



SUDAN

Water and Sanitation Profile

POPULATION AND HEALTH STATISTICS	
Population (2008)	41.3 million ^a
Proportion of population living in urban areas (2008)	43% ^a
Average annual urban/rural population growth rates (1990-2008)	5.1 / 0.9 % ^a
Under age 5 mortality rate (2007)	109/1000 live births ^b
Under age 5 mortality rate due to diarrheal disease (2004)	13.1% ^b
<small>Note: Most recently available data provided. ^a World Bank. 2009 World Development Indicators (WDI) Database. ^b World Health Organization (WHO). World Health Statistics 2009.</small>	

WSS SECTOR OVERVIEW

Sudan is the largest country in Africa in terms of geographic area. The northern regions consist mostly of desert and savannah, while the southern region consists of tropical forests and marshlands. Approximately 80 percent of Sudan's land area lies within the Nile River Basin, and approximately 85 percent of the water flowing in the Nile River occurs within a brief period between July and September. Insufficient storage capacity is a significant factor limiting water supplies and existing dams have significantly silted, reducing their storage volumes by one-third.¹

Between 1983 and 2005, Sudan was engulfed in civil war, mostly between its northern regions and southern region. More recently, conflicts have been ongoing between the central national government, located in the north, and the western region of Darfur. Massive migrations have occurred since 1983 due to the various conflicts. In September 2009, the United Nations High Commissioner for Refugees (UNHCR)

¹ UN Educational, Scientific, and Cultural Organization (UNESCO). *The UN World Water Development Report 3* (2009).

estimated a total of 4.9 million internally displaced persons (IDPs) throughout Sudan.² The country also hosts approximately 300,000 foreign refugees, primarily from Eritrea and Chad.³ The migrations have had a significant impact on the ability to provide adequate water supply and sanitation (WSS) to the population.

The Khartoum State is the major population center of Sudan with over 7 million persons; this amount includes as many as 1.7 million IDPs living in official IDP camps and unauthorized squatter areas.⁴ As refugees have fled to Khartoum and other urban centers, peri-urban areas, and squatter camps, the rapid population increases have severely stressed WSS infrastructure in these areas.

Between 2005 and mid-2009, an estimated 1.9 million persons returned to the south.⁵ After years of conflict, WSS infrastructure and facilities in the southern region have greatly deteriorated due to lack of

WATER AVAILABILITY IN SUDAN	
Renewable water resources per capita, m ³ /person/year (2008)	726 ^c
Water withdrawals, m ³ /person/year (2002)	1,025 ^c
Projected water resources per capita, m ³ /person/year in 2015	617 ^d
<small>Note: Most recently available data provided. ^c UN Food and Agriculture Organization (FAO). <i>FAO Aquastat Database</i>. "Freshwater resources" refers to estimates of runoff into rivers and recharge of ground water and does not include flows from other countries. ^d Note this value was calculated using a straight-line calculation based on average population growth rates (1990-2008) with no adjustment for consumption or technology changes. Data was obtained from <i>World Bank WDI Database</i> (population) and <i>FAO Aquastat Database</i> (water resources).</small>	

² UN UNHCR. *IDPs and Refugees in Central and East Africa* (2009).

³ U.S. Committee for Refugees and Immigrants. *World Refugee Survey* (2008).

⁴ UNHCR. *2010 UNHCR Country Operations Profile – Sudan*.

⁵ International Organization for Migration. *Total Returns to South Sudan: Post CPA to June 2009* (2009).

operation and maintenance (O&M) arrangements, poor quality of construction and physical destruction. The South Sudan Urban Water Corporation (UWC) has been actively working to improve conditions in and around Juba, the capital of Southern Sudan.

WSS SECTOR FRAMEWORK

Sudan's recovery from the civil war and the current humanitarian operations in response to the Darfur crisis are the driving forces in the sector. A Comprehensive Peace Agreement (CPA) between the north and south was signed in 2005, which resulted in the formation of the Government of National Unity (GNU). GNU includes political elements from both the north and south and it currently operates as the central government. Per the CPA, an autonomous Government of Southern Sudan (GOSS) was also created in 2005, and a referendum in 2011 will allow the southern region to vote for complete independence.

Within GNU, the Ministry of Irrigation and Water Resources provides overall leadership within the water sector. The Ministry of Agriculture and Forests oversees agricultural policies and practices. The National Water Corporation is responsible for governance of the drinking water sub-sector, while State Drinking Water Corporations, under the authority of respective state ministers, are responsible for operations.⁶ The National Council for Water Resources was formed in 1999 as a high-level decision making body for policies and legislation and consists of representatives from water-related ministries, state governments and stakeholders.

Three ministries oversee the water sector for GOSS. The Ministry of Water Resources and Irrigation has overall leadership of the sector, water resources management, and water for production. The Ministry of Cooperatives and Rural Development oversees rural water supply and sanitation. The Ministry of Housing, Physical Planning and Environment manages urban sewerage. The Southern Sudan Urban Water Corporation provides water services to urban and peri-urban areas within the region.

KEY GOVERNMENT AGENCIES

Agency	Description	Contact Information
Ministry of Irrigation and Water Resources, GNU	<ul style="list-style-type: none"> Overall leadership of water sector; Water resources management. 	Mayom Koch Malek Minister of State Tel: 249-183-773-837
Ministry of Agriculture, GNU	<ul style="list-style-type: none"> Oversees agricultural practices including irrigation. 	Abdulrahim Ali Hamad Minister of State
Ministry of Water Resources and Irrigation, GOSS	<ul style="list-style-type: none"> Oversees policies, master plans and regulations for water resources management; Oversees the Water Corporation of Southern Sudan. 	Isaac Liabwel Undersecretary Isaac.liabwel@gmail.com Tel: 249-811-823557
Ministry of Cooperatives and Rural Development, GOSS	<ul style="list-style-type: none"> Develops strategies for rural development, including organizing self-help programs. 	Bortel Mori Nyombe Undersecretary mcrdgoos@yahoo.com Tel: 249-914-212-385
Ministry of Housing, Physical Planning and Environment, GOSS	<ul style="list-style-type: none"> Oversees sewage disposal and treatment in urban areas. 	Raymond Pitya Morbe Undersecretary mhlpuj@yahoo.com Tel: 256-477-113-911
Rural Water Supply and Sanitation Regional Directorates	<ul style="list-style-type: none"> Coordinates, plans, and implements WSS service delivery and hygiene promotion in rural areas. 	
KSWC	<ul style="list-style-type: none"> Water service to Khartoum and surrounding metro areas. 	Khalid Ali Khalid General Manager kswcop@yahoo.com Tel: 249-183-780-787
Southern Sudan Urban Water Corporation	<ul style="list-style-type: none"> Provides water service to urban and peri-urban areas in Southern Sudan. 	Chamjok Wiitour General Manager

In recent years, very little federal spending has gone toward water programs. Most water programs in southern Sudan are currently being managed by humanitarian agencies, which also provide technical, material, and capacity-building support. Generally, a lack of coordination and legislative enforcement, and unclear responsibilities between different ministries and other government organizations have been leading institutional issues within Sudan.⁷

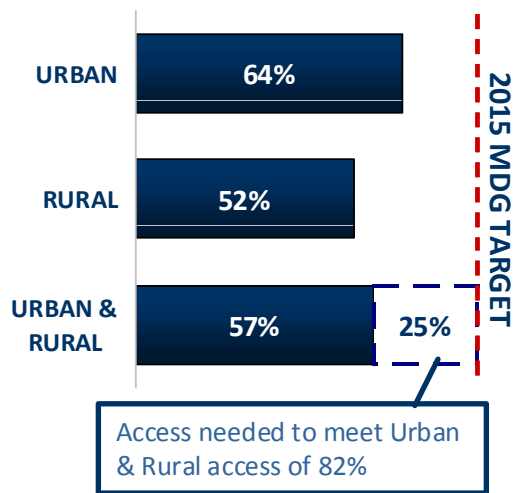
THE URBAN SUB-SECTOR

Khartoum City and the surrounding urban areas are served by the Khartoum State Water Corporation

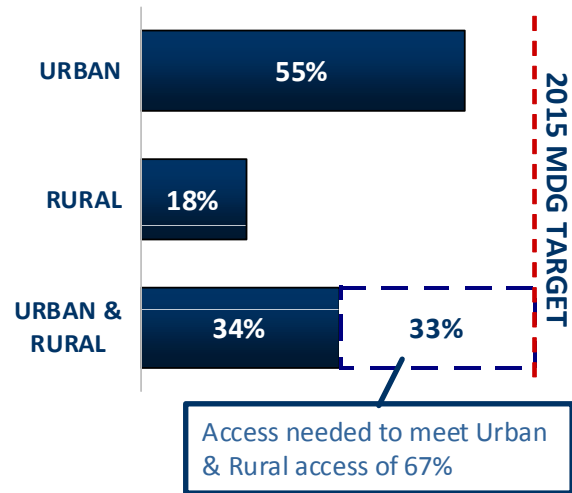
⁶ Austria Ministry for Foreign Affairs. *Water Policy and Reform Process*.

⁷ UNESCO. *The UN World Water Development Report 3, Case Studies* (2009).

Meeting MDG 7: Access to Water in 2008



Meeting MDG 7: Access to Sanitation in 2008



Data Source: WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP), *Progress on Sanitation and Drinking Water, 2010 Update*. Note on comparing baseline data from earlier reports: The JMP methodology uses all available data in each successive report. This means that estimates may be recalculated for earlier years if more data becomes available. The JMP notes that these new estimates may affect the baseline reported in earlier data sets.

(KSWC). There is a critical shortage of potable water in greater Khartoum City. Demand has been estimated in excess of one million cubic meters per day, with around two-thirds of the city currently not supplied with water. Many of Khartoum's residents currently have to drink insufficiently treated water, which leads to disease and public health issues. Non-revenue water and a low capacity to operate and maintain the system on a sustainable basis continue to be a problem. The central government highly subsidizes KSWC, and water users are charged very little, if at all, for access and consumption.

Where urban WSS services do not exist, water customers will pay a considerable portion of their income to small water enterprises (SWEs). SWEs are water haulers who often operate on thin profit margins due to taxing practices by local government agents.

In southern Sudan, a master plan for the water supply system was developed and the South Sudan UWC has been working to improve institutional capacity with international assistance.

THE RURAL SUB-SECTOR

Sudan's rural WSS sub-sector is grossly inadequate due to the long years of conflict and displacement of its residents. Severe water scarcity remains a serious constraint on development in arid and semi-arid areas.

In southern Sudan, United Nations Children's Fund (UNICEF) records show that of 6,500 rural water points recorded in a database, only 35 percent may currently be operational because of the war, lack of O&M, and poor quality of construction. Evidence also suggests that water consumption at existing water points does not exceed six liters per capita per day (primarily due to the long transportation distance between water points and settlements), which is far below the recommended standard of 20 liters.⁸

Nevertheless, humanitarian operations are particularly focused on expanding access to water points and adequate sanitation facilities in the face of many challenges, including the ongoing conflicts, high rates of returning refugees, and institutional disorganization.

DONOR INVOLVEMENT

An Oslo Donors Conference on Sudan was held in April 2005 and included over 60 countries. The Conference resulted in pledges of greater than US\$ 4.5 billion, including US\$ 508 million for two Multi-Donor Trust Funds, one for the entire country (MDTF-National) and one for Southern Sudan (MDTF-South). The MDTFs, administered by the World Bank, were later increased to over US\$ 626 million. In May 2008, at an annual Sudan Consortium in Oslo, donors

⁸ World Bank. *Project Information Document: Rural Water and Sanitation, Government of Southern Sudan* (2006).

pledged an additional US\$ 4.8 billion, including US\$ 650 million for the World Bank MDTFs.

The United States and EU have been the lead donors in Sudan since 2005 and have provided over US \$6 billion and US\$ 1.2 billion in assistance, respectively. A majority of this funding is directed towards ongoing

(Darfur) and post-conflict humanitarian interventions in the form of food aid and disaster assistance. The African Development Bank has been the lead agency in the area of infrastructure. In the north, the MDTF's Community Development Fund provides basic social services (health, education, water) in war-affected areas.

DONOR	ACTIVITIES	CONTACT INFORMATION ^e
The World Bank	<ul style="list-style-type: none"> ▪ Rural WSS infrastructure development; ▪ Small-scale O&M capacity building and information management. 	Solomon Alemu salemu@worldbank.org Tel: 202-473-4075
United Kingdom Department for International Development (DFID)	<ul style="list-style-type: none"> ▪ Access to basic water and sanitation services; ▪ Transboundary issues – Nile River Basin Initiative; ▪ Basic services for refugees. 	Sam Grout-Smith s-grout-smith@dfid.gov.uk Tel: 249-183-741-760
UNICEF	<ul style="list-style-type: none"> ▪ Strengthening the WSS capacity for basic services in South Sudan; ▪ Basic services for refugees; ▪ Increasing access to water and sanitation, set-up of water pump committees for more sustainable O&M. 	Khartoum@unicef.org Tel: 249-183-471-837 (Khartoum) Tel: 249-811-820-243 (Juba, S. Sudan)
European Union	<ul style="list-style-type: none"> ▪ Basic services for refugees ▪ Humanitarian services, access to water and sanitation for returning refugees ▪ Donor coordination 	Amb. Torben Brylle eusr.sudan@consilium.europa.eu
<p>^eContact information may change frequently and therefore be different from what is noted above.</p>		

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Additional information and sources that aided in the completion of this report included: the World Bank, *Rural Water Supply and Sanitation Project Information Document* (2006); USAID-DCHA *Sudan Monthly Update* (2005); USAID-DCHA *Sudan Complex Emergency Situation Report #1, FY 2009* (2008); USAID-OFDA, *Funding Guidance Darfur, Sudan* (February, 2008); and Japan International Cooperation Agency (JICA), *Scope of Work for Juba Urban Water Supply Capacity Development Study in Southern Sudan* (February 2008).

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