (iii) improve management and care for STI/HIV/AIDS-infected persons; and (iv) advocate a heightened concern about HIV/AIDS throughout Sudan and raise the awareness of politicians, policymakers, decision-makers, and the community at large about the problem of AIDS and its potentially

¹¹⁸ Polio eradication in the world has been successful in that it drastically reduced the global incidence of the disease from an estimated 350,000 cases in 1988 in 125 countries to just 2,881 cases reported in 2000 in 20 countries. The goal is to make the world polio free by 2005. The remaining polio-endemic countries include Afghanistan, Angola, the Democratic Republic of Congo, Somalia, and Sudan.

¹¹⁹ The Carter Center, for example, has been involved in eradicating guinea worm disease.

¹²⁰ "HIV/AIDS Behavioral, Epidemiological Survey and Response Analysis", Ministry of Health, November 2002.

¹²¹ Patrick Mullen. "HIV/AIDS in Sudan and Possible World Bank Action," draft Discussion Paper, 2 January, 2002.

¹²² Members of this group are WHO, UNAIDS, UNICEF, UNFPA, WFP, FAO, UNIDO, and UNDP

devastating impact, and to support the National AIDS Control Program's efforts in breaking the silence about the epidemic.

7.24 **Immunization programs.** According to an as yet unpublished recent report on primary health care services in Sudan, inoculation coverage of children under one year old in 2001 was 66 percent for BCG, 65 percent for the three-in-one inoculation, 65 percent for the third dose of polio, 61 percent for measles, and 37 percent for the second dose of tetanus. These percentage coverage rates compare with percentages in 1990 of 96, 79, 75, and 43 percent, respectively. The deterioration in coverage has been attributed to shortages of funds, problems with the cold chain (30 percent of refrigerators out of order and 55 percent of the solar-powered refrigerators out of order because of problems with spare parts and maintenance), and the transfer of federal and state government staff to the polio inoculation campaign. The polio campaign achieved an 86 percent coverage in 2000, but it is acknowledged to have had a negative impact on the general immunization program.¹²³ Anxious parents cannot possibly be comforted by such tradeoffs.

Trends in Health Services

7.25 Compared with the 1980s, access of the Sudanese people to basic health services deteriorated considerably during the 1990s. By all accounts, the public health care system is inefficient and good care in the private sector is expensive. As a result, those who can afford it go to countries such as Jordan to seek advice and treatment for chronic and acute health problems. Public primary health care clinics have proliferated, but a large proportion of them are not functioning because of lack of staff or medical supplies. In addition, the quality of primary services, especially in rural areas, has declined. There is also no formal referral system. As a result, hospitals have become part of the primary health care system, which is probably not the most efficient way to use hospital facilities. On the other hand, given the shortage of qualified staff for primary health care facilities and the unavailability of funds to keep them operating, using hospitals is the only way that basic health care can be provided in rural areas. Measurement of the trend in service delivery can take various forms, but important indicators are the availability of physical facilities and professional staff in relation to the population. They are reviewed briefly in the following paragraphs.

7.26 **Health facilities.** National trends in the availability of public health facilities over the last decade are summarized in Figure 7.3, which shows some important features. First, there was a steady increase in the number of primary health care centers and clinics of 47 percent between 1989 and 2000, which was equivalent to an average increase of 3.6 percent per annum—much more than the rate of population growth. Second, there was an increase of 50 percent in the number of public hospitals (an average increase of 3.8 percent per annum)—also more than the rate of population growth. Though not shown in the figure, there has been an increase of 20 percent in the number of hospital beds since 1998 (a rate of 1.7 percent per annum).¹²⁴ On a national basis, the number of beds is equivalent to about one bed per 1,000 people in 2000. This compares with a ratio of half a bed per 1,000 people in Egypt and around 10 per 1,000 in middle-income European countries.¹²⁵

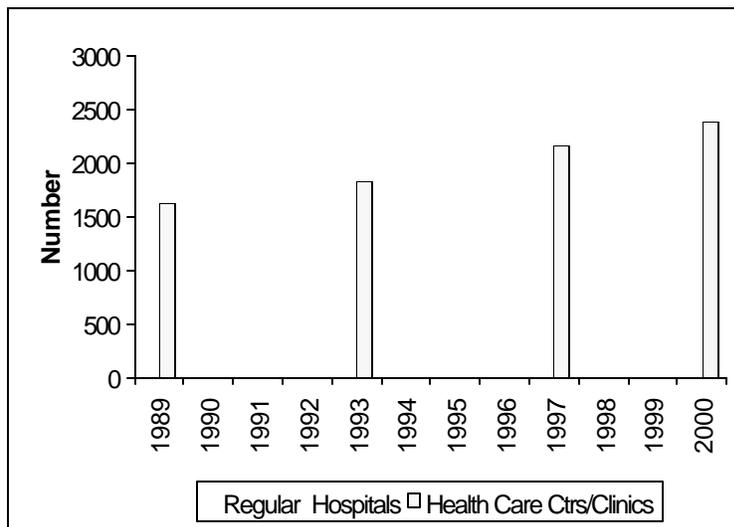
¹²³ "A Study on Health Services in Sudan and their Compatibility with the Principles of Primary Health Care." August/September 2001, op cit., Table 9, pp. 3 and 27.

¹²⁴ Ministry of Health. "Study of Health Services in Sudan," August/September 2001.

¹²⁵ For example Russia and Hungary have, respectively, about 12 and 9 beds per 1,000 people.

7.27 The most important part of the story, however, is the distribution of these health care facilities. The increase in the number of health centers and clinics has been almost exclusively in urban areas. To make matters worse, the number of operational primary health units is probably an overestimate because it is widely accepted that numerous rural health care centers and clinics are closed because of a shortage of funds and trained staff.¹²⁶ The increase in the number of hospitals has also been mainly an urban phenomenon, and there the number of private hospitals has been a significant part of the increase. These private hospitals have been smaller than the average public hospital.

Figure 7.3: Public Hospitals and Health Centers/Clinics Northern states



Source: Ministry of Health

7.28 In 2002, Khartoum and Gezira States had 85 hospitals that accounted for 27 percent of the total hospitals in all of Sudan, which is consistent with the proportion of the total population in these states (26 percent). Although data on the number of hospital beds in these two states are not available, there is no doubt that their share of total beds is far in excess of their share of Sudan's total population because these two states account for the largest hospitals in Sudan. The urban bias in these trends in health centers, clinics, and hospitals has resulted in a substantial drop in the relative access of rural people to health care facilities at all levels, compared with a substantial rise in access of the urban population to a broader range of more sophisticated facilities. The unequal distribution of health care facilities is understood to have contributed to the substantial rural to urban migration in recent years.

7.29 Reversing the deterioration of rural health care services must be part of any strategy for improving national health services. The government's view is that priority spending on revitalizing and expanding primary health care facilities, including dispensaries, rural health centers, and rural hospitals, is the most practical means of attaining the objectives of the current strategic plan and ensuring access of the poor to primary health care. The services offered should include maternal health and safe motherhood interventions; family planning; IMCI; malaria treatment; TB treatment; education on HIV/AIDS, STIs, and EPI, plus programs to address non-communicable diseases and school health.¹²⁷ While such a public sector-driven program could be successful if adequately funded, experience shows that funding for operating costs soon becomes a serious problem. On the other hand, private health services could play an important role and are often more efficient. It is possible that private capital could be attracted to building and

¹²⁶ For example, the CEM team was advised in mid-March 2002 that in North Kordofan close to 50 percent of primary health care units were not functioning because of budget constraints.

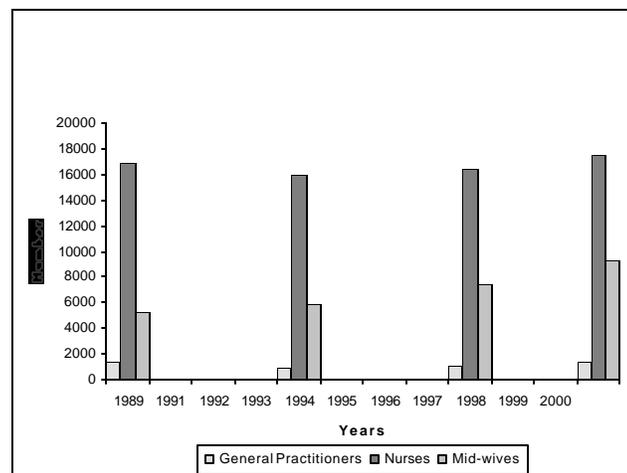
¹²⁷ Government comments on the draft CEM sent to the World Bank on March 18, 2003.

managing a number of primary health care units and rural hospitals, particularly if, for a period of say 10 years, there is a moratorium on the construction or expansion of public and private hospitals in designated urban areas such as Khartoum.

7.30 Such an arrangement would, of course, have two major implications. First, hospital staff would need to be attracted to rural hospitals. That might require some incentives from either the public or private sector and a supply of qualified staff such as physicians, nurses, technicians, and administrative staff. An incentive system for physicians at public hospitals in rural areas is already in place and implemented by the FMOH. As shown below, there is no shortage of trained medical professionals so long as they do not leave to work in the Gulf countries, but clearly the suggestion that rural hospitals become a core part of the national primary health care system needs to be studied. The government might wish to consider this option seriously until, with increased financing and enhanced prosperity and capacity in communities, community primary health care units can reclaim their traditional role.

7.31 A number of NGOs and UN agencies have established and financed programs, particularly in rural areas, to bolster health care services for specific, important problems. It is not feasible to describe and evaluate all the donor supported programs or even the many joint programs between the government and various private organizations and UN agencies. There are, for example joint programs between the government and NGOs on schistosomiasis (Gates Foundation), Leishmaniasis (Médecins sans Frontières-Holland), and malaria (WHO, UNICEF, MSF-Holland) in the context of the Roll Back Malaria program, as well as between WHO and the government on various national immunization programs. While information on the scope and impact of these activities is not readily available, they are highly valued additions to the regular government programs.¹²⁸

Figure 7.4: General Practitioners, Nurses, and Mid-wives



Source: Ministry of Health

7.32 **Health workers.** The number of nurses and general practitioners has declined in relation to population growth. Annex Table 1.8 and Figure 7.4 show the trends.¹²⁹ The total number of nurses employed, after declining in the mid 1990s, has increased by only 3.4 percent over the last decade (equivalent to a rate of only 0.3 percent per annum,) and the number of general practitioners has increased by only 2.7 percent (a rate of 0.6 percent per annum).¹³⁰ On the other

¹²⁸ WHO and UNICEF have also, for example, held numerous workshops and provided considerable technical assistance to the government in order to assist with many health care management and program implementation issues.

¹²⁹ Ministry of Health. "Study of Health Services in Sudan," August/September 2001.

¹³⁰ It is worth noting that, according to the FMOH, there were only three medical schools in 1989 with a total enrollment of about 300. In 2002, there were 24 medical schools with a total enrollment of about 1,450. The annual number of medical graduates at present is about 1,000 per year. This compares with about 4,990 general practitioners and 810 specialists registered in 2000. It is unlikely that there is an annual 20 percent annual turnover in general

hand, the number of midwives has increased by 75 percent (a rate of 5.2 percent per annum). The growth in these three health professional groups compares with the growth in Sudan's population during the 1990s of about 2.6 percent per annum. It is not known what the distribution of these staff has been between rural and urban areas, but evidence from reliable sources in the health sector indicates that staffing in rural areas is much weaker compared with urban areas.

7.33 The skewed distribution of general practitioners is shown by their concentration in Khartoum state (35 per 100,000 people) compared with North Kordofan (5.5 per 100,000 people) and South Kordofan (1.7 per 100,000 people). The main reasons for the large differences among states are the substantially lower incentives and working conditions for health care professionals in rural areas compared to urban areas. There is no information available on the staffing of formal health services in southern Sudan, but it is known to be meager and focused on government-controlled areas. The majority of health services for the rest of southern Sudan are provided by NGOs.

7.34 **Limited health insurance.** There is at present in Sudan a national health insurance scheme implemented by the National Insurance Corporation. This scheme insures government employees and covers 100 percent of the cost of treatment (including dental services), while the client pays 25 percent of the cost of drugs. Members of this scheme pay 4 percent of their annual salary as a premium, and the government contributes 6 percent of the employee's annual salary. Employees in the formal private sector can also become members of this scheme, but it is understood that only about 6 percent of the total population is enrolled.

7.35 For most people, there is an informal system that can cover health service costs whereby clients pay a fee to the health care provider on the basis of their ability to pay, which may or may not cover the cost of services. Obviously, the amount paid varies considerably. There is also a Student Support Fund underwritten by the government that insures university students. University staff can enroll with the National Insurance Corporation. In addition, the Zakat Fund (see Chapter 5) and the Martyr Organization give support to the poor and cover the cost of insuring the families of martyrs.

7.36 Another system is the revolving medicine system, in which clients pay the price of low-cost generic medicine. There is also a scheme that provides free health services for emergencies and accidents in all government health care institutions, but the budget support for this program is scarce and funding varies on a case-by-case basis. The program is still being evaluated. Typically, most of these programs are urban and the provision for rural health care under any of them will be meager. The inevitable implication is that the absence of an effective health insurance scheme in rural areas will be a strong disincentive for private physicians to practice there. This is a major issue for the health care system. At the same time increased public service is not a sustainable solution without an enormous allocation of resources from the budget.

Future Strategies for Health Care Improvement

7.37 **Indicative costs.** Contemporary estimates indicate that US\$35 per year per person per annum is the typical minimum cost of basic health care in SSA.¹³¹ If this cost were adopted as the

practitioners; it is therefore clear that a large proportion of medical graduates leave Sudan each year to practice in other countries.

¹³¹See "Macroeconomics and health: Investing in Health for Economic Development," Report of the Commission on Macroeconomics and Health, presented by Jeffrey Sachs. WHO has estimated that the cost of drugs alone for SSA is currently an average of US\$5 per capita per year.

target for Sudan, the total expenditures for adequate public health services in Sudan would come to about \$1.1 billion, which would be equivalent to about 8.5 percent of GDP in 2002. Such a level of annual public expenditure on health is clearly out of the question for Sudan at present, but there should also be no doubt that public expenditures on health services at a level of 0.7 percent of GDP (or about US\$3 per person per year) are unacceptably low. The level of spending needs to be gradually increased and priorities need to be set to make the best use of the resources available in the different states.¹³²

7.38 Important elements of strategy. The beginning of this section indicated the likely trend of future government strategy for health care. This CEM suggests that there are five important elements for a strategy to improve the availability and quality of health care in Sudan. They are as follows:

- The government should clearly establish which health care services it will take responsibility for and which services it will leave to the private sector. Core responsibilities for the federal and state governments would typically be national immunization programs to control communicable diseases and epidemics, research and dissemination of information on better health, and establishment of standards and inspection of public and private health care facilities. All of these core activities have substantial *externalities* benefiting many people “across the board.”
- The federal government should, in collaboration with state health ministries, formulate a strategy for developing the most efficient future federal-state structure for the health sector.
 - One of the strategic issues is the relative importance given to primary, secondary, and tertiary health care facilities in the short and long terms. The main focus should be on primary health care. Therefore, local governments, communities, and the private sector should be encouraged to facilitate growth in the number of primary health centers in cities and towns in step with the capacity of communities to support them. It may be, however, that in light of the current financial and manpower constraints in rural areas, the funding of an expansion in a country-wide primary health care system is not feasible and that a more efficient option is improved capacity and quality of services in the approximately 300 rural hospitals that exist already. They, as well as additional private rural hospitals, could become the core of the rural health care system along with improved satellite primary health care centers as funds and staff become available. If the emphasis is to be on primary health care and rural hospitals, a logical policy would be to freeze the capacity of tertiary hospitals in major urban areas such as Khartoum for at least 10 years until rural hospitals have matured into sustainable institutions (see paragraph 7.26).

¹³² An earlier part of this report drew attention to the presidential decree in 1991 that established a federal system of government. Under this decree, state and community health services became the responsibility of the states. Under the current circumstance, however, the federal government controls most of the financing and also has control over standards. As state institutions mature, it is anticipated that states will achieve more independence with respect to the funding and management of health services. Sustained financing of health care services at the state level will ultimately support the operation of rural hospitals by the states in major rural towns. This should not preclude the establishment of private hospitals and health centers.

- A related strategic issue is the development of an effective referral system within the chosen structure of the health care system to improve the efficiency of public and private health care providers and to increase access of the rural and urban poor to health care services.
 - The introduction of cost recovery for health services in the federal and state institutions should be considered. While full cost recovery will probably not be feasible in the short run for primary health care, it should be a medium- to long-term goal for all levels of health care on a capacity-to-pay basis.
 - Under current circumstances, in which the federal and state budgets are under severe stress and disposable incomes of potential members are extremely low, any national health insurance program would need to proceed cautiously on the basis of careful research into the potential benefits and costs of such a program. The private sector should be encouraged to enter the health insurance field.
 - The government should increasingly encourage private entrepreneurs to become involved in the health care sector, particularly but not exclusively, by declaring areas where the government will not be involved. In view of the strategy options set out in the previous paragraphs, high-priority activities for the federal and state governments include: (i) evaluating the strategic options for the future priorities and structure of the health sector; (ii) strengthening the planning capacities of the federal and state health ministries so they can act on agreed-upon priorities within an improved health care structure; (iii) attacking the increasing threat of malaria; and (iv) disseminating widely and rapidly essential information about the causes of HIV infection. The next sub-paragraphs provide an outline of activities that could speed up action on these priorities.
- (i) **Evaluate the policy and strategic options; determine priorities and future structure of the health sector.** This activity should evaluate the main missions for the FMOH and the state health ministries, then analyze the costs and benefits of various options for restructuring the public health sector in relation to its expected future role and the role of private health care providers.
- (ii) **Health strategy implementation: capacity building and monitoring of results.** The objective of this activity would be to strengthen the capacity of the Departments of Planning in the federal and state health ministries to implement federal and state strategic priorities in the health sector and to boost efficiency.
- The priority activity at the federal government level would be to consult with the states and agree on a framework for implementation of the agreed-upon health sector strategy.
 - At the state level, the priority should be to undertake needs assessments within the agreed-upon framework and to prepare priority action plans for implementation.¹³³

¹³³ At present, ad hoc arrangements are put in place when additional resources are available such as funds made available from the Poverty Reduction Program funded directly by the Ministry of Finance and National Economy.

- Action plans should be accompanied by tied funding arrangements to implement specified public health services such as immunization programs.
 - Assistance should be provided to strengthen and institutionalize more effective planning procedures at federal and state health ministries to improve the efficiency with which regular budgets are planned and used to improve primary health centers in Sudan. The long run objective should be independent state authority over health care services based on their responsibilities for public health, reliable financing, and improved implementation capacity.
- (iii) **HIV/AIDS prevention: capacity building for dissemination, monitoring, and evaluation.** Sudan is considered highly vulnerable to the spread of HIV infections because of its proximity to countries that have a high incidence of infection and the large flow of people between these countries and Sudan. In 1997, the United Nations offered to assist the government in implementing its National AIDS Control Program. The following are key aspects of the program:
- Raising the awareness of politicians, policymakers and decision-makers, and the community at large about the causes of AIDS and its impact.
 - Assistance to the National AIDS Control Program to increase the resources allocated to dissemination of information about HIV/AIDS and also to assist in its monitoring and evaluation programs.
 - Special programs should be considered for ex-combatants.
 - Subsequent areas of activity could include a multisectoral response to HIV/AIDS with stronger links to civil society and the private sector, as well as ensuring the safety of blood supplies, the prevention of mother-to-child transmission, and possibly the introduction of antiretroviral treatment.
- (iv) **Malaria prevention: capacity building and analysis.** Sudan has a National Malaria Action Plan managed by the National Malaria Administration as part of a worldwide Roll Back Malaria (RBM) program. Surveillance and early warning mechanisms are inadequate because of lack of a sound health information system, weak staff capacity, and poor laboratory services and diagnosis. The objectives for support to the plan would be to reduce the risk of malaria transmission in Sudan through a few key actions:
- Formation of a strong partnership for RBM implementation between the central and state governments through the establishment of a Country Coordinating Mechanism (CCM) at the central government level, and interagency coordinating committees at the state level.
 - Monitoring progress toward the RBM objective of reducing the incidence of malaria by measuring a number of indicators such as the incidence of malaria, hospital admissions because of malaria, deaths from malaria, and mosquito counts in specified locations.
 - Providing assistance to the National Malaria Action Plan to strengthen monitoring and evaluation capacity of the incidence of malaria and to provide resources to establish an effective early warning system that could result in a considerable saving of lives.

C. EDUCATION

7.39 Since 1994, the states have been responsible for education at the basic and secondary level with support from the central Ministry of Education (MOE).¹³⁴ The central government retains responsibility for tertiary and diploma-level education. Currently, there is a separate Ministry for Higher Education and Scientific Research, although before 1995 the responsibility for basic, secondary, and tertiary education was in the same ministry. There are numerous private educational institutions, including the traditional Koran schools, which operate at all levels including preschool.

Policy

7.40 **Education for All.** In the wake of the Jomtien International Conference on Education in Thailand in March 1990, the government's education policy has been to implement the resolutions of the conference, namely to achieve "Education for All" (EFA). This objective has now been absorbed in the MDG for education, namely to ensure that by 2015 children everywhere, boys and girls alike, will be able to complete a full course of primary schooling.

7.41 The EFA policy was embodied in an act entitled Comprehensive National Strategy for the Education Sector, 1992, which established the following objectives:

- Enroll all children age six and above by 1998.
- Decrease illiteracy to only 10 percent by 2000, emphasizing the eradication of illiteracy among women.
- Widen the scope of preschooling through public preschools, Koran schools, and nonformal education by 2000.
- Promote opportunities for education, with special emphasis on the education of deprived groups, and eradicate the disparities in education between males and females by the beginning of 2001.
- Improve the quality of basic education through teacher training, upgrading of academic standards, and making text books available.

7.42 **Current policy.** In 2001, the government passed the General Education Planning and Organization Act and, although there were some similarities with the 1992 act, there were some important additional areas of emphasis such as the new responsibilities of the states and the potential role of communities in support of local education. Its main provisions were:

- The rights of Sudanese children to education at a number of levels from preschool to secondary level.
- The relevance of formal and nonformal education.
- The demarcation of powers and management responsibilities between the central government and the states, including the authority of the central Ministry of Education to specify teachers' qualifications at all levels of education.

¹³⁴ In 1992, the education ladder was changed from 6-3-3 to 2-8-3, and preschool education also became part of the educational system (Resolution of the Council of Ministers, No. 1799, 11 April, 1990). Hence, there are four levels of education: preschool, basic, secondary, and tertiary.

- The requirement of government and private schools to “implement the national curriculum”.
- The encouragement of communities to contribute to the expansion of education by setting up private schools.

7.43 Education for all at the basic level has been an explicit government objective since the early 1990s. On the other hand, the results, as measured by access to and the quality of education services as well as the qualitative and quantitative outcome indicators, have not been up to expectations. The target was only partly achieved by the year 2000. This represented a massive failure because there was no significant increase in the primary school enrollment rate at the basic level during the 1990s.¹³⁵ The reasons were on both the supply and the demand sides. The government has noted that the reasons included civil war, low retention rates, and high population growth rates. Also, pupils from SPLA areas are not counted in the national average enrollments, but these children are implicitly counted in the denominator in calculating enrollment rates.¹³⁶

7.44 **Policy in SPLM-controlled areas** . The SPLM developed an Education Policy for the New Sudan in 1994. Recently, an education master plan for 2002-2007 has been released. The main goals of the plan are as follows:

- Improve access to primary education, adult literacy programs, and education for soldiers. Strategies for achieving these goals are the establishment of more schools, early childhood education, a focus on women, and the use of new technologies.
- Improve the quality of primary and secondary education, offer more technical and vocational training, and establish standards through teacher education and development and an examination and certification system. Strategies for achieving these goals include improvements in the learning environment, curriculum development teacher training, and the development of tertiary education.
- Enhance local ownership and improvements to the education authorities through promoting a culture of self-reliance and capacity building at all levels of the education system. Strategies for achieving this goal include human resource development, strengthening community institutions, and developing local financing schemes to finance education.
- Achieve equity in education by improving fairness and a regional, gender, and ethnic balance in education. Strategies for achieving this goal include focusing on the underprivileged, hard-to-reach areas in education, girls and women, and the use of alternative modes of education.

7.45 The policy also acknowledges a number of cross-cutting issues such as peace and environmental education, HIV/AIDS awareness, and education of SPLA soldiers as well as IDPs

¹³⁵ World Bank Report 4747-SU. “Third Education Project in the Democratic Republic of Sudan”, February 10, 1984, noted that in 1982 the average gross enrollment rate in primary schools was 51 percent and 16 percent in secondary schools.

¹³⁶ Communication from the government dated 18 March, 2003.

and returnees. It is also pointed out that there will be a need for special programs for the integration of SPLA soldiers.

Public Expenditures and Services

7.46 **Low allocations.** One of the reasons behind the deterioration in the education sector was the low level of funding. In the 1980s, the total recurrent government budget (central and regional) for social services was around 3.5 percent of the total budget, with the exception of two years when the proportion plummeted because of extraordinary debt service and military and miscellaneous expenditures.¹³⁷ No separate estimates are available for education, but social services included education, health, and housing and thus recurrent expenditures for education alone were probably about 1 percent of total government recurrent budgets during the 1980s. This was very much lower than the proportion in comparator countries and for Sub-Saharan Africa at the time. Of course, the levels of enrollments in southern Sudan have been decimated by the war, but there has been a considerable resurgence in the availability of primary schools that have been established and financed by local communities and with the assistance of many volunteer teachers.

7.47 By way of comparison, the percentage of total government (federal, state, and local communities) recurrent expenditures increased considerably by the late 1990s. It was 15.7 percent in 1998 but dropped to 9.6 percent in 2000.¹³⁸ It is not clear why this drop occurred. It may have been because the large construction, equipment, and recruitment program associated with the rapid expansion of universities reached a peak in 1997/1998. At the same time, the number of primary and middle schools together (defined as basic education for the purposes of the CEM) increased modestly at a rate of 3.2 percent per annum (about half a percent above the population growth rate) after 1998. In short, the capital expenditure program in the education sector was minimal in the late 1990s.¹³⁹ For the federal government alone, recurrent expenditures for education were 7.3 percent of the total in 1998, dropping slightly to 6.9 percent in 2001 compared to 7.3 percent in 1998.

7.48 The federal and state government recurrent and capital expenditures for all levels of education amounted to 1.5, 1.0 and 1.1 percent of GDP for 1998, 1999, and 2000, respectively.¹⁴⁰ This proportion is far less than the generally accepted norms for public expenditures on education. There can be little doubt that the federal and state governments have been allocating inadequate resources to school construction, equipment, running costs, and teacher salaries. The development budget for education is also a small proportion of the total expenditures.

¹³⁷ World Bank Report No. 8414-SU. "Sudan: Reversing the Economic Decline – Country Economic Memorandum," July 1990, p. 35.

¹³⁸ Data for 2001 were not available at the time this report was being prepared.

¹³⁹ Chapter 4 (Table 4.5) shows the actual federal government capital expenditures on education as 0.6 percent of the total in 1998, rising to 1.5 percent in 2001.

¹⁴⁰ See Chapter 4, Table 4.4. An earlier estimate by the Federal Ministry of Education indicated that public spending on basic education as a percentage of GNP was 1.8 percent in 1998 ("Sudan: Education for All 2000 Assessment", October 1999, op cit). This estimate for basic (primary and early secondary) education alone would imply a much larger proportion for all levels of education compared with the estimate reported in paragraph 8.44. On the other hand, the World Development Indicators (World Bank 2002) show that for 1998 the expenditures on education were 0.9 percent of gross national income. These variations in data underline the importance of a comprehensive public expenditure review in Sudan.

7.49 **Budget allocations for different levels.** Aggregate expenditures do not reveal the allocations between different levels of education. A tabulation of government expenditures in the education sector in 2001 in Sudan (Table 7.2) showed that allocations to basic education (primary and middle levels) was 59 percent of the total, for secondary education it was 11 percent, and for higher education it was about 10 percent. There are no such data available for southern Sudan; there are no universities operating there at present.

7.50 Table 7.2 shows that the recurrent expenditures per student in public primary schools is only SDD 10,752 per student (equivalent to about US\$42.2 per student). This compares with SDD 54,264 (equivalent to US\$213 per student) for higher education. The expenditures for higher education are a mixture of amounts allocated to diploma education and university education. Separate expenditure data are not available for these two groups, but it is known that diploma students represent close to 64 percent of the higher education students. Of course, the cost of education for diploma students is lower than for university students. The allocation to secondary schooling is the equivalent of US\$59 per student. These are all low-unit budget allocations by Sub-Saharan African standards.

**Table 7.2: Annual Recurrent Costs for Education at Public Institutions
(2001)**

Education Level	Recurrent expenditures (SDD billion)	Shares (percent)	Students (number)	Spending per student (SDD /capita)	Spending per student (US\$/capita)
Basic Education (Primary and Middle schools)	37.112	59.3	3,451,611	10,752	43
Secondary Education	7.020	11.2	469,069	14,966	59
Higher Education (University and Diploma)	18.465	29.5	340,262	54,264	213
All Levels	62.597	100	4,260,942	-	-

Source: Ministry of Education, and Ministry of Higher Education and Scientific Research.

7.51 A study by UNICEF has found that in southern Sudan where, as mentioned already, many primary schools have been established in rudimentary conditions with the support of communities and volunteer teachers, the annual costs of primary school education was US\$26.25 per student in 2000. The largest component of this cost was teachers' and school administrators' salaries, which ranged from US\$16 to US\$60 per month.¹⁴¹

7.52 The share of primary education of total public education expenditures is 59 percent, which is comparable to a number of similar neighboring countries.¹⁴² The share of the budget allocated to higher education is 29 percent, which is higher than the average for SSA (21 percent) and also generally higher than in a number of similar neighboring countries (Table 7.3). It is clear that the data for Sudan do not include subsidies of various kinds to students, but these amounts are not likely to change the situation very much, since it is known that tuition and other

¹⁴¹ Ronald Schwarz, Peter Schluter, Isaac Mwangani, and Titus Katembo. "2000 Cost and Financing of Primary Education in Southern Sudan", Study commissioned by UNICEF/OLS, Nairobi.

¹⁴² For example, the shares of the total education budget allocated to primary education are Ethiopia (46 percent in 1999), Kenya (44 percent in 1999), Nigeria (41 percent in 2000), and Uganda (53 percent in 2000). Based on data compiled by Jee-Peng Tan (Lead Economist, World Bank).

fees for all but the very rich are modest at public universities and in line with the average expenditures shown in Table 7.2. In addition, the salaries of teaching staff are also modest.¹⁴³

7.53 The higher unit costs for tertiary education are not surprising, because university education is intrinsically more expensive than other levels of education because of the substantial element of foreign exchange required if teaching, laboratories, equipment, libraries, and research are to be provided at an internationally recognized standard. As Table 7.3 shows, the budget allocation per student in public universities in Sudan (US\$213) is well within the bounds of expenditures at universities in comparator countries. Fees at private universities are multiples higher than those at public universities.

Table 7.3: Allocation of Budget Shares and Unit Costs for Higher Public Education in Sudan and Four Comparator Countries in Sub-Saharan Africa (1998)

Item	Ethiopia	Kenya	Nigeria	Sudan (2001)	Uganda	SSA
Share of education in national budget (%)	9	17	14	10	21	na
Share of higher education in education budget (%)	15	12	35	29 ^{a/}	16	21
Expenditure per student (US\$ per student)	na	1,800	927	213	1,200 ^{b/}	na

Source: William Saint (Lead Education Specialist, World Bank); Ministry of Higher Education and Scientific Research.

na = not available.

a/ Includes diploma and university level students

b/ Makerere University.

7.54 The share of the government budget allocated to public universities in Sudan is much lower than expected, given the number of widely scattered universities. Many of the older universities still have a good reputation and produce students who can compete successfully for professional jobs in the region. Perhaps the allocations are lower than warranted if Sudan is to provide skilled manpower quickly for its future development following a peace agreement. Obviously, the current constraints will not allow increases in budget allocations, and if increased allocations to education are to be made they should still focus on primary education, which is clearly under tight budget constraints, with parents still meeting many of the costs.

7.55 On the other hand, it is clear that the efficiency of expenditures (measured by cost per student) at the university level compares favorably with experience in comparator countries. Of course, this is to a large extent to the result of the very low salaries paid to university staff. Under current circumstances, in which employment prospects for high school graduates are not promising, an argument can be made that university training offers constructive opportunities to qualified high school graduates while the economy is given an opportunity to adjust and grow intellectually while awaiting a rise in the demand for their skills. Obviously, the additional expenditures incurred under such a proposal would need to be weighed against the benefits of using the same funds for other activities such as primary education or even primary health care facilities.

7.56 In the context of scarce financial resources, the question that needs to be asked is whether it is not more efficient to raise primary school enrollments than to educate about 340,000 diploma and university students (10 percent of the current primary school enrollments) in

¹⁴³ There has been considerable controversy about these data, even though they come from official government documents. For example, the Ministry of Higher Education claims that its expenditures are far less than shown in the analysis presented here. The Ministry of Education (responsible for basic education) is reviewing the matter and the Bank is awaiting its response.

universities.¹⁴⁴ Answering that question will demand careful analysis of the economic and social benefits and costs.

Table 7.4: Sources of Finance for a Typical Primary School in White Nile (2001)

Source of Finance	Expenditure Item	Cost (‘000 SDD)	Shares within the Source (percent)	Share by Source (percent)
State and local community	Salaries	1,981	95.13	
	Running expenses	85	4.09	
	Building materials	0	0	
	Services	0	0	
	School books	16	0.78	
	Subtotal	2,082	100.00	74.75
Parents’ Council (Parents’ Contribution)	Salaries	111	16.15	
	Running Expenses	538	78.55	
	Building materials	20	2.89	
	Services	17	2.41	
	School books	0	0	
Subtotal	685	100.00	24.58	
Other Sources	Subtotal	5		0.17
Total		2,771		100.00

Source: Planning Directorate, Federal Ministry of Education, Khartoum, May 2001

7.57 Tight budgets at primary school level Remuneration for teachers and the standard of facilities in schools are known to be generally inadequate. Teacher salaries are low and insufficient to keep them in Sudan, let alone to keep them teaching in rural areas.¹⁴⁵ Despite the low salaries, schools in rural areas have a particularly difficult time balancing their budgets, maintaining facilities, and providing minimal school supplies. The Ministry of Education estimates that about 54 percent of rural primary school budgets are paid by local communities that are responsible for funding primary education with some support from the state governments. The financing picture can be described in more detail with data obtained by the CEM team showing that 75 percent of total expenditures (95 percent of which is teacher salaries) in a typical primary school are funded by the local community and the state government, and 25 percent is paid by parents.¹⁴⁶

7.58 Table 7.4 provides details of expenditures and sources of financing in a typical primary school in White Nile State. It is not likely that this level of contribution by parents can be sustained if the economy, employment opportunities, and wage rates continue at their current low levels. The government has in recent years used the State Support Fund to overcome the funding

¹⁴⁴ The assistance of William Saint (Lead Education Specialist, World Bank) in the preparation of this section is gratefully acknowledged.

¹⁴⁵ For example, salaries for primary school teachers in 2002 averaged about SD10,000 per month (about US\$38.50), which, while typical of public service salaries, are generally inadequate to support an average family at a reasonable standard of living. The highest primary school teacher salaries, which very few receive, are about double the average rate. Chapter 4 refers to the low teacher salaries in terms of the relationship between salary and per capita GDP.

¹⁴⁶ A number of observers with knowledge of education financing claim that the proportion paid by parents in the north is often much higher than 25 percent.

in primary schools at the community level.¹⁴⁷ The financing of primary education in southern Sudan, although currently at lower levels (see paragraph 7.46), is based almost entirely on the resources of local communities.

Priorities in Education

7.59 The focus should be on primary education. All standard indicators for primary education show that enrollments, quality, and efficiency in Sudan are below averages for SSA. On the other hand, in secondary education, where there is much more private sector involvement, enrollment rates are similar to those in comparator countries. Graduation of students at universities appears to be in line with entry numbers. The main concern for the education system in Sudan is that the primary school system is weak; in particular, quality levels have been questioned. This suggests that long-term human capital development in Sudan is being seriously compromised at the primary level, which will, of course have a subsequent detrimental impact on secondary and tertiary (higher) education. For the purposes of longer-term human capital development in Sudan, the priority should be on improving primary education. Therefore, the following sections of this chapter review the performance of primary education and devote less attention to secondary and tertiary education.

7.60 Increasing focus on vocational and technical training. Given the severe unemployment problem, but the obvious potential for the economy to grow, and therefore the potential demand for technical skills, the government has placed increasing emphasis on vocational and technical training. The major program groups and the proportion of students in each are commerce (48.7 percent), industry (29.2 percent), agriculture (2.6 percent), home science (4.1 percent), and other technical areas (15.4 percent). So far, the numbers are small, with a total of 22,142 for all of Sudan at 150 schools.¹⁴⁸

Trends in Primary Education Indicators

7.61 Chronically low enrollment rates in primary schools. The constrained budget facing primary schools and the consequent pressure on parents to provide a large share of the costs of education has reduced access to primary schooling for many children. In many parts of Sudan, well-functioning primary schools are relatively remote from villages, and daily access to school is exceedingly difficult since there are no transport systems available. In the past this problem was resolved by having residential arrangements for students. Most of these residential facilities were closed because of budget constraints, with the result that students can no longer attend school. The government is understood to review this issue. Even when parent contribution requirements are minimal and schools are accessible, low family incomes in rural areas keep children out of school to work on farms and in the household. These factors have obviously reduced enrollments and the output of educated young men and women.

¹⁴⁷ See earlier chapter for a discussion of the State Support Fund. Note that the Ministry of Education advised the CEM team that the actual costs to parents may be much greater than shown in Table 7.4 because many parent groups in rural areas also pay for teacher accommodation and related costs.

¹⁴⁸ Federal Ministry of Education, 2002.

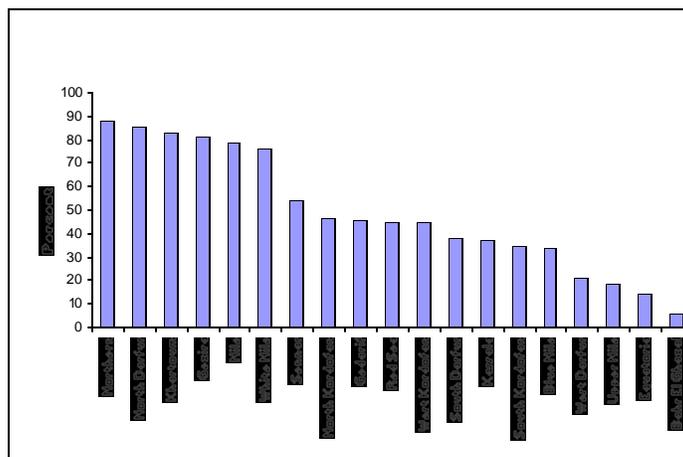
7.62 The gross enrollment rate for basic education has been close to 50 percent since the 1980s. It continued at about this level until 1999, when it declined to about 47 percent, but has since increased again to about 58 percent. These rates compare unfavorably with the average for SSA of about 60 percent.¹⁴⁹ There are, however, considerable variations in rates among states. The enrollment rates for primary (basic) education are around 80 percent in the Northern, Khartoum, Gezira, and Nile States. The lowest, below 20 percent, are in government-controlled areas of Bahr El Gazal, Equatoria, and Upper Nile (Figure 7.5).¹⁵⁰

7.63 The major reasons for the interstate discrepancies are the much higher rates in northern Sudan than in southern Sudan. There are also substantially higher enrollments in eastern Sudan than in western Sudan. The average gross enrollment rate in primary schools in southern Sudan was estimated in the MICS at 27 percent of children aged 15-17 in 1999, but the enrollments included pupils who were well above primary school age; hence the net enrollment rate would be much lower than 27 percent. This means that an enormous number of school-age children are not in school. A recent report on education in southern Sudan estimated that as few as 15 percent of the primary school-age population are in school. The schools operate for seven months in a year. The conclusion was that few children of primary age go to school, and those who go do not benefit from a regular academic year of teaching and have to manage with 93 percent of untrained teachers.¹⁵¹

7.64 There is a preponderance of boys enrolled in schools in southern Sudan. In some areas,

the girls' enrollment rate is as low as 1 and 6 percent as a proportion of the number of girls in the cohort. One estimate puts the average enrollment rate of girls in southern Sudan at 16 percent, with boys at 36 percent and the average for boys and girls at 27 percent. The four most prominent reasons for not attending schools were domestic chores, productive work, no books or pencils, and shortage of clothes. There were also a considerable number of "other" unspecified reasons. The first two reasons varied significantly according to sex.¹⁵² Additional information is provided in Section F about the gender issues related to education.

Figure 7.5: Primary School Enrollment Rates in States (2002)



Source: Multiple Indicators Cluster Survey, 2000

The first two reasons varied significantly according to sex.¹⁵² Additional information is provided in Section F about the gender issues related to education.

¹⁴⁹ The World Development Indicators show that the gross enrollment rate for SSA is 78 percent. No data are available on net enrollment rates for SSA. The estimate in the text is based on the assumption that on average there is a 25 percentage of primary school students in SSA that are over-age for their respective grades.

¹⁵⁰ Derived from MICS data for the north, 2000.

¹⁵¹ UNICEF, "Education for All, Assessment Report Southern Sudan 2001," 2001.

¹⁵² MICS for the south, 2000.

7.65 **Low-quality performance in primary schools.** But the problems are not only related to enrollment numbers; there are also substantial deficiencies in quality. The Ministry of Education estimates that close to 50 percent of primary school teachers are unqualified. Irrespective of the qualifications of teachers, school facilities and materials are also inadequate for focused learning. For example, in North Kordofan State 60 percent of schools are built of grass and saplings and need to be rebuilt each year, and 20 percent of students sit on the ground for classes. In Khartoum State, which has the highest enrollment rate and where schooling is the envy of most of the states, some primary schools students still need to sit on the ground unless they bring their own chairs.

7.66 Curricula need further improvement, and learning materials are typically in short supply.¹⁵³ The Ministry of Education estimates that most textbooks need to be shared among three children. In short, the quality of education is inadequate and it has had a major detrimental impact on the performance of the primary education system.¹⁵⁴

7.67 **The efficiency of education at the primary school level is improving.** The average repetition rate up to fifth grade in 1998/1999 was 11.4 percent, although it varied widely from 8.9-16.9 percent between the states.¹⁵⁵ In addition, the dropout rate up to the fifth grade in 1998/1999 was 9.7 percent. Such rates of repetition and dropout would reduce the number of students graduating at the fifth grade by around 50 percent and makes the achievement of the MDG for primary education even more difficult. The latest data from the Ministry of Education, however, show that repetition rates for grades one through five for 2001 dropped to an average of 2.2 percent (girls, 2.8 percent, and boys, 1.8 percent). The average survival rate up to grade five was close to 85 percent. If this level of efficiency can be sustained, along with an increased enrollment rate, the prospects are much brighter for the primary education system than they were a few years ago.

7.68 There cannot be any question that to increase primary enrollments and at the same time sustain higher levels of efficiency will require a substantial increase in the budget for education based on a long-term plan for improving the access of children to primary education, better incentives and working conditions for qualified teachers, and a focus on higher-quality education. An issue that the government may wish to examine is to provide assistance to certified residential establishments for primary students in rural areas so as to make primary education more accessible to rural children. The CEM team observed that religious schools in Sudan do provide accommodation for all their students.

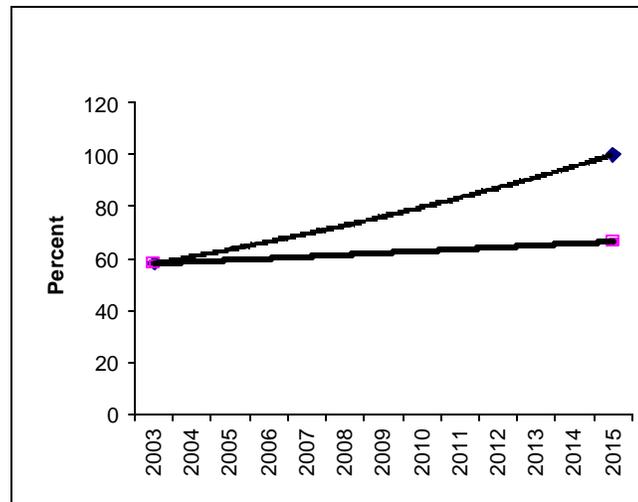
¹⁵³ The Ministry of Education has stated that it has improved the curriculum by introducing more material on life skills into the primary education course. Additional data are needed to make regional comparisons.

¹⁵⁴ A recent report entitled "School Baseline Assessment Report – Southern Sudan. May 2002," prepared by UNICEF/OLS and the Africa Educational Trust, provides a number of depressing data about access of children in the south to education. For example, one of the major issues of concern raised in the report is that more than 75 percent of the 1 million children in southern Sudan have no access to any form of education (p. 21). The government has questioned this figure of 1 million, suggesting that there are many children from the south in schools elsewhere. For example, the government claims that there are 80,000 children from the south in primary schools in Khartoum.

¹⁵⁵ Ministry of Education. UNESCO measures survival to grade five because research suggests that five to six years of schooling is a critical threshold for the achievement of basic literacy and numeracy skills (see World Bank, World Development Indicators, 2002, p. 97).

7.69 **Can Sudan reach the MDG for primary schools education?** The MDG is 100 percent completion rate at the primary school level by 2015. In the absence of accurate data on completion rates and also issues related to quality of education, it was decided to use 100 percent primary enrollment as the core indicator for educational achievement. To achieve this, the annual growth rate in enrollments would have needed to average 2.8 percent per annum starting from 1990 (the baseline for the MDGs), assuming the primary enrollment rate at that time was 50 percent. This compares with a trend rate of improvement since 1990 of 1.1 percent per annum. Given the current estimated primary enrollment rate of 58 percent, future enrollment rates would need to grow at a rate of 4.5 percent per annum to reach the MDG of 100 percent (shown as a broken line in Figure 7.6).¹⁵⁶ Of course, this would not necessarily mean a 100 percent primary school completion rate unless efficiency is considerably increased.¹⁵⁷ The solid line in Figure 7.6 is, of course, the trend in enrollment rate if current performance continues.¹⁵⁷

Figure 7.6: Projections of Primary Enrollment Rates Based on Historical Trend and the Trend Needed to Achieve MDG



Of course, this would not necessarily mean a 100 percent primary school completion rate unless efficiency is considerably increased.¹⁵⁶ The solid line in Figure 7.6 is, of course, the trend in enrollment rate if current performance continues.¹⁵⁷

7.70 **Gender balance.** In general, male enrollments are higher than female enrollments, but female enrollments are currently increasing at a higher rate than male enrollments, and it is expected that male and female primary schools enrollments will soon be about equal nationally. On the other hand, the differences between urban and rural areas are the most serious matter, reflecting various inequities in Sudanese society. The gross enrollments in basic education in rural areas was about 33 percent of the rate in urban areas in 1998/99 (Table 7.5). The lack of access for rural children to primary education will have long-term detrimental consequences.¹⁵⁸ Additional material on gender issues is included toward the end of this chapter.

Developments in Secondary Schools

7.71 **Private schools raise standards at secondary level.** Secondary school enrollment rates were around 30 percent at the end of the 1990s, compared to about 15 percent in 1980. The current enrollment rate is comparable to secondary school enrollment rates in Sudan's neighboring countries. Here the urban bias is even higher than for basic education, but this reflects an increasing number of private secondary schools in urban areas that require fees but

¹⁵⁶ Note that the growth rate in the number of teachers in basic education in northern Sudan was close to 4.2 percent per annum during the 1990s. If this rate continues, the number of teachers may not be a constraint to reach the MDG, but the quality of teachers may well be the main bottleneck.

¹⁵⁷ Again, it should be emphasized that this calculation is approximate—shown mainly to indicate the substantial gap between the MDG and what might be possible on the basis of current trends. The MOE has itself projected an average enrollment rate of 87.5 percent in 2015.

¹⁵⁸ A more detailed treatment of women's issues is found in Part F of this chapter.

where education is of a higher quality than in government schools. The number of students and teachers in secondary schools grew at annual rates of 5.5 and 9.3 percent per annum, respectively, during the 1990s. Since the student-teacher ratio varied between about 30 and 40 during the 1990s, it is not likely that a shortage of teachers will be a bottleneck if the rate of increase in teachers during the 1990s continues. Obviously, quality would be an issue.

Major Changes in Tertiary Education

7.72 **Rapid expansion of public universities and some increase in private universities.**¹⁵⁹ In 2000/2001, private universities sector accounted for close to 31,400 students, compared to 182,000 students in public universities. Public university-level education is the responsibility of the central government rather than the states. Enrollment rates are less than 10 percent, and there is of course a strong urban bias, with the greater number of enrollments in northern Sudan. This may sound like a low enrollment rate, but it is much higher than for most developing countries at similar levels of per capita income.

**Table 7.5: Public and Private Primary School Enrollments
In Urban and Rural Locations by Gender (1998/1999)**

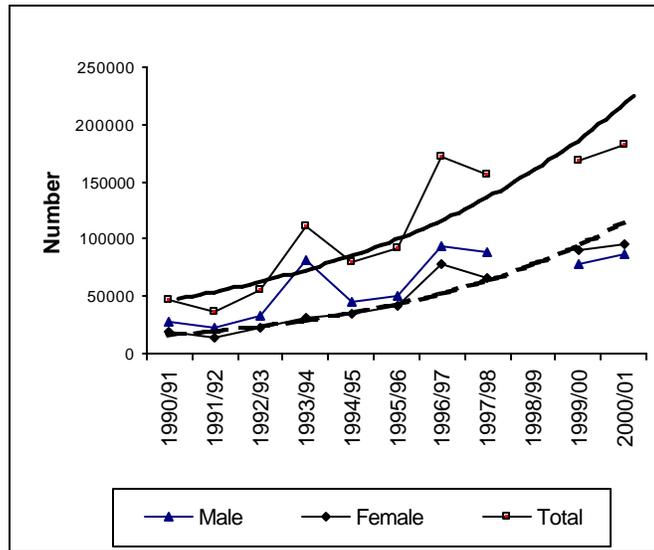
Public/ Private	Urban Areas			Rural Areas		
	Male	Female	Total	Male	Female	Total
			(number)			
Total	1,200,573	1,032,294	2,232,868	405,493	338,359	743,851
Public	1,155,479	990,517	2,145,996	390,991	326,165	717,156
Private	45,094	41,777	86,872	14,501	12,194	26,695
			(percent by institution)			
Total	100.0	100.0	100.0	100.0	100.0	100.0
Public	96.2	96.0	96.1	96.4	96.4	96.4
Private	3.8	4.0	3.9	3.6	3.6	3.6
			(percent by location)			
Total	40.3	34.7	75.0	13.6	11.4	25.0
Public	40.4	34.6	75.0	13.7	11.4	25.0
Private	39.7	36.8	76.5	12.8	10.7	23.5

Source: Multiple Indicators Cluster Survey, 2000, op cit.

¹⁵⁹ All the data on higher education were provided by the Directorate of Planning, Ministry of Higher Education and Scientific Research, 2002. Some data for 1998/1999 were not available.

7.73 A presidential decree was issued in 1990 to expand higher education and establish at least one university in each state. As mentioned already, between 1990 and 1997 the number of universities increased from 5 to 26. From 1990/1991 to 2000/2001, enrollments grew, on average, by 16 percent per annum. Male student numbers grew by 13.1 percent per annum and female students by 19.6 percent per annum, with the result that by the end of the 1990s, female students outnumbered males. The trends in student numbers are shown in Figure 7.7. The growth in public universities led to an increase in the share of public expenditures on public higher education to between 34 and 43 percent of the total public expenditure on education during the 1990s.

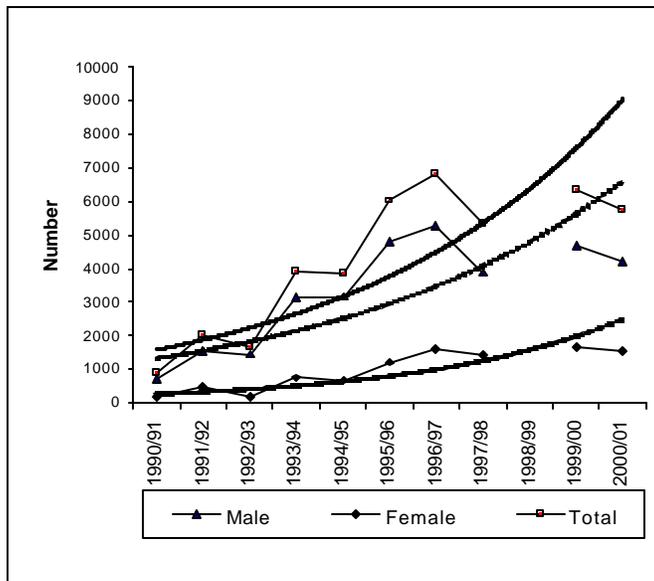
Figure 7.7: Students Enrolled in Government Universities



Source: Ministry of Education

7.74 Over the same period, the growth in the number of teaching staff at universities (Figure 7.8) was 17.5 percent per annum, somewhat higher than the growth in student numbers (16.0 percent per annum). It is not possible to determine whether these trends will continue, but it is highly unlikely that Sudan's budget, even with increased resources resulting from a peace dividend and a larger share of oil revenues, would be able to withstand a regular 17-18 percent per annum annual increase in costs for teaching staff unless there is considerable cost recovery from fees. This pressure on the budget for higher education is accentuated by suggestions that all qualified high school students should be given the opportunity to enroll in universities.

Figure 7.8: Teaching Staff at Government Universities



Source: Ministry of Education

7.75 Enrollments are important indicators of change in higher education, but the extremely rapid growth in these enrollments has also resulted in lower-quality education at many of the universities. The Ministry of Higher Education and Scientific Research is moving vigorously to address the problem by limiting new enrollments, establishing technical colleges to ease further pressures on universities, and developing some open universities with distance-learning facilities to maximize the use of existing staff and infrastructure.

Strategies for Improving Basic Education

7.76 **Motivation.** Increasing enrollments at the primary levels in rural areas in the near future will be difficult, but it is nevertheless essential for the future economic development of Sudan. To recapitulate, the major reasons for low primary school enrollments is that many schools are remote and many parents in rural areas are reluctant to send children to primary school because they judge children's work on farms and in the home as more valuable than schooling. These are important issues if at the same time parents are being asked to contribute 25 percent or more of school operation costs

7.77 **Financing.** On the supply side, it is questionable whether the government is allocating enough resources to school construction, equipment, operating costs, and teacher salaries. Over the three years 1998-2000, the allocation of central and state government recurrent budgets to all levels of education amounted to 1.3, 1.0, and 1.1 percent of GDP for 1998, 1999, and 2000, respectively. The development budget for education is very small. At the same time, the allocations to recurrent expenditures for all levels of education as a percentage of the total central and state government recurrent expenditures dropped from 15.7 percent in 1998 to 9.6 percent in 2000.

7.78 There is evidence from budget data (along with information on the central government's support for higher education) that the proportion of the education budget allocated to higher education increased between 1998 and 1999 from 22 percent to at least 34 percent. The first step is to examine the potential for a reallocation of the education budget so that it focuses more on primary education. The second is to evaluate the best way to use the additional resources to improve primary enrollments as well as the efficiency and quality of primary education.

7.79 **Elements of a strategy.** The following suggestions are meant to provide focal points for the future development of education (with a focus on primary education) for all Sudan that would probably be applicable to any future system of government for Sudan as a whole. The suggestions are as follows:

- Priorities among the three levels of education (basic, secondary, and tertiary) should be established. There is a legitimate government role for all these levels, but the strategy should be phased. Primary education should be given the greatest share of attention and human resources, with the aim of increasing access to primary education in the first five years, followed by secondary and tertiary levels.
- The most important challenge is to find a way to bring primary and secondary students to schools in towns of reasonable size where qualified teachers are willing to live and work with colleagues in schools of significant size. An expansion of the traditional residential primary and secondary rural schools may offer a solution, assuming some federal government funding can be provided to make such residential facilities affordable to rural families in remote areas. Such a model should not be seen as relevant to all situations, or as excluding communities from being closely involved in the development of primary schools in their area.
- The allocation of public expenditures to the three levels of education should be examined closely in order to ensure an efficient allocation among them in accordance with government priorities for these three levels, their needs for infrastructure, salaries, operating costs, and maintenance, and the potential for an increased role for the private sector.
- Increased attention should be focused on improving the quality of primary education and improving the incentives for teachers who work in remote areas. Special

incentives for qualified teaching staff in remote areas could be an option. This incentive is more likely to be successful if teachers are offered a teaching position in a reasonably large town in a school that has a significant number of other staff.

- Although in future the primary and secondary education systems should be allocated the majority of public resources, the government should establish policies that encourage private investment in all three levels of education, perhaps with tax incentives graduated according to distance from major cities and towns.
- A core objective of economic policy should be to stimulate growth and generate jobs for those who receive improved education. Exchange rates, trade policy and agricultural policy, and other instruments of national strategy should be chosen so as to generate a demand for labor and domestically trained specialists. At the same time, the education system should consider the future characteristics of demand for manpower in the planning of its programs.

7.80 **High-priority activities.** While strategic issues are being worked out, two priority actions seem to be indicated :

- Strengthening the planning capacity of the ministries of education so that they can better design, plan and direct the expansion and improvement of primary education
- Undertake a stocktaking of rural education at the primary level in the states so as to make an accurate assessment of the investment required to bring teachers, curricula, and school infrastructure up to a predetermined standard.

7.81 An important sequel to the stocktaking of rural education should be to evaluate the role of residential schools and determine whether, if they were increased (and in some cases brought back), primary and secondary enrollment rates could be increased and sustained at much higher levels than at present and at what cost. Government contributions to certified residential schools (public and private, but with different levels of funding) could be easy to administer and could make a substantial contribution to increasing enrollment rates, increasing the quality of education, and reducing the movement of rural families to major towns and cities.

7.82 The next two subparagraphs provide suggestions for a set of activities that could speed up actions on these priorities.

7.83 (i) **Education policy planning: capacity building and monitoring.** The objective for this activity is to strengthen the capacity of the planning departments in all the education ministries to evaluate and implement a strategy to boost the effectiveness of primary education. Some of the strategic issues have been suggested above. Two specific actions are suggested:

- Strengthen and institutionalize more effective planning procedures in the federal and state education ministries to improve the efficiency with which regular budgets are used and monitored for making improvements in primary schools. Successfully doing this would generate a high social rate of return.
- Work toward reaching a consensus between the federal and state ministries of education on the constraints holding back the improvement of primary education, and then evaluate how to address them. Perhaps one of the best ways to address such issues will be to agree on allocation of responsibilities between the federal and state governments for priority actions to improve primary education services as funds become available in the short and long runs.

(ii) **Evaluation of training, curricula, and investment needs.** There is little doubt that the current primary education system, while being held together by an army of dedicated administrators, teachers, and parent associations, is broken in many ways and that there is a need to prepare an inventory of human and physical capital assets that need to be improved. The following action is therefore recommended:

- Establish a consensus within each state on the nature and extent of teacher training, curriculum improvement, and investments in primary schools that need to be undertaken and prepare these assessments for discussion at an open conference of federal and state education officials.

D. WATER SUPPLY

7.84 Water is obviously required for both humans and livestock. The availability of water for Sudan's large herds of cattle, sheep, goats, and camels has always been a major constraint to the expansion of the livestock sector. It has also been the source of considerable friction, as nomadic herders move around in search of grazing and find themselves intruding on water points that can be under considerable stress even in a normal dry season. The purpose of this brief section, however, is to focus on domestic water supplies.

7.85 **Domestic water supplies.** The type and quality of domestic water supplies are highly variable and generally inadequate in Sudan's driest states, which typically have a high proportion of the poor. There is, however, also considerable variation in the quality of water supplies within each state. Hence, an analysis by states is unlikely to reflect the full extent of the problems facing people in urban or rural areas.

7.86 On average, 60 percent of people in Sudan have access to improved (safe) drinking water supplies for domestic consumption. In urban areas, the access rate is close to 80 percent, but in rural areas it is only 47 percent.¹⁶⁰ Data from the MICS show that the western states in the Darfur and Kordofan regions have the lowest proportions of households with access to safe drinking water supplies (see Statistical Appendices Table A1.5). The existence of piped water to dwellings could be regarded as a measure of well-being. This measure could therefore be used to provide some guidance on changes in poverty. There has been progress in the access of dwellings to piped water supplies in most states.

7.87 The aggregate data show no relationship between, for example, access to potable water and child mortality. Although common sense and research would suggest that unsafe drinking water is hazardous to children's lives, the difficulty is that the true relationship between water quality and deaths among children is multivariate and complex and cannot be captured by aggregate data. For example, while Guinea worm and diarrhea cause deaths among children and could be traced to an unsafe water supply, the real killers in many parts of Sudan may be malaria, pneumonia, and malnutrition, which are not directly caused by the quality of the water supply.

¹⁶⁰ See *Multiple Indicators Cluster Survey*, 2000, op cit. As might be expected, these are much lower levels than the average worldwide. For example, in 1994 the global rural coverage for supplies of water to dwellings was 70 percent (see "Environmental Health – Bridging the Gaps," World Bank Discussion Paper No. 422, May 2001, p. 145). In northern Sudan, the percentage of dwellings that had piped water was 24 percent, with 44 and 11 percent in urban and rural areas, respectively.

E. SANITATION

7.88 Finally, a brief note on sanitation. To be comprehensive, this subject should cover solid and liquid waste disposal, excreta disposal, and the removal of other sources of environmental pollution. Since excreta disposal is the major sanitation issue in Sudan, this section focuses on that. As was noted above with respect to domestic water supplies, the quality of sanitation facilities situation varies considerably between and within states, and between and within urban areas.

7.89 For Sudan as a whole, only 60 percent of the population have a sanitary means of excreta disposal. For urban areas, the percentage is 81 percent, compared with 46 percent in rural areas. A sanitary method is defined as either a flush toilet (very rare), a septic tank (only about 15 percent and almost wholly limited to urban areas,) or a traditional pit latrine of varying depth and design. Those without any of these methods have basically nothing and, depending on the location, excreta could become a serious health hazard. On the other hand, Sudan has many large open spaces in rural areas so that the nonexistence of a pit latrine, while inconvenient and a major issue for girls in rural schools, is seldom regarded as a serious health hazard. In this context, the absence of septic systems or pit latrines in rural areas of South Darfur or West Kordofan is not necessarily an environmental disaster. The situation in 2000 in terms of the availability of sanitary means of excreta disposal by states is summarized in Volume II, Statistical Annex Table A1.7 and A1.8.

F. WOMEN IN DEVELOPMENT

7.90 Is the situation for women worse than for men in Sudan, and does it differ in different parts of Sudan? This section shows that women are in fact more impoverished than men and that the situation is more serious in the war-affected areas in southern Sudan. Peace would improve women's situation, but other measures are also necessary to decrease the gender gap. Women's status needs to be upgraded; at a minimum, women should have legal rights equal to those of men. Access to health and education services also needs to improve. The current scale of women's poverty in the war-affected areas is one of the worst in the world—90 percent are illiterate, and most suffer from being raped or assaulted. The average woman faces a risk of 5 percent of in childbirth (given that each woman gives birth to 6 children on average).

7.91 The war has resulted in a skewed population pyramid, so that two-thirds of the population are female. How will this society of women lead the efforts to develop their country so that their daughters have a better future?

7.92 This section gives an overview of gender issues and discusses women's legal rights, health, education, and workload. Finally, women's efforts to organize themselves and work politically are summarized.

Overview of Gender Issues

7.93 Given the diversity of Sudanese society, the socioeconomic and political positions as well as the human right conditions of Sudanese women vary in different parts of the country. Thus, the focus of gender issues differs. Women are poorer than men because of inequities in access to productive assets, discriminating values and customs, and lower compensation for women's work. Moreover, as a result of the civil war, human rights violations against women are common, and contribute to impoverishing women. As a result of the war situation, adult women in the southern parts of the country outnumber men by two to one. Therefore, gender issues in the southern regions focus on the development aspects of a skewed population pyramid. In the rest

of the country, where there is a balanced gender population ratio, gender issues focus on inequalities in basic rights and social services, as well as women's participation in development.

7.94 Nationally, since Independence, women's economic and social participation in development has increased. Nevertheless, the overall status of women has not improved and the gender gap is still substantial, although it varies in different parts of the country. In the northern parts of the country, education has been important for narrowing the gender gap. In war-affected areas in southern Sudan, women were left with all responsibilities for feeding a family, bringing up children, and taking care of elderly while their husbands were absent. This accentuated gender imbalances and made women more food-insecure and more vulnerable to violence and lawlessness.

7.95 Two measures of human development reported in the UNDP's Human Development Report (HDR) concern the status of women and their participation in public life.¹⁶¹ The Gender-Related Development Index (GDI), which conveys disparities between men and women in education, life expectancy, and income, ranks Sudan in the 116th position out of 146 countries in the 2002 HDR. The Gender Empowerment Measure (GEM) index, which reflects the degree of women's economic and political participation, and power over economic resources, did not list Sudan for the 2002 HDR, but the 1995 HDR ranked Sudan 102nd out of 116 countries.¹⁶² Other indicators confirm lags related to gender. The average literacy rate, for example, is 41 percent among females compared to 66 percent for males. This average masks considerable variations in different states. In the war-affected areas in southern Sudan, it is estimated that 90 percent of women are illiterate. According to a UNICEF study from 2002,¹⁶³ only one of four children in primary schools in southern Sudan was a girl. Women's participation in the labor force is only 27 percent, and representation in Parliament is less than 10 percent.

Legal Rights of Women

7.96 International conventions about human rights stipulate equal rights for both sexes, but in practice, women are discriminated against in most countries. This is especially true in the war-affected areas of southern Sudan, where laws, if they exist, are not enforced. Moreover, there are gaps between existing statutory laws, international conventions, and customary laws. Discrepancies with regard to formal legal rights, the awareness and assertion of those rights, and their enforcement also explain why women are discriminated against.

7.97 Sudan's constitutional declarations recognize the human rights of women. The Transitional Constitution of 1956, for example, acknowledged gender equality and barred discrimination against women. Article 21 of the 1998 Constitution affirms equality before the law regardless of gender and other attributes, and it retains 25 percent of the seats in the People's Assembly for women and a minimum representation of 10 percent at a level of Popular Committees.¹⁶⁴ The 1998 Constitution also gives women notional allocations of 2 federal ministerial positions, 4 Ministers of State, and 13 state's ministers. But there are no legally

¹⁶¹ It is not clear whether the underlying data cover the whole of Sudan, or only the northern parts and government-controlled areas in southern Sudan.

¹⁶² Ministry of Agriculture, Natural Resources, and Animal Wealth. "Ten-Year Plan of Action: Women in Agriculture and Food Security. Sudan, 1996-2005." Khartoum, Sudan. December 1995.

¹⁶³ UNICEF. "School Baseline Assessment Report, Southern Sudan." May 2002.

¹⁶⁴ United Nations Economic Commission for Africa (UNECA). "Sudan National Progress Report on the Implementation of the Beijing Platform of Action." Sudan, October 1999.

binding articles in the Constitution to ensure that the rights of women are protected in reality.¹⁶⁵ The Labor Act of 1997, for example, has provisions for women's specific concerns, including maternal health, leave of absence, equality in pay, and employment. But these provisions have yet to be materialized and translated into improved living conditions for women, whose labor conditions are far from legal stipulations.

7.98 In other areas of law, however, women are directly discriminated against. This concerns, for example, the Civil Law and the 1991 Public Order Act. Women's rights to divorce differ from men's, and women are in principle cut off from work in the public sector. However, since women constitute the core of civil servants, it seems likely that the tenets of the Public Act Law are not adhered to in practice.

7.99 **In the war-affected areas** in southern Sudan, women's and girls' legal rights are stipulated in the Penal Code (1994), but rarely enforced. Abuses against women are common, and perpetrators go unpunished. War is breeding a culture of violence and lawlessness, which is promoted by the weak law enforcement, collapse of social norms, women's low awareness of their human rights, and the breakdown of women's self-esteem, which has resulted in women accepting abuses. Women are largely unaware of their rights, partly because crimes go unpunished and partly because of low self-esteem. Repeated assaults and increased domestic violence have oppressed women's self-esteem to the level that they do not realize that their rights have been violated and simply view the crime as accepted cultural behavior.

7.100 Customary laws, which often disfavor women in matters of marriage and inheritance, often overrule statutory law in practice. One example is the difference in view of early arranged marriages. Girls customarily marry at the age of 13 or slightly older. According to the Penal Code, sexual intercourse with a girl under the age of 18 is prohibited, regardless of marital status. Another difference regards inheritance, where, according to some customary laws, women rarely inherit. When a husband dies, the widow, her children, and all assets including household utensils are inherited by male relatives of the deceased husband.

7.101 Customary courts will often make judgments based on desire to keep peace within the community, and not to protect individual rights. Because courts are dominated by male chiefs and male elders, decisions preserve male dominance and subservience of women.¹⁶⁶ For higher courts and training of paralegals, SPLM has introduced a system of affirmative action in favor of women. However, none of those quotas have been filled.

Women in Education and Health

Education

7.102 Research has pointed out the importance of women's education for development. Clear links between a mother's educational level and her children's welfare have been found. The better a woman is educated, the more of her children avoid malnutrition, survive, and get an education themselves. Moreover, education is an important instrument for empowerment, development, and informing women about their legal and human rights.

¹⁶⁵ See Niemat Kuku and Alawiyya Jamal: "Sudanese Women before and after Rio."

¹⁶⁶ By mid-2000, there were only two women representatives in all courts of southern Sudan, one woman in a regional court and the other in a district (payam) court.

7.103 Girls' education is susceptible to various factors, including the direct cost of education to the family, the opportunity cost of child services at home, the education attainment of the parents themselves, especially the mother, the biases that exist in the community giving preference to educating boys, and the security situation. Gender gaps in education persist in communities where there is a scarcity of female teachers and where the culture inhibits interaction between girls and men. Similarly, gender disparities persist in rural areas, where schools are not available within the community, access requires travel over distance, and girls are not allowed to travel outside the community.

7.104 These problems result in both low enrollment and low literacy rates. Enrollment rates are chronically low in most parts of Sudan. Boys tend to attend more than girls, though the gender gap is narrowing in the northern states. Literacy rates are generally lower for women than for men. Two out of five women are literate, whereas in southern Sudan, only one in ten is literate. In northern Sudan, female enrollments are currently increasing at a higher rate than male enrollments, and it is expected that male and female primary schools enrollments will soon be about equal. As Table 7.6 indicates, females constitute 45 percent of enrollment in official basic education among school age children. Secondary school enrolment drops to about 10 percent of the age group, but the proportion of girls stays constant at about 45 percent. At the university level, the gender gap changes to female students' favor. In the academic year 2000/2001, for example, the proportion of female student admissions and enrollment exceeded those of males.

Table 7.6: Gender in Education

	2000/01
Literacy rate (%)	
Male	66%
Female	41%
Female, southern Sudan	10%
School Attendance (age 6-13) (%)	
Male	50%
Female	47%
Higher Secondary School Attendance (%)	
Male	12%
Female	9%
Students Admitted for 00/01 Academic Year in Government Universities	35,037
Male	17,101
Female	17,936
<i>Female as Percent of Total</i>	51.2%
Students Admitted for 00/01 Academic Year in Private Universities	8,481
Male	3,925
Female	4,556
<i>Female as Percent of Total</i>	53.7%
Teaching Staff of Government Universities	6,025
Male	4,810
Female	1,215
<i>Female as Percent of Total</i>	20.2%

Source: Statistical Annexes, Save Motherhood Survey and Multiple Indicators Cluster Survey.

7.105 **In the war-affected areas** in southern Sudan, the situation is less satisfactory. UNICEF estimates that there are about 1,500 schools in the three main regions of southern Sudan, catering to about 30 percent of the school-age children there.¹⁶⁷ Out of total enrollment, girls make up 26

¹⁶⁷ UNICEF. "School Baseline Assessment Report, Southern Sudan." May 2002.

percent. That is, less than 8 percent of all girls get a primary education. Very few of these girls make it to secondary school. First, only a handful of secondary schools exist in SPLM-controlled areas. Second, dropout rates are much higher for girls than boys. In Kotobi in Equatoria, the percentage of girls compared to boys in primary school is 38 to 62, but it falls sharply to 5 to 95 in secondary school. No study exists to show how many southern Sudan girls continue to university.

7.106 The only university (in Juba) has been relocated, but arrangements have been made in order to reopen it in Juba. Language would constitute only one of the barriers for southern girls to go to university. There are multiple reasons for the low participation of girls in education. The school fee is one important obstacle, which disfavor girls more than boys. Early arranged marriages, where bride wealth is paid for pubescent girls, are effective disincentives for parents to choose to spend scarce resources on school fees and clothes for a child who will soon move to another family. Moreover, since only about 7 percent of teachers are women, few positive models or mentors for either girl students or parents exist.

Health

7.107 Table 7.7 presents key health indicators that are of particular interest to women. It is important to note that these numbers are aggregates and that they obscure significant variations among states, geographic locations, and localities. The health situation is particularly severe for women and children in the war-affected areas in the southern parts of the country. Among other indicators, Table 7.7 shows that the maternal mortality ratio is 509 per 100,000 live births. In some of the war-affected areas in the south, this figure soars to 865 maternal deaths for every 100,000 live births. In other words, the average woman who gives birth to 6 children in her lifetime faces a probability of 5 percent of dying in childbirth. A large majority of Sudanese women give birth at home, where two of five deliveries in the northern states and three of five in the southern parts take place without assistance of a trained person. About 71 percent of births in the northern states received antenatal care; the proportion is higher in urban than rural areas. In the southern part of the country, only 20 percent of women received antenatal care during their last pregnancy.

7.108 Education and access to information affect maternal mortality and fertility through increasing knowledge and awareness, and by influencing access to and use of health services.¹⁶⁸ Yet there is limited awareness among women about reproductive health. A large proportion of women, especially in rural areas, are not aware of HIV/AIDS or various methods of family planning. The MICS from southern Sudan revealed that a majority of the population (57 percent) had never heard of HIV/AIDS. Yet women, especially in war-affected areas, are at high risk through rape, polygamy, early marriages, wife inheritance, female genital mutilation (FGM), and sexually transmitted infections. One of the main health hazards to girl children is circumcision, which often leads to lifelong suffering and infections. Circumcision is primarily, but not exclusively, practiced in the northern parts of the country. According to the United Nations, the overall percentage of female genital mutilation in the northern states has been stable at about 90 percent during the past 10 years.¹⁶⁹ It is performed mostly on girls ages 5-9, but also on infants as young as 12 days, as well as on women who are re-circumcised after childbirth.

7.109 While sexual violence against women occurs also in peacetime, the incidences of rape, abductions, arranged early marriages, and domestic violence have increased drastically in war-

¹⁶⁸ Ibid.

¹⁶⁹ United Nations. "Consolidated Inter-Agency Appeal 2002."

affected southern Sudan. Crimes and human right violations go unpunished because of lack of law and order. Sexual abuses have injured women both physically and mentally. Low-intensity and long-lasting traumas—anxiety, chronic and severe depression, and posttraumatic stress disorders — should not be underestimated as severe health problems that limit the scope for development in southern Sudan.

Table 7.7: Reproductive Health Indicators

	Urban	Rural	Total
Fertility			
Total fertility rate	5.1	6.5	5.9
Mean children ever born	6.1	6.4	6.2
Maternal Care			
Received antenatal care (%)	90	62	71
From doctor	32	18	23
From visitor	34	10	18
Received antenatal care, south Sudan, non-government-controlled (%)			21
Place of delivery (%)			
Private Hospital	4	0	1
Home	70	94	86
Home, south Sudan, non-government-controlled			94
Received postnatal care (%)	18	11	13
Maternal mortality ratio (per 100,000 live births)	496	514	509
Maternal mortality ratio in southern Sudan (per 100,000 live births) a/			865
Knowledge of any family planning method			
Use of any method	82	49	61
Ever heard of HIV/AIDS (%)	39	12	21
Ever heard of HIV/AIDS, south Sudan, non-government-controlled (%)	61	26	40
			67

Source: MICS, 2000 and Safe Motherhood Survey National Report - 1999.

a/ UN, 2002

Workload

Agriculture

7.110 The economic and social status of women varies in different parts of the country, in different sectors of the economy, and also depending on the role of the woman. In most rural communities, where women play a major role in production, the workload tends to be excessively burdensome when combined with child care and domestic chores. The effects of war have added further to the workload, since women have had to take over men's traditional obligations in their absence. Thus, there are concerns with regard to balance in the length of women's workday. In addition, women engaged in rural agriculture often face inequities relating to access to credit, land ownership, and productive technology.

7.111 Women in the whole country are predominantly engaged in agriculture. The Central Bureau of Statistics estimates the participation of women in agriculture at around 92.4 percent.¹⁷⁰ In general, the workload follows a traditional division of labor between men and women. Most women are engaged in subsistence traditional rainfed farming, where opportunities to market and sell surplus production are limited. In addition to farming, women have responsibilities for bringing up children, taking care of elderly, and domestic chores, including fetching water and firewood. In southern Sudan, where women constitute about two-thirds of the population,

¹⁷⁰ UNECA, 1999, op cit.

women's workload has increased, and they have taken on responsibilities for what were traditionally male chores. During husbands' absence, added chores include raising livestock, fishing, building and repairing houses, digging, building fences, and so forth. The increased workload has raised the risk of women facing insecurity and violence. Most landmine victims are, for example, women and girls who encounter antipersonnel mines near water or firewood sources, or on the way to fetch water or firewood. Likewise, women spending more time far away from their homes have been victims of rapes and assaults.

Formal Employment

7.112 Table 7.8 indicates that Sudan is lagging behind other African countries with regard to women's participation in the formal labor force, which is 29 percent compared to 39.2 percent in Sub-Saharan Africa. In the formal economy, women are entering various specializations, such as medicine and nursing. Women dominate some services, such as primary school teaching, where they constitute more than 71 percent of staff. The participation of women in urban centers is minor, about 14 percent.¹⁷¹ In the nonfarm informal sector, women's participation is significant.¹⁷² Illiterate women dominate the lowest-income categories in the informal sector. With the exception of a few successful women, there are more women engaged in low-income-generating activities than men.

Table 7.8: Gender Structure of the Labor Force

	Total labor force (thousands)			Percentage females		
	1970	1980	1997	1970	1980	1997
All Africa	154,906	199,223	315,638	38.6	38.7	39.2
Sub-Saharan Africa	132,558	169,972	268,267	41.6	41.5	41.5
Sudan	5,128	6,912	10,817	26.7	26.9	28.8

Source: The World Bank.

7.113 In spite of the 1991 Public Order Act's provisions on mixed social gatherings, which virtually exclude women from the public sphere, women have gained opportunities in the civil service. Women both added to new posts and succeeded male professionals who resigned during the decades of economic decline and stagnation. As a result, real salaries in the civil service have declined.¹⁷³ In 1996, women constituted 53.2 percent in the Ministry of Foreign Affairs and 50 percent in the Ministry of Interior. In 1999, the proportion of women was 76 percent in the Ministry of Information and 70 percent in the Ministry of Finance. However, the number of women in high management positions in the public sector is close to nil.¹⁷⁴

7.114 Unemployment rates tend to be higher for females than for males.¹⁷⁵ However, the gender differential seems to have declined between 1990 and 1996. During 1990-1996, female unemployment declined from 33 percent to 22 percent in rural areas, and from roughly 36 percent to 34 percent in the urban areas. Comparatively, male unemployment did not change in rural areas (about 12 percent) but increased in urban areas from 10 to 15 percent in the same period.

¹⁷¹ The nature and the extent of women's participation in agriculture vary among states and agro-ecological zones. There is a wide range of regional differences in the participation of women in the labor force.

¹⁷² Ahfad University for Women, "Documentary Paper on Sudanese Women's Position." 1999.

¹⁷³ Balkis Badri and Atta Al-Bithani. 2002, op cit.

¹⁷⁴ See Niemat Kuku and Alawiyya Jamal: "Sudanese Women before and after Rio."

¹⁷⁵ UNDP/ILO. April 1998. "Toward Poverty Eradication in The Sudan: An Analysis of Human Capability Failure and a Foundation for a Strategy." Khartoum. The study was based on the 1996 Manpower Survey.

Political Participation and Advocacy

7.115 How should women in Sudan organize themselves in order to work for improving living conditions and narrowing the gender gap? Perceptions and ideas about political participation and how women could enter the corridors of political power vary. Most men and women seem to agree on the importance of bringing women's issues forward, but many resist the idea that men and women should have greater equality. Methods and instruments being advocated vary, including data collection and analysis of women's problems, public programs, advocacy groups (including NGOs), mobilization at the grassroots level, and networking with international agencies and organizations. While some give importance to gaining the support of political parties, others argue that women who are supported by political parties may often vote on political lines, rather than on the basis of women's issues and interests.

Political Participation

7.116 Women in Sudan seem to enter the political picture mainly through representation in women's groups. Women all over the country participate in the political sphere on a grassroots level, engaged in women's groups or as active voters. In 1956, women achieved the right to vote. Eight years later in 1964, women attained the right to be appointed to public office. The 1964 Constituent Assembly had the first woman representative. Subsequently, women have increasingly participated in party politics. The People's Assembly (after 1973) announced fixed percentages of seats for women. In 1994, women's membership in the Socialist Party was 33 percent; women held 18 percent of administrative positions and 21 percent of leadership positions. The 1998 Constitution allocated parliamentary seats to women. In practice, however, fixed percentages and allocations have not been achieved.

7.117 The number of women members in Parliament has never exceeded single digits. Women have relatively few positions in the legislative and executive arms of the government. The rate of representation in Parliament was lower in 1999 than in 1981-1984 and 1994-1995 (Table 7.9). There were 5 women in the Supreme Court among 27 judges in 1995. But in spite of low political representation, women are active voters. Based on the data available, the proportion of women voter turnout during the elections of 1965 and 1986 was higher than that of men. In 1986, women voters' turnout in the States of Khartoum, Blue Nile, Upper Nile, Bahr El Ghazal, Darfur, and Kordofan was 40 percent, 31percent, 21percent, 28 percent, 28 percent, and 23 percent, respectively, compared to 24 percent, 24 percent, 12 percent, 15 percent, 17 percent, and 16 percent, respectively, for men.

**Table 7.9: Participation in People's Assembly
(1973-1999)**

	(%)
The First People's Assembly, 1973	4.9
The Second People's Assembly, 1974-77	4.8
The Third People's Assembly, 1978-80	5.6
The Fourth People's Assembly, 1980-81	4.6
The Fifth People's Assembly, 1981-84	9.2
The 1994 Transitional National Assembly	9.2
The 1995 Transitional National Assembly	8.3
The 1999 National Assembly	6.5

Source: Compiled from various sources, including: Samia Yousif Idris: "The Political Advancement of Women in Sudan." in *SUDANOW*, September 1995; and Bilkis Badri and Atta Al-Bithani: "[in Arabic] Establishing Sudanese Women's Participation in the Political and General Affairs." The Arab Center for Human Rights. Mimeographed. 2002.

7.118 **In the war-affected areas** in southern Sudan, women are also increasingly involved in politics, mainly in women's groups. Very few have reached higher level representation. Women's organizations mainly operate at payam level (see Chapter 5 for a description of the governance

structure) and have largely been formed for income-generating and empowerment purposes. At the SPLM political level, women are starkly underrepresented, especially considering that women constitute about 65 percent of the population in southern Sudan. In order to increase women's representation, SPLM has a policy of affirmative action for women, but actions are lagging behind stated policies. There are only four women that have reached a higher political appointment in the SPLM, only one female county secretary, one SRRA woman county secretary and two women in courts, none higher than the regional court. There is also one woman chief.

7.119 Women's issues are organized through the SPLM Social Services Commission, which has a Secretariat for Women and Child Welfare (equivalent to a ministry). Women's associations work with functionaries of the secretariat, but internal relations and reporting requirements are not clearly defined. In practice, most women's associations' counterparts are the county commissioners, whose mandates for pursuing women's issues are limited. To highlight the importance of improving the status of women and girls, women's associations in cooperation with the SPLM arranged a women's conference, attended by about 700 women, in 1998. Women are well represented at the SPLM liberation councils, which meet once a year to discuss development issues in the community. At the County Congress, which meets every second year, women constitute about 25 percent of participants. The higher up in SPLM hierarchy, the less representation women get. The share of women is very low at the two top congress layers, the Regional and National Congresses.

Advocacy Through Women's Groups and NGOs

7.120 Government-sponsored women's organizations have existed since 1990. The largest organization so far is the General Union of Sudanese Women (GUSW), formed in 1990.¹⁷⁶ GUSW has been active in mobilizing women to exert influence. The General Directorate of Women in the Ministry of Welfare and Social Development has been involved in various women's welfare issues, including women's compensation and women's health and family affairs. In addition, many Sudanese NGOs that sprang up in the 1990s have been involved in women's issues with varying degrees of success.

7.121 Development of intellectual resources for women issues is being promoted through academic institutions. The Ahfad University for Women (AUW), a private university established in 1966, is a nongovernmental institution dedicated to empowering women and enhancing their status. AUW has generated a wealth of research and publications on women. AUW's Women in Studies Unit (WSU), created in 1986, provides a master's program in Gender and Development, among other things. Similarly, the Development Studies and Research Center (DSRC) of the University of Khartoum focuses on women's issues and provides training programs for women. There is also realization that more needs to be done to strengthen capacity on the diversity of women's issues and to extend awareness to the state level and local governments.

7.122 In southern Sudan, women's political participation and advocacy are exercised mainly through the women's associations within the SPLM three-tier structure. In addition, women also form various indigenous NGOs that work to bring forward women's issues. These organizations often receive support from international donors. New Sudan Women's Federation is training paralegals and trainers for adult education and conducting workshops to promote literacy and women's rights. Other women's NGOs work for conflict resolution and women's human rights. These organizations as well as individual women have been instrumental for the successes for people-to-people peace initiatives (see Chapter 1). Women's NGOs are often coordinated into a

¹⁷⁶ Ahfad University for Women, 1999, op cit.

network under an umbrella organization that promotes strong working relations with local authorities.

Government Programs

7.123 In the 1990s, the government explicitly included women's issues in national programs. Women's issues have been institutionalized within the public administration structure by creating Women in Development (WID) units in the federal and state government departments. The 10-year National Comprehensive Strategy (1992-2002) included objectives and specific policies for the advancement of women, with emphasis on reducing illiteracy and improving maternal mortality rates and women's health. It also sought to eradicate harmful social customs and practices. A "Ten-Year Plan of Action (1996-2005)" for women in agriculture was developed by the Ministry of Agriculture, Natural Resources, and Animal Health in 1995.¹⁷⁷ The plan recognized the significant role of women in traditional agriculture and in household food security. For example, access to land, credit, and high-yielding technology for women were identified as concerns.

7.124 Sudan was a participant of the Fourth World Women Conference in Beijing in 1995, and the government endorsed the conference's resolutions under Decree No. 50/203.¹⁷⁸ Ministerial Resolution No. 22 was issued in 1996 to follow up the Beijing Plan of Action, and a national commission was formed to prepare a National Plan for the Advancement of Women under the auspices of the First Lady. The commission produced the four-year plan of action, The National Plan for the Advancement of Women (NPAW), in September 1998.¹⁷⁹ The objectives cited in the NPAW were virtually the same as those in the National Comprehensive Plan, focused on education and legal rights of women and mitigation of social inequities, in addition to improving employment opportunities and women recruitment in leadership positions. The gains in women's education noted earlier are consistent with the WID objectives.

7.125 The government has established a Committee for the Eradication of the Abduction of Women and Children (CEAWC). Since 2002, CEAWC is placed in the President's office. CEAWC works closely with UNICEF to get the mainly women and children who have been abducted to return. Up to 2002, CEAWC had contributed to retrieving about 940 children and women from abductors.¹⁸⁰

7.126 The government together with religious leaders, academics, NGOs, and UN organizations developed a strategy for abolishing female genital mutilation in 2001. The strategy aims at working cross-sectorally to raise awareness of the benefits of discontinuing the practice of FGM. The long-term goal is to abolish FGM. A committee, including the Ministries of Education, Health, and Social Welfare; NGOs; and academic institutions, is managing the process.

¹⁷⁷ Ministry of Agriculture, Natural Resources, and Animal Wealth: "Ten-Year Plan of Action: Women in Agriculture and Food Security. Sudan. 1996-2005." Khartoum, Sudan. December 1995.

¹⁷⁸ UNECA. 1999, op cit.

¹⁷⁹ Ministry of Social Planning. "National Plan for the Advancement of Women," 1998-2002. September 1998.

¹⁸⁰ United Nations. "Consolidated Inter.-Agency Appeal 2002."

G. INTERNALLY DISPLACED AND REFUGEES

7.127 The prolonged civil war has high costs in terms of human suffering, death, and massive population movements of people within Sudan and from Sudan to neighboring countries.

Internally Displaced Persons

7.128 Since 1983, about 2 million have died and 4.5 million persons have abandoned their homesteads to become either internally displaced in their own country or refugees in other countries. With about 4 million IDPs (approximately 13 percent of the total population), Sudan has the world with the largest number of internally displaced in the world.

7.129 There is no unique reason behind these massive movements. People have fled as a consequence of war, interfactional fighting between southern resistance movements, traditional conflicts between or within ethnic groups, raids by armed militias, repeated human rights violations, floods, drought, and famine. Assessments of the characteristics of IDPs are further complicated by nomadic migration patterns and movements toward distribution centers for emergency assistance.

7.130 IDPs originated mainly from southern Sudan or contested areas, but drought and deforestation in western and central Sudan have added to the number. A large proportion of the IDPs fled their homes between 1983 and 1991, when the war in southern Sudan intensified. Armed conflict in the Nuba Mountains area have, since the early 1990s, produced a large number of uprooted and marginalized people. Others fled from oil field areas in Unity State and Upper Nile State after the late 1990s. Because of escalating conflicts in Bahr El Ghazal in 2001, the IDP situation also worsened there.

7.131 According to the United Nations, IDPs fled to both northern and southern parts in about equal proportions.¹⁸¹ About 1.8 million sought refuge in the Greater Khartoum area, where 260,000 were settled in 4 official IDP camps and the remainder in 15 main squatter areas in Khartoum. Half a million people migrated to eastern Sudan and to contested areas. About 1.4 million IDPs lived in SPLM/SPLA-controlled areas and 300,000 in government-controlled areas in southern Sudan. This signifies that a large proportion of the population in the south are displaced.

7.132 The majority of the IDPs have an agricultural background (crop farming, livestock, or agro-pastoralists), but when they fled, they lost all their assets or were stripped of them during migration. Many migrated within war zones, where they were particularly vulnerable to violations of human rights. In many rural areas, lawlessness, a general culture of violence, and availability of weapons contribute to relegating the IDPs to insecurity and to constraining their ability to access land or resources necessary to support a family. Though some have settled, most have moved repeatedly from place to place during the course of war. Many are exposed to extremely adverse situations, dependent on low paid day work in seasonal employment and emergency assistance. Many IDPs are therefore confined to further migration.

7.133 The large number of displacements exercises heavy pressure on natural resources and fuels tribal conflicts and violence. Various reports describe the displaced as extremely vulnerable and more impoverished than residents in the same areas.¹⁸² Malnutrition and mortality rates are

¹⁸¹ See www.idproject.org

¹⁸² www.idproject.org

higher. IDPs are exposed to regular outbreaks of disease, chronic food insecurity, and limited access to safe drinking water.

7.134 The impact of the destitution described above, lack of health services, and virtually no education for the overwhelming proportion of IDPs will have the greatest impact on children and their immediate employment prospects, as well as the prospects for future generations who are the offspring of those children. The loss of human capital from the decades of war will therefore take many decades to repair.

Refugees

7.135 The situation for the 490,000 refugees in neighboring countries is also desperate. About 180,000 Sudanese are in refugee camps in Uganda, 80,000 in Ethiopia, 75,000 in the Democratic Republic of Congo, and 70,000 in Kenya. Many had walked for months through war-torn areas, barely surviving and having seen children and weaker relatives die before they reached their destinations.

7.136 This humanitarian crisis will probably take a long time to resolve. Experience from other countries has been that it takes a long time to resettle displaced persons and refugees. Those who have fled war, violence, and famine will not move back until they feel confident about the security situation and the possibility of making a livelihood. One example is Mozambique.¹⁸³ Despite unusually positive developments after the peace agreement was signed, it took about six years before main people movements were resettled.

¹⁸³ After Frelimo and Renamo signed the peace agreement in 1992, developments were unusually positive. First, the ceasefire agreement was strictly obeyed by all parties. Second, democratic elections, with a large proportion of voters, were held just two years after the peace was signed and were deemed fair. Third, the UN monitored both peace and elections. Yet it took until about 1998 before the majority of people were resettled.

ANNEX A: NATIONAL INCOME FROM OIL PRODUCTION

1. The onset of oil production provided an important boost to the economy through increased GDP and budget revenue. However, to measure *fully* these impacts, both direct and indirect effects need to be taken into account. The indirect effects, in particular, are hard to quantify and may differ in the short versus the long term.

Impacts on the Federal Budget

2. In order to develop the oil sector, Sudan entered into production-sharing agreements with oil companies. Under these agreements, ownership of subterranean natural resources remains with the government, which has contracted oil companies to extract and develop oil in return for a share of any production that may result. The principles of production sharing are quite straightforward: The volume of oil produced in a particular field is divided into “cost oil” and “profit oil.” *Cost oil* covers the oil companies’ costs for extracting the oil—mainly fixed investment costs (recovered during the first five or so years of production), but also recurring operating costs. The remaining oil is *profit oil*, and it is shared by the government and the oil companies. The government takes the main part—about 70 percent of the profit oil—and the remaining 30 percent is allocated to the oil companies. The actual shares of profit oil versus cost oil vary depending on levels of production, the price of oil, actual costs, the rate of return, clauses in individual oil contracts, and various other factors. One issue with the production-sharing agreement in general is that production sharing is in terms of oil barrels, whereas costs are in U.S. dollars. In Sudan, a yearly adjustment takes place when the average oil price and the actual costs are known. A limit on cost oil is also imposed. Current Sudanese contracts have resulted in actual allocations of 40-45 percent of cost oil and 55-60 percent of profit oil.

3. The model for production sharing in Sudan is frontloaded to give priority to oil companies’ cost recovery of investment costs during the first five years of production. As a result, the government’s actual share after cost recovery is forecast to increase after 2005.

4. The government’s actual oil revenue consists of: (i) exports of crude oil (less pipeline charges of US\$6 per barrel); (ii) sales of refined products on the domestic market, (less pipeline charges and the cost of refining); (iii) income from Sudapet equity investment in the oil consortium; and (iv) signatory and other bonuses paid by the oil companies. From this is deducted the government’s repayments to the Chinese National Petroleum Corporation for the construction of the Khartoum refinery.

5. According to the Oil Law, oil companies are not obliged to pay any taxes.

6. According to Table A1 below, the public sector oil revenue increased from US\$63.5 million during 1999 to an average of about US 700 million per year during 2000-2002. In line with increased refinery capacity and domestic demand of petroleum products, revenue from sales of petroleum products in Sudan has increased rapidly. The main part of revenue from other sources than oil exports is local sales, which increased from about US\$15 million in 1999 to about US\$418 million in 2002.

Table A1: Government's Oil Revenue (US\$ million)

Year	Crude oil export	Other oil revenue¹⁸⁴	Total
1999	48.8	14.7	63.5
2000	372.2	339	711.2
2001	288.7	380.4	669.1
2002	283.4	417.9	701.3

Source: MoFNE, Oil Revenue Unit.

Impacts on GDP

7. The government is currently developing methods for calculating oil sector value-added to be included in the National Accounts, but these have not been completed yet.¹⁸⁵ One problem is that the deflators used for calculating real GDP growth have not been updated since 1982. Since oil production commenced in 1999, it is not clear which price deflators are used for deriving the real volume of oil sector developments. Oil production is shown in the National Accounts under mining and quarrying. Its share of GDP was estimated at 1.2 percent in 1999 and an estimated 3.5 percent in 2001. Because GDP measures all goods and services that are produced in Sudan, a share of 3.5 percent appears small in relation to oil export, which accounted for 11.4 percent of GDP in 2001.

8. Oil has other, less obvious indirect or long-term impacts on GDP. Some of these effects are positive for GDP growth, whereas others have a negative impact. Short- and long-term impacts may also vary in size and over time. One example is the removal of fuel shortages that used to constrain manufacturing and transportation (among other sectors). This will certainly have a positive impact on GDP, but it is difficult to quantify. According to the Sudan Chamber of Commerce, about 85 percent of small industries and factories in Khartoum's main industry area (Omdurman) used to operate below full capacity mainly because of power shortages caused by limited access to fuel. With increased access to fuel, especially diesel for generators, these industries are now operating under less binding capacity constraints. Other examples of positive effects that are difficult to quantify are increased work opportunities in surrounding sectors such as services and manufacturing industries.

9. Effects with a negative impact on GDP growth are, for example, the long-term environmental and cultural effects of oil drilling on the environment and displacement of local populations. Oil may also have contributed to the prolongation and intensity of the civil war. Researchers have shown from cross-country analyses that the impact of oil production in a number of countries has been negative for long-term GDP growth through the increased probability of civil wars.¹⁸⁶

Liberalization and Increased Transparency in the Oil Sector

10. As highlighted in Chapter 5, one cannot overstate the importance of strengthened institutions for fiduciary risk management for the oil sector. It is important to ensure that oil-related receipts, indeed all public receipts, are used in a transparent budget process, that there is

¹⁸⁴ Other oil revenue includes net profit from local sales, income from Sudapet, and bonuses.

¹⁸⁵ IMF, June 2002.

¹⁸⁶ Paul Collier and Anke Hoeffler, "The Political Economy of Sessation." June 2002.

open information to the public on the application of funds, and that legal instruments are applied to limit any malpractices.

11. The public sector is involved and operates in the oil sector mainly through the fully state-owned Sudan Petroleum Corporation (SPC) and its subsidiaries. The SPC, organized under the Ministry of Energy, regulates, monitors, and controls the financial flows of the oil industry on behalf of the government. It participates through its subsidiaries in oil exploration, production, distribution, and refining. One of SPC's important subsidiaries is Sudapet, which holds 5 percent of the stakes in the oil consortium. Other important subsidiaries are Nile Local Distribution Company, which is the largest oil distribution company, and all refineries (El Obeid, Khartoum, Port Sudan, Abu Gabra).

12. In the past, before oil production commenced, SPC had monopoly rights to import, store, and distribute petroleum products that were sold to the end-consumers at set prices. As a result of recent reforms, SPC no longer enjoys monopoly status, nor does it incur losses from domestic sales of petroleum products. Since the end of 2001, domestic oil prices are a reflection of the international prices through a markup mechanism. The new pricing mechanism is revised quarterly, and SPC collects and transfers oil revenue to the federal budget through a foreign exchange account at the Bank of Sudan. SPC is also responsible for exporting the government's share of crude oil.

13. SPC, as a key player in the oil sector, is audited every year by the Auditor General. Steps have been taken to correct shortcomings pointed out by the audits. Arrears in the transfer of oil revenue from the SPC to the budget have been addressed; debt service payments for the construction of the Khartoum refinery have been fully incorporated in the federal budget; qualified accountants have been hired at the SPC; and coordination between government agencies involved in the oil sector (SPC, MoFNE, Ministry of Energy, and the Bank of Sudan) has been improved. Starting in January 2003, all in-kind transactions in oil and netting operations between government agencies have been abolished. Instead, cash payments for all obligations, including payments of the pipeline fee, have been budgeted. Furthermore, by the end of 2003, the accounts of all subsidiaries of SPC will be audited, and a program to align their accounting systems with international standards will be introduced. These are positive steps toward increased transparency in the sector. Further steps to strengthen institutions such as the Treasury, appropriate committees of the Parliament, the Accountant General, and internal and external auditing are welcome.

Future Oil Revenue

14. How much oil is there in Sudan, and how much oil revenue could the country earn for the future? Forecasts of oil production and oil revenue are difficult to make and highly uncertain. Even so, the PFC strategic studies have published projections of oil production and revenues up to 2022.¹⁸⁷ According to PFC, proven reserves, which stood at 417 million barrels in 1997, increased rapidly to 1.2 billion barrels by August 2002. This estimate includes only the two oil fields blocks (blocks 1 and 2), where oil production currently takes place. The current level of oil extraction within the oil fields in these two blocks would keep oil production at about 300,000 barrels per day up to about 2005, after which production would decline. However, another 13 blocks exist (blocks 3-15), as well as oil fields not yet explored within blocks 1 and 2.

¹⁸⁷ See "Sudan: Projected Oil Production and Revenues." M. Rodgers, PFC Strategic Studies, August 2002.

15. According to the PFC strategic studies, the richest oil fields¹⁸⁸ will generate reserves in the range of 600-4,000 million barrels, most likely around 1.65 billion barrels. These fields are all situated in areas that are contested today and/or where security concerns dissuade oil companies from drilling. The PFC concludes that security concerns and technical aspects imply that significant production could start by 2006 at the earliest. Production after 2006 in new and current oil fields would average about 500,000 barrels per day. Government net cash flow could reach about US\$1.7 billion by 2009, and the government would receive about US\$30 billion over the life of this production. The oil companies' share is estimated to be about 18 percent, or about US\$5.5 billion.¹⁸⁹

¹⁸⁸ Those are the fields in blocks 3, 4, 5A, 5B, 5, and 7. These blocks are close to blocks 1 and 2.

¹⁸⁹ There estimations are based on oil prices in the range of US\$18-25 per barrel.

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