



Emergency Country Profile – Sudan



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Process

This document has been prepared using the following process:

- The WHO Country Office (WHO CO) in collaboration with the Federal Ministry of Health of Sudan (FMOH) has compiled information and data using the original ECP template
- This information has then been completed by a:
 - o Joint WHO CO-FMOH visit to the Southern Kordufan And Blue Nile States
 - o Desktop review conducted by the WMC to complete section 2 and Annex 1
- The final draft has then been circulated internally to WHO for review and cleared by the WHO Country Office and the Federal Ministry of Health of Sudan.

Please note that this is a living document which is meant to be updated regularly as new source of information becomes available and/or the situation evolves in the country. This version has not yet been reviewed by an editor.

1. Executive Summary

1.a Context

Sudan has long been plagued by civil war and regional conflict. In the fifty years since achieving independence, the country as a whole has been at peace for only eleven years (1972-1983). While a historic peace agreement was reached for Southern Sudan in 2005, conflict rages on in Darfur. Adding to the burden of war, Sudan has experienced several severe droughts in the past thirty years, and food production in many regions has dropped at the same time as the population has increased. [1]

The combined impacts of conflict and food insecurity have caused over five million Sudanese to be both internally and internationally displaced into camps and urban fringes, and over five million to receive international food aid [2, 3].

1.b Health Risk profile

The major threats to public health in Sudan are droughts, floods, epidemics and internal conflicts. Population's vulnerability is mainly linked to Malnutrition; Food insecurity; Food availability and accessibility; People in need of medical services; Health services delivery.

The current fragile situation could be exacerbated by the results of the forthcoming referendum on Southern Sudan self-determination to take place in January 9th, 2011 and the conflicts that might follow.

1.c Country Priority needs

Prepositioning medicines in the border areas between northern and southern Sudan ahead of the scheduled 9 January 2011 referendum to ensure that health facilities stay operational even if supply routes were interrupted by conflict and violence. Priority areas of the country for this prepositioning includes: The entire area of Abyei (planned to be the most affected by the referendum); Keilak, Buram, Mujlad and Abujebiha in South Kordofan; Eldein and Baharul Arab in South Darfur [42].

The prepositioning includes supplies to ensure access to emergency basic services at PHC and referral level, supplies used to control seasonal and population movement related disease outbreaks mainly targeting mothers, children and elderly population (most vulnerable segment) malaria, diarrhoeal diseases, meningitis, hemorrhagic fever, water quality control and many common ailments for an estimated caseload of 3.1 to 3.2 million people over all Sudan [42, 43], including 480 000 children under five and 130 000 pregnant women [42].

The prepositioning started mid-November and should be finalized before the referendum. US\$5 million funding is needed to cover the costs of Health Cluster partners for this operation.

2. Hazard Profile

2.a Current Situation

The number of incidents of inter/intra-tribal conflicts in the region reached already 70 separate incidents in the first two months of 2010 alone compared to 102 incidents during the last year. In May 2010, nearly 600 people died in rebel and tribal fighting in Sudan's Darfur region, the bloodiest month that the territory has seen in more than two years [9].

Sudan is now preparing for the January 2011 referendum on Southern Sudan self-determination mandated by the Comprehensive Peace Agreement (CPA). Although an explosion of full scale North-South war is not inevitable; the risk of new outbreaks of conflict in hot-spot areas is envisaged [9].

If the separation happens, the process that will follow might impact the challenge of peace and security for the people of Sudan and the overall objective behind the establishment of the Comprehensive Peace Agreement. Potentials sources of conflict linked to the referendum could include:

- Cultural differences between the Norths predominately Afro-Arab and Muslim, and the Southerners who are mostly Christians [13].
- Lack of basic infrastructure[14] and population encountering barriers to access water sanitation and others public services
- Economic and cultural dependence of the South [15]
- Ethnic division in the South and the related internal conflicts around the collaboration strategy with the North [14]
- Delay and the complexity around the vote process [16]
- Lack of capacity to ensure the independence of the South Sudan[15]
- Internal borders not fixed yet: there are no clear boundaries demarcating the North and the South borders, along which most of Sudan's oil wealth lies [17].
- Petroleum resources of the South and its potential impact on the border issue [16]
- Influx of refugees living in the northern states [18].
- Blue Nile and Southern Kordufan, including the Abyei Administrative Area, are geographically part of the North, but have historical, tribal and ethnic links to the south [19]

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2.b Past disasters

Table 1, Figure 1 and table 2 gives an overview of the disasters that have occurred in Sudan between 1980 and 2007 [20]. These figures and maps are complemented by Annex 2 which shows more detailed information regarding the events which took place between 1965 and 2002 [7].

No of events:	68
No of people killed:	160,468
Average killed per year:	5,731
No of people affected:	28,897,157
Average affected per year:	1,032,041
Economic Damage (US\$ X 1,000):	526,200
Economic Damage per year (US\$ X 1,000):	18,793

Table 1: General overview for the disasters that occurred in the country between 1980 and 2007 [20]

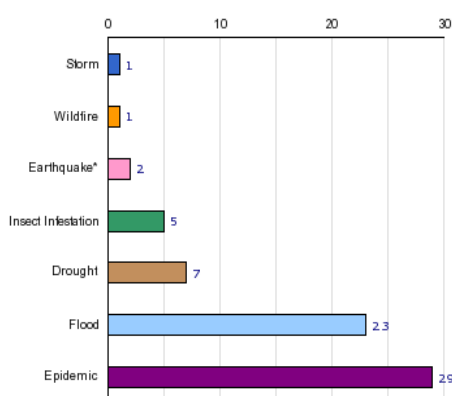


Figure 1: Disaster occurrence reported (1980-2007) [20]

Affected People

Disaster	Date	Affected (no. of people)
Drought	1991	8,600,000
Drought	1983	8,400,000
Drought	1987	3,450,000
Flood	1988	2,500,000
Drought	2000	2,000,000
Flood	1998	1,000,000
Drought	1990	600,000
Flood	2007	565,335
Flood	2003	325,056
Drought	1996	160,000

Table 2: Top ten natural disasters reported (1980-2007) [20]

It has for the moment not been possible to identify sources of information reporting on the number of health personnel and/or facilities affected during these events.

2.c Major hazards

Sudan major hazards are periodic persistent droughts, floods, epidemics and internal conflicts.

- **Drought (Figure 2):** Sudan has suffered a number of long and devastating droughts in the past decades, which have undermined food security and are strongly linked to human displacement and related conflicts. The vulnerability to drought is exacerbated by the tendency to maximize livestock herd sizes rather than quality, and by the lack of secure water sources such as deep boreholes that can be relied on during short dry spells [1].

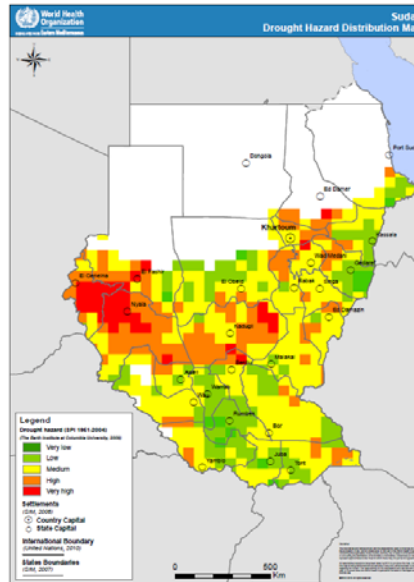


Figure 2: Drought hazard distribution map [4]

- **Flood (Figure 3):** Despite serious water shortages, floods are also common in Sudan. The most devastating occur on the Blue Nile, as a result of deforestation and overgrazing in the river's upper catchment. One of the main impacts of watershed degradation and associated flooding is severe riverbank erosion in the narrow but fertile Nile riverine strip. [1]

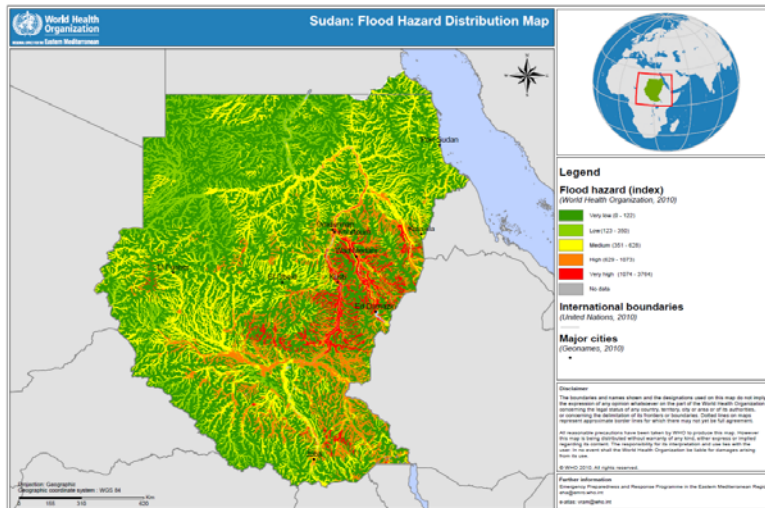


Figure 3: Flood hazard distribution map [5]

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Figure 4 complements the maps presented on Figures 2 and 3 by showing the distribution of the population exposed to the different hazard intensity levels for drought and flood.

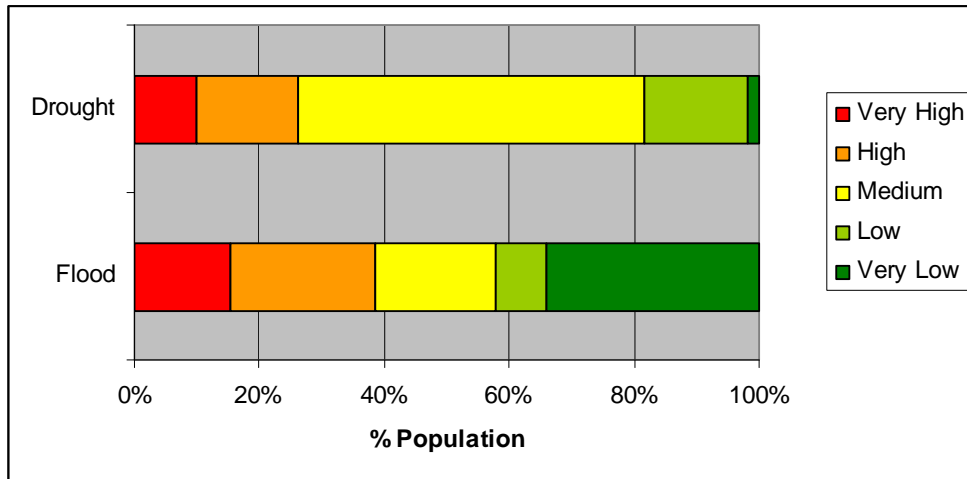
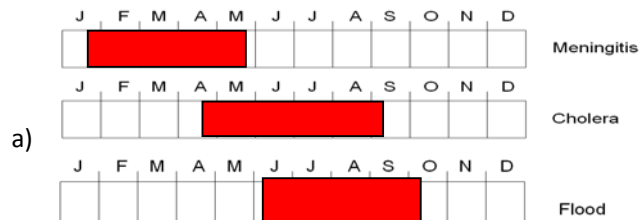


Figure 4: Population exposure by level of intensity for drought and flood hazard

- **Epidemics:** Excessive burden of communicable diseases, e.g. malaria, tuberculosis, hepatitis, vaccine-preventable diseases, and neglected tropical diseases in the South. In addition to that:
 - Dengue Fever is seasonal and growing up in eastern Sudan States,
 - Yellow Fever (2005) happened in Southern Kordufan and could occur again,
 - Sudan yield under Meningitis Belt,
 - Sudan yield under Rift Valley Belt extending along horn of Africa.
- Also to be noted the emerging problems of non-communicable disease and of HIV/AIDS [6]. Please refer to section 3 for a more complete epidemiological profile of the country.

- **Internal conflicts:** Sudan has been plagued by armed conflicts for most of its existence and continues facing outbreaks of violence in many of the states for reasons related to ideological/political, ethnic, resources and all underlying root causes of poverty.

Due to the important size of the country, the seasonality of the major hazards varies from one part of the country to the other. As an example, Figure 5 reports on the seasonality for 3 of the major hazards in the following States: South Kordofan, Blue Nile and South Darfur.



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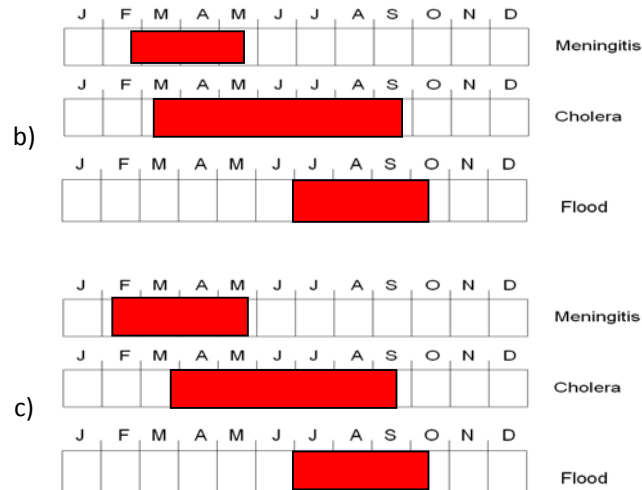


Figure 5: Seasonality of 3 major hazards for Southern Kordufan (a), Blue Nile (b) and South Darfur (c)

2.d Other hazards

While of less importance in terms of direct impacts on population's health the following hazards are presented here to complement the previous section:

- **Natural hazards:** heat wave (Figure 6a), dust storm (can cover vast regions and last for days in the central part of the country [1]) and seismic (Figure 6b) hazards are the next one on the list followed much further by landslides (Figure 6c). Figure 7 shows the distribution of the population according to intensity levels reported on the maps.

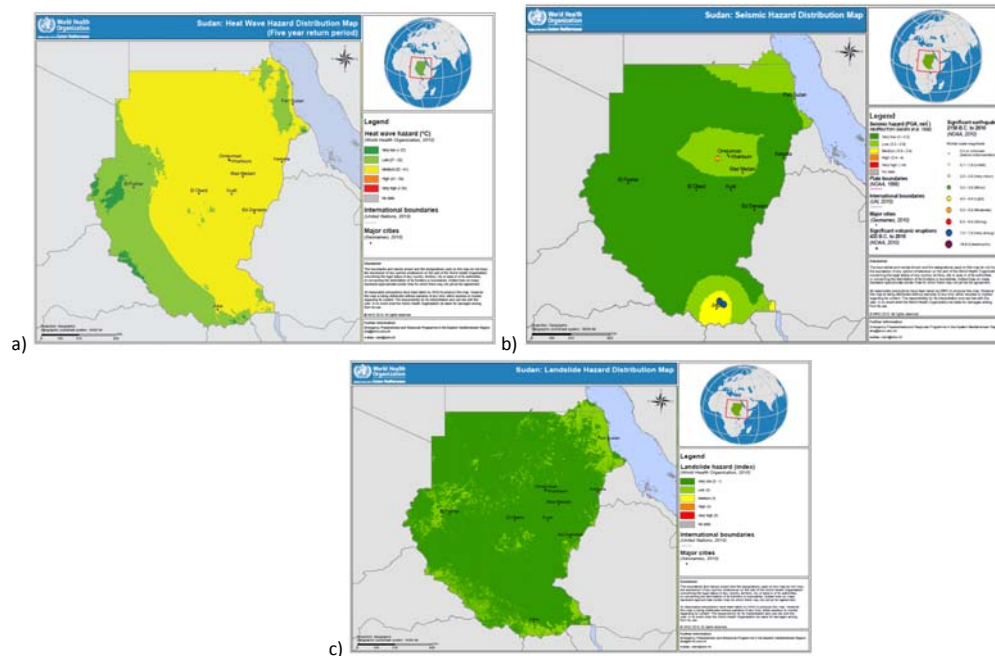


Figure 6: Heat wave (a), seismic (b) and landslide hazard (c) distribution maps for Sudan [5]

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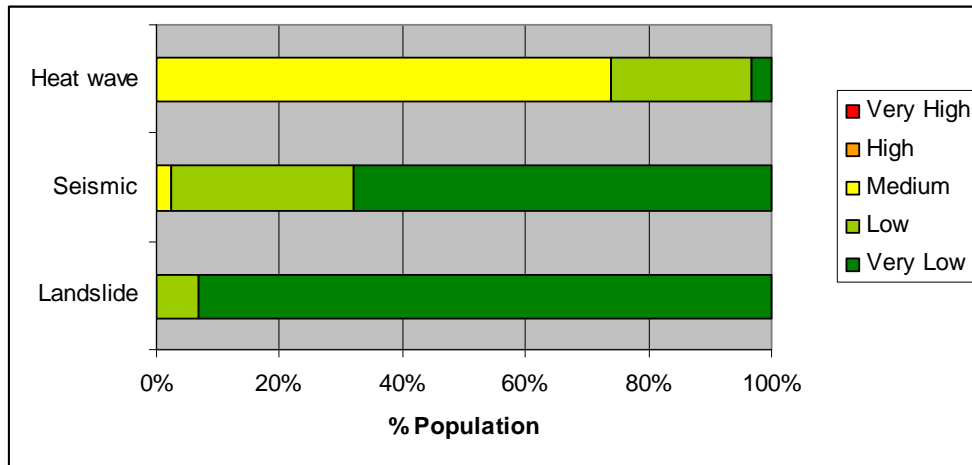


Figure 7: Population exposure by level of intensity for heat wave, seismic and landslide hazard

- **Biological hazards:** The following is important to be mentioned because of the importance of agriculture and livestock in Sudan:
 - o Pest infestations are a major threat and the country is plagued by a large numbers of pests, including weeds and crop diseases [7]. The Desert Locust situation continues to remain a cause for concern in Sudan. Despite control efforts during November, adults formed small groups that moved to northeast Sudan and laid eggs while several other groups crossed the Red Sea to the northern coast of Saudi Arabia. If good rains fall in either country, locust numbers could increase rapidly and threaten the region [8].
 - o Livestock diseases pose an important threat because of the vast populations of livestock in the country. The country possessed over 130 million heads of cattle, sheep goats and camels raised under nomadic systems in 2002 [7].
- **Technological hazards:** Sudan's industrial sector is currently undergoing rapid change and expansion. Historically limited to utilities and small-scale food processing, the sector is now booming thanks to oil production, which began in 1999 [1]. As reported by UNEP [1], environmental governance in the industrial sector of Sudan is problematic and in need of major improvement and reform. Due to the relatively limited level of industrial development to date, environmental damage has so far been moderate, but the situation is expected to worsen rapidly as Sudan embarks on an oil-financed development boom.

3. Public Health Profile

3.a Selected Public Health Indicators

Please refer to Annex 3 for another set of indicators and graphs coming from the WHO Global Health observatory (GHO) [38].

Table 3 presents some selected public health indicators. Please note that the figures reported for the Sudan Household Survey (SHHS) in this table will be updated as soon as the second version of the report will have been released in the coming months.

Indicator	Estimated Status in 2009-2010	Source
Birth Rate	33 births per 1000 population 37.8% → National 50.5% → South	Country Cooperation Strategy for WHO & Sudan 2008-2013 [6]
Crude Mortality Rate	13 deaths per 1000 population 11.5% → National 22.0% → South	Country Cooperation Strategy for WHO & Sudan 2008-2013 [6]
Infant Mortality Rate	81 per 1,000 live births	Sudan Household Survey (SHHS) 2006/2007 [21]
Under 5 Mortality Rate	112 per 1,000	Sudan Household Survey (SHHS) 2006/2007 [21]
Maternal Mortality Rate	638 per 100,000 live births	Sudan Household Survey (SHHS) 2006/2007 [21]
Immunization Coverage	BCG: 82% DTP3: 84% Polio3: 84% Measles: 82% HepB3: 76% HiB3: 76%	WHO-Unicef estimates (July 2010)
HIV/AIDS	0.67% among the general population	Sudan National Aids Control Programme (SNAP), 2009
Prevalent Diseases	Malaria, Water born diseases, TB, Kalazar	FMOH
Recent Outbreaks	Meningitis, Acute Diarrhoea, measles, Dengue Fever	Epidemiology Department, FMOH
Any Other that is national priority	Pandemic Influenza	
Malnutrition Rate	41% children < 5 underweight 26% population undernourished	WFP (October 2009)

Table 3: Selected Public Health Indicators [6, 21]

3.b Epidemiological profile: prevalent diseases, seasonal peak and leading causes of morbidity and mortality

Please refer to the Communicable Disease Profile for Sudan [36] for information on the major communicable disease threats faced by the population. The list of endemic and epidemic-prone diseases has been selected on the basis of the burden of morbidity and mortality, and includes acute lower respiratory tract infections, African trypanosomiasis, bacillary dysentery, cholera, HIV/AIDS, malaria, measles, tuberculosis and yellow fever. Diseases for which there are global eradication or elimination goals are also included.

The main causes of morbidity and mortality are parasitic diseases such as malaria, and tuberculosis, diarrhoeal diseases and respiratory infections. Widespread chronic malnutrition, natural disasters and population displacement further accentuate the high mortality and morbidity rates. As well, maternal mortality is very high due to lack of health facilities and shortage of personnel, especially in the south. A host of tropical diseases such as leishmaniasis, human African trypanosomiasis, lymphatic filariasis, dracunculiasis, leprosy, dengue, trachoma, intestinal nematode infections and onchocerciasis are prevalent in south Sudan [6].

Please refer to section 2.5 of the Country Cooperation Strategy for WHO and Sudan [6] for more details on the leading causes of morbidity and mortality.

3.c Environmental health: Water sanitation

Water and sanitation systems in the country is poor (less than 50% population has access to piped water and chlorination remains inconsistent due to resource constraints), high burden and outbreaks of water borne diseases are expected and do continue to occur.

3.d Administrative structure of health system: level of care, health services provision.

The three-tier health system is comprised of Federal Ministry of Health (FMOH), State Ministries of Health (SMoH) and Locality Health Management Authorities. The FMOH working in collaboration with SMoH is responsible for formulating national health policies and strategic planning, human resources planning and development, health legislation, response to epidemics, and international health. SMoH are responsible for adopting and implementing policy, detailed health planning, and programming and project formulation. This level also bears direct responsibility to organize the health services in the state and support local health authorities [39].

The third layer is the locality level, where a local health authority is based on district health system approach, which emphasizes the primary health care. However, there is a dichotomy in the administration of health services at locality level. The lower level health facilities, i.e. PHC units, dressing stations, dispensaries and health centres are the management responsibility of the locality, while technically being under SMoH. The rural hospitals, on the other hand, are the responsibility of the SMoH [39].

The country is currently missing a complete and up-to-date health facility registry. Building on the information collected in Greater Darfur through the implementation of HeRAMS (Annex 4),

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Separated efforts are currently taking place for Southern Kordufan (including Abyei Administrative Area) and Blue Nile.

Health System in Public Sector

Level of Care	Administrative Unit	Health Facility	Population Coverage
Tertiary Level	State	State Hospital/Specialized Hospital	No standard
Secondary Level	Locality	RH	100K – 250 K
Primary/First Level	Administrative Unit	UHC/BHC	5 kilometres radius
First Contact	Administrative Unit	National Health Centre NHC/Rural health Centre RHC	- 50 K for NHC
			- 20 K for RHC

Table 4: Health care Delivery System in Sudan [22]

Type of facility	Total	Functional	Non-functional
Hospitals, including rural hospitals	357	357	-
Urban health centers	558	558	-
Rural health centers	458	458	-
Dispensaries	1226	1060	166
Dressing stations	762	601	161
PHC units	3044	2404	640

Table 5: Health facilities and their functional status [39]

Health Personnel /Service

Indicator	Rate
Population: Physician	2.8 per 10 000 population, year (2008)
Population: Hospital Bed	7.3a per 10 000 population, year (2008)
Physician: Nurse	8.4 per 10 000 population, year (2008)
Number of Registered Medical Doctors	2.8 per 10 000 population, year (2008)
Number of Registered Nurses	8.4 per 10 000 population, year (2008)
Number of Primary Health Worker	Not Available

Table 6: Human and physical resources indicators Rate (R) per 10 000 population [23]

4. EPR structure, Policies, and Public Health Guidelines

4.a Operational structure of national disaster management system

Governmental structure and coordination mechanisms

The Humanitarian Aid Commission (HAC) [40] is a national organ established in 2006 and which has the responsibility for coordinating humanitarian effort in Sudan, and checking the dangers of disasters and disputes through conscious partnership with International Community Organisations via the following technical departments:

- General Directorate for Emergency,
- General Directorate of National Organisation,
- Directorate for Co-ordination of Programme,
- Directorate of Analysis and Information,
- National Center for the Displaced and Voluntary Return,

Unified guide procedures, agreements as well as additional information about the HAC can be found on their web site [40] and here is the contact information for this commission:

Address: Sudan Khartoum Gomhoria Street

Phone : 09155771114

E-Mail: Hac@hac.gov.sd

From a health perspective, and even if the organigram of the national structure is not yet finalized, the responsibility for emergency preparedness and response lies with the Emergency director of the Federal Ministry of Health who reports to the Assistant Under Secretary of the FMOH. This structure is complemented by State emergency focal point in each State.

Cluster approach

In October 2008, the Humanitarian Country Team (HCT) adopted the cluster approach as a means to strengthen and improve overall coordination of humanitarian action in Sudan. Later, in April 2009, HCT agreed to roll out the cluster approach in Darfur to ensure the coordination mechanisms addressed challenges of humanitarian and early recovery. The cluster approach is rolled out in the rest of Sudan through 2010.

The coordination structure agreed by the national authorities and the Humanitarian Country Team is presented in Table 7 and the List of Sector leads in Sudan reported in Annex 5 [41].

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Sector	Government Lead	Lead Agency (international actors)
Basic Infrastructure and Settlement Development (BI)	North : Ministry of Physical Planning and Public Utilities, Ministry of Transport	UNOPS
	South : Ministry of Housing, Lands and Public Utilities, Ministry of Transport and Roads	
Education and Culture (E)	North : Federal Ministry of General Education	UNOPS
	South : Ministry of Education, Science and Technology	
Health (H)	North : Ministry of Health	WHO
	South : Ministry of Health	
Nutrition (N)	North : Ministry of Health	UNICEF
	South : Ministry of Health	
Water and Sanitation (WS)	North : Public Water Corporation under the Ministry of Irrigation and Water Resources	UNICEF
	South : Ministry of Rural Development and Cooperatives	
Food Security and Livelihoods (PSL)	North : Federal Ministry of Agriculture and Forestry	FAO/WFP
	South : Ministry of Agriculture and Forestry	
Protection and Human Rights (PHR)	North : National Council for Child Welfare, UN-Government Committee on Children and Armed Conflict, Humanitarian Affairs Commission, Commissioner for Refugees	UNHCR/UNHCR
	South : SSRRC, Ministry of Gender, Social Welfare and Religious Affairs, SPLA, SSDDRC/SPLA	
Mine Action (MA)	North : National Mine Action Authority	UNMAS
	South : Southern Sudan Demining Commission	
Common Services and Coordination (CCS)	North : Humanitarian Affairs Commission, Ministry of International Cooperation	OCHA/RCSO
	South : Southern Sudan Relief and Rehabilitation Commission, Ministry of Regional Cooperation	
Non-Food Items and Emergency Shelter (NS)	North : Humanitarian Affairs Commission	UNHLC
	South : SRRC	
Cross-Sector Support for Return and Reintegration (RR)	North : Humanitarian Affairs Commission	UNHCR/RRR
	South : SRRC	
Camp Coordination and Camp Management Cluster		UNHCR

Table 7: Responsible entities for each cluster implemented in Sudan

The health cluster that was rolled in Darfur in 2009 has been expanded to cover the Transitional Areas (Blue Nile, South Kordofan and Abyei) because of the upcoming Referendum. The main coordination mechanism is based in Khartoum in coordination and partnership with the FMoH and SMOH including 53 national, international NGOs, UN agencies and Sudanese Red Crescent, IFRC and MSF as observers.

The Health Cluster Overall Objective is: To strengthen partnership, accountability and coordination mechanism among health cluster partners, thus enhancing capacities to mitigate, prepare for, respond to and properly manage public health risks in emergencies preventing avoidable mortality and morbidity.

The Health Cluster Specific objectives are to:

1. Provide leadership, strengthen partnership, predictability and accountability in health cluster and ensure adequate preparation to and response capacities for ongoing and new emergencies are in place,
2. Reduce mortality and morbidity of the vulnerable population by sustaining an effective and reliable health cluster coordination system throughout North Sudan
3. Strengthen sector coordination mechanism in the process of planning, Implementation and reporting of the Work Plan, CHF allocation and other activities related to UN & Partner work plans,

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4. Contribute towards improving access of vulnerable population to quality health care services that include, basic health package, nutrition and referral emergency services.

Table 8 shows the distribution of health cluster partners across the focus states in North Sudan.

STATE	ORGANIZATIONS
Abyei	WHO, UNICEF, MSF-CH, GOAL, Hear Sudan, Sudan Aid
Blue Nile	UNICEF WHO, UNFPA, SCRC, GOAL, Samaritans Purse, DHSP/MDF, Mubadiroon, World Vision, HEAR
Gedarif	WHO, UNICEF, WFP, UNDP, UNHCR, UNFPA, SRCS, MSF-Swiss
Kassala	WHO, UNICEF, WFP. UNDP, UNHCR, UNFPA, SP, GOAL, SRCS, MA, HAI, NLRC,
North Darfur	AHA, GRC, GOAL, HAD, PHF, Mercy Malaysia, OXFAM America, PAI, Plan Sudan, RI, SRCS, UNFPA, UNICEF, WHO and SMoH Observers: ICRC, MSF-B, MSF-E
Red Sea	WHO, WFP. UNDP, UNHCR, UNFPA, MSF-Belgium
South Darfur	SMoH, ARC, Johanniter, IMC, CIS, WVI, MERLIN, MDM, Saudi Red Crescent, Cordaid, Kuwaiti Patient Helping Fund, Muslim Aid UK, Turkish Red Crescent, Sudan Aid, Rufaida Health Foundation, Emergency , Mubadiroon, ICRC, Anna al Sudan
South Kordofan	WHO, UNICEF, UNFPA, SC-S, Pancare, Medair, Care-IS, NCA, Sibro, SRCS, MC-Scotland, Sudan Aid
West Darfur	CAM, CONCERN, COSV, ICRC, IR, ISRA, IMC, MEDAIR, MSF-Belgium, NCA, QRC, SAUDI RC, SC-S, SIMA, SRC, SOHA, WR, HI

Table 8: Distribution of health cluster partners across the focus states in North Sudan

4.b Any other disaster management programs in the country both at national or local level name of all programs including UN agencies

Area of Work	Lead Agency	Participating Entities	Comments
Community Preparedness	IFRC	SRCS ¹	Support provided to 40,000 people in 10 hazard-prone locations [4]
Disaster Management planning	IFRC	SRCS	Improved ability of SRCS to predict and plan for disasters [4]

Table 9: Other disaster management programs

4.c Policies: available policies be it national, sectoral, regional etc. integrating or supporting emergency preparedness and response capacities

- National Emergency policy
- National Health-Sector policy for Disaster Mitigation, Preparedness and Response in 2002 [7]: Developed by the Federal Ministry of Health but this policy has never been implemented due to the crisis in Darfur.

4.d Public health guidelines

- National guidelines for local health system
- Sphere standard
- WHO emergency guidelines

4.e Emergency Preparedness and Response plan, program

In preparation to the coming referendum the UN has prepared an Interagency Humanitarian Contingency Plan to ensure a comprehensive humanitarian response to the worst-case scenario and agencies are updating their Business Continuity and Security Plans. The UN Peacekeeping Mission in Sudan (UNMIS) and the UNCT prepared a joint Contingency Plan that includes the UNCT Humanitarian Contingency Plan, in response to a crisis scenario.

Here are other plans and programs implemented in the country:

- International health Regulation (IHR)
- Access to Primary health care, supported by HeRAMs
- Communicable Disease Control, supported by EWARs
- Secondary Health Care, supported by Hospital Data Base System
- Water Quality Control program
- 2007 National Adaptation Programme of Action [24]

¹ Sudanese Red Crescent Society

5. Health Sector Partners existing in the countries

To get a complete list, please contact Ms. Randa Merghani: merghanira@sud.emro.who.int

6. Emergency Preparedness and Response contacts/ focal points

To get a complete list, please contact Ms. Hala Asad: assadh@sud.emro.who.int or Amr Kambal: Kambala@sud.emro.who.int

7. References

- [1] UNEP (2007): Sudan Post-Conflict Environmental Assessment: <http://postconflict.unep.ch/publications.php?prog=sudan> [Accessed December 10, 2010]
- [2] United Nations and Partners Work Plan for Sudan 2007
- [3] United Nations and Partners Work Plan for Sudan 2006
- [4] Dilley, Maxx, Robert S. Chen, Uwe Deichmann, Arthur L. Lerner-Lam, and Margaret Arnold. 2005. Natural Disaster Hotspots: A Global Risk Analysis. Washington, D.C.: World Bank.
- [5] WHO (under preparation): e-atlas of disaster risk for the Eastern Mediterranean Region, Volume 1 (edition2): exposure to natural hazards
- [6] WHO (2009): Country Cooperation Strategy for WHO and Sudan 2008–2013, document n° EM/ARD/032/E:http://www.who.int/countryfocus/cooperation_strategy/ccs_sdn_en.pdf [Accessed December 12, 2010]
- [7] FMOH (2002): Sudan’s National Health-Sector Policy for Disaster Mitigation, preparedness and Response: <http://www.fmoh.gov.sd/English/Health-policy/doc/doc9.pdf> [Accessed December 12, 2010]
- [8] FAO Locust Watch: <http://www.fao.org/ag/locusts/en/info/info/index.html> [Accessed December 12, 2010]
- [9] IFRC (2010): Sudan mid-year report, Appeal N° MAASD001
- [10] The comprehensive Peace Agreement between the Government of the Republic of Sudan and the Sudan People’s Liberation Army (SPLM/A)
- [11] « Sudan Referendum Commission Calls For Vote Delay”; THE ASSOCIATED PRESS, Juba, Sudan August 14. 2010
- [12] Darfur Humanitarian Profile N.34: situation as of 02 January 2009; UNITED NATIONS, Office of UN deputy Special Representative of the UN Secretary General for Sudan
- [13] The comprehensive Peace Agreement between the Government of the Republic of Sudan and the Sudan People’s Liberation Army (SPLM/A): Chapter I; The Machakos Protocol signed at Machakos, Kenya on 20th July 2002

Sudan Emergency Country Profile (ECP)

- [14] « Sud-Soudan: sur la route de l'indépendance » ; JEUNE AFRIQUE, N. 2588-2589, du 15 au 28 Août 2010
- [15] "Le Sud pourra-t'il survivre sans le Nord? Pas sûr » ; JEUNE AFRIQUE, N. 2588-2589, du 15 au 28 Août 2010
- [16] Reliefweb (2010): "FACT-BOX Obstacles to South Sudan's vote on independence; RELIEF WEB, 12 August 2010
- [17] BBC News (29 July 2010): "Bashir's party raises doubts on South Sudan referendum"
- [18] « Sudan: Referendum will increase humanitarian needs"; IRIN, JUBA 19 August 2010
- [19] Chapin Metz, H. (1991). Sudan: A Country Study. Washington, DC: Library of Congress
- [20] EM-DAT: "EM-DAT: The OFDA/CRED International Disaster Database, Université catholique de Louvain, Brussels, Bel." Data version: v11.08 access through the preventionweb web site at: <http://www.preventionweb.net/english/countries/statistics/?cid=163> [Accessed December 9, 2010]
- [21] Sudan Household Survey (SHHS) 2006/2007.
- [22] FMOH (2007): Sudan National Health Sector Strategic Plan
- [23] Sudan Country Profile from WHO EMRO website:
<http://www.emro.who.int/emrinfo/index.aspx?Ctry=sud>
- [24] Republic of the Sudan (2007): National Adaptation Programme of Action, Republic of the Sudan Ministry of Environment and Physical Development Higher Council for Environment and Natural Resources: http://www.preventionweb.net/files/8575_sdn01.pdf [Accessed December 10, 2010]
- [25] UN Cartographic Section web site: <http://www.un.org/Depts/Cartographic/english/htmain.htm> [Accessed December 12, 2010]
- [26] Wikipedia: <http://en.wikipedia.org/wiki/Sudan>
- [27] IMF web site: <http://www.imf.org/external/pubs/ft/weo/2010/01/weodata/index.aspx>
- [28] UNDP (2010): Human development Report:
http://hdr.undp.org/en/media/HDR_2010_EN_Complete.pdf [Accessed December 9, 2010]
- [29] UNICEF: http://www.unicef.org/infobycountry/sudan_statistics.html
- [30] UNDP. Status of Millennium Development Goals (MDGs) in 2008:
http://www.sd.undp.org/mdg_fact.htm [Accessed December 10, 2010]
- [31] 5th Sudan Census. 2008. Central Bureau Sudan CBS: <http://www.cbs.gov.sd/>
- [32] Raymond G., Jr (ed) 2005. Ethnologue: Languages of the World, 15th ed. Dallas: SIL International. Online version: <http://www.ethnologue.com/> [Accessed December 9, 2010]

Sudan Emergency Country Profile (ECP)

- [33] UNHCR web site:
<http://www.unhcr.org/cgi-bin/texis/vtx/page?page=49e483b76> [Accessed December 9, 2010]
- [34] Landsat population database: <http://www.ornl.gov/sci/landscan/> [Accessed December 7, 2009]
- [35] WHO (2010): Health Resources Availability Mapping System (HeRAMS), Greater Darfur, 3rd Quarter 2010 report
- [36] WHO (2005): Sudan Communicable disease epidemiological profile, WHO/CDS/2005.26:
http://www.who.int/diseasecontrol_emergencies/toolkits/who_cds_2005_26/en/index.html
[Accessed December 13, 2010]
- [37] The cluster approach in Sudan: <http://www.humanitarianreform.org/Default.aspx?tabid=589>
[Accessed: December 13, 2010]
- [38] Country profile from the WHO Global Health Observatory:
<http://www.who.int/gho/countries/sdn.pdf> [Accessed December 13, 2010]
- [39] WHO (2010): International Health Regulations (IHR 2005) Sudan Report, Evaluation of Core Capacities for Surveillance and Response in Sudan for the Implementation of Annex (1A)
- [40] Republic of Sudan Humanitarian Aid Commission (HAC):
<http://www.hac.gov.sd/page/EN/first.aspx> [Accessed December 15, 2010]
- [41] United Nations Sudan Information Gateway: http://www.unsudanig.org/new_gateway/
[Accessed December 15, 2010]
- [42] Sudan: preparations for the January 2011 referendum, Monthly Highlights - October 2010:
<http://www.who.int/hac/crises/sdn/highlights/october2010/en/index.html> [Accessed December 15, 2010]
- [43]] IFRC (2010): Emergency appeal n° MDRSD010, 12 November 2010:
<http://www.ifrc.org/docs/appeals/10/MDRSD010EA.pdf> [Accessed December 26, 2010]

Annex 1 – General country information

Geography

Location, borders, capital, area, climate, terrain etc

Sudan, the largest country in Africa, is located in north eastern Africa and is bordered by the Red Sea, Egypt and Libya to the north, Chad and Central African Republic to the west, Democratic Republic of the Congo, Uganda, and Kenya to the south, and Ethiopia and Eritrea to the east (Figure 8). Khartoum, the capital city, is located at the confluence of the White Nile flowing north from Lake Victoria, and the Blue Nile flowing west from Ethiopia.



Figure 8: Political Map of Sudan [25]

Sudan’s highly diverse landscape ranges from desert to tropical forest, and its abundant natural resources include oil, timber, extensive agricultural land, and marine and inland fisheries.

When it comes to climate, the dominant characteristic of the country’s climate is a very wide geographical variation in rainfall. In the north, annual precipitation ranges from close to zero near the border with Egypt, to approximately 200 mm around the capital, Khartoum. In central Sudan, a division of seasons can be observed: winter or dry season (December-February); advancing monsoon season (March-May); retreating monsoon season (October- November). Just south of Khartoum, annual precipitation rarely exceeds 700 mm. In addition, precipitation is relatively erratic, with a combination of short and long-term droughts, and periods of heavy rainfall. The extreme south-west is almost equatorial: the dry season is very short and falls in between two peak rainy seasons, and annual precipitation can exceed 1,600 mm. Average monthly temperatures in Sudan vary between 26°C and 36°C. The hottest areas, where temperatures regularly exceed 40°C, are found in the northern part of the country (See Figure 6a as a proxy). [1]

Administration

Administrative divisions, governance

In accordance with the provisions of the 2005 peace agreement, Sudan is a decentralized federal state with a multi-tiered structure: the Government of National Unity (GONU) at the national level, the Government of Southern Sudan (GOSS) for the southern states, and the state and local governments [6].

As per the 2008 Census, the country counts 25 states (Figure 9) distributed in two main Geographical Areas; Northern with 15 states and the Southern with 10 states. The states are further subdivided into localities (131 in Northern Sudan and 79 in Southern Sudan).

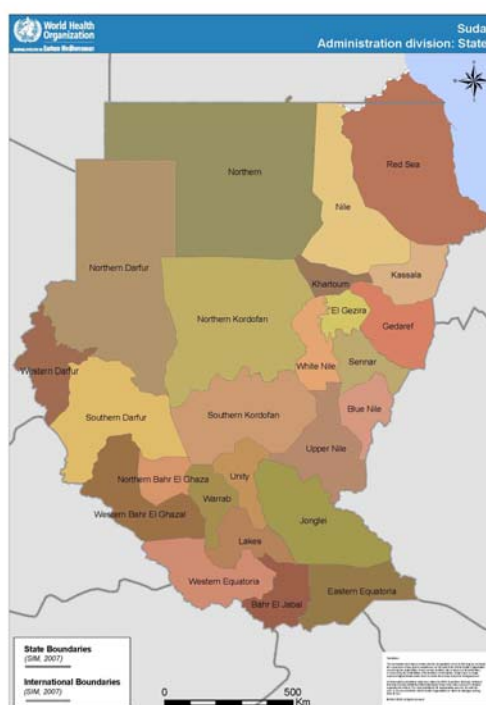


Figure 9: States of Sudan

Development

Sudan is rich in terms of natural and human resources, but it is a low-income country [6]. Despite being the 17th fastest growing economy in the world with new economic policies and infrastructure investments, Sudan still faces formidable economic problems, as it must rise from a very low level of per capita output. Since 1997, Sudan has been implementing the macroeconomic reforms recommended by the IMF [26].

As per IMF [27], 2010 Gross domestic product based on purchasing-power-parity (PPP) per capita GDP is of 2464 USD. The 2009 UNDP Human development report [28] indicates an HDI of 0.379 (rank 154).

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Progresses have been made in the area of education. The last data for the period 2003-2008 presented by UNESCO show a literacy rate of 61% [29]. However, a gender (women: 71%; men: 85%) [29] and geographic (Northern Sudan: 62%; Southern Sudan: 12%) imbalances are observed [30]

According to UNDP [30], the 2008 estimated poverty rates remain high in Southern Sudan, and in the so-called Protocol Areas (Southern Kordofan, Blue Nile and Abyei), with up to 90 % of the population below the poverty line. In the Northern part of the country, the poverty rate reaches 50%.

Demography

Indicator	Estimated Status	Source
Total Population (last census: 2008)	39,154,490	[31]
Sex Ratio	Male: 20,073,977 (51%) Female: 19,080,513 (49%)	[31]
Age distribution	See Figure 11	[31]
Ethnic distribution	Black (52%), Arab (39%), Beja (6%), Foreigner (2%) and others (1%)	[26]
Population Growth (% by 1993-2008)	2.83 %	[31]
Average Household Size	The average is around 5. The most frequent Household size (Mode) is the 8 members	[31]
Urban Population Proportion	29.51%	[31]
Rural Population Proportion	70.49%	[31]
Language: Type and distribution	Arabic (official), English (official), Nubian, Ta Bedawie, Diverse Languages of Nilotic family, Nilo-Hamitic, sudanic languages	[32] and [26]
Religion: Type and distribution	70% Sunni Islam, 25% Animist and 5% Christians	[26]
IDP/Refugee: Number and Location	Total Population of Concern: 1,426,412 divided into 186,292 refugees, 5,941 Asylum seekers, 33,139 Returned refugees, 1,034,140 IDPs and 166,900 Returned IDPs.	[33]

Table 10: Selected Demographic Data

It should be noted that these national and regional figures mask very wide regional variations, as wealth and development are concentrated in urban areas and northern states. As an example, Figure 10 shows the modelled population distribution for 2008.

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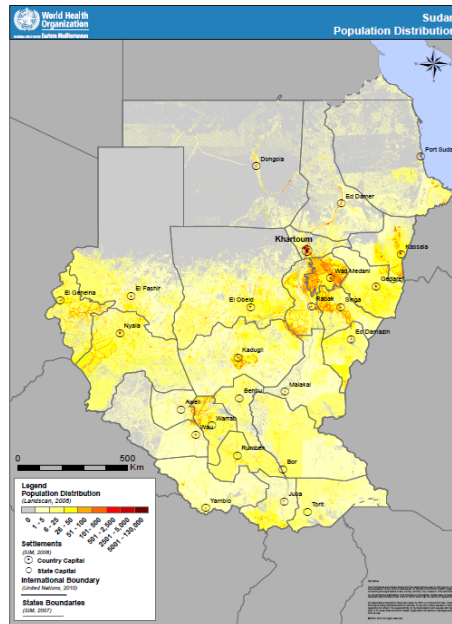


Figure 10: 2008 Population Distribution of Sudan [34]

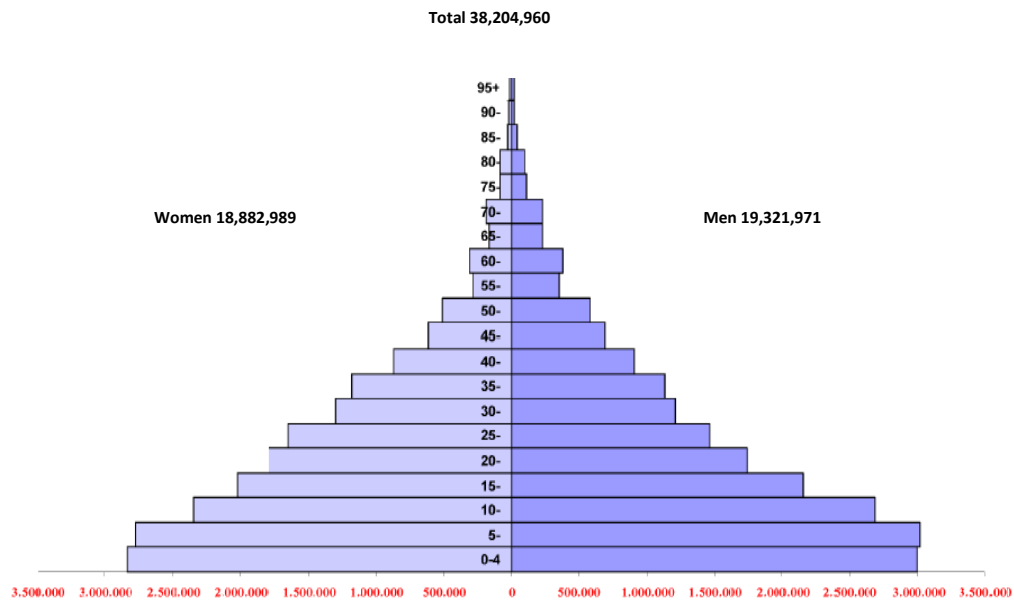


Figure 11: Population 2008 Population Pyramid [31]

Sudan has 597 tribes that speak over 400 different languages and dialects split into two major Ethnic groups: Arabs of the largely Muslim Northern Sudan versus the largely Christian and animist Nilote Southern Sudan of the south. These two groups consist of hundreds of smaller ethnic and tribal divisions, and in the latter case, language groups [26].

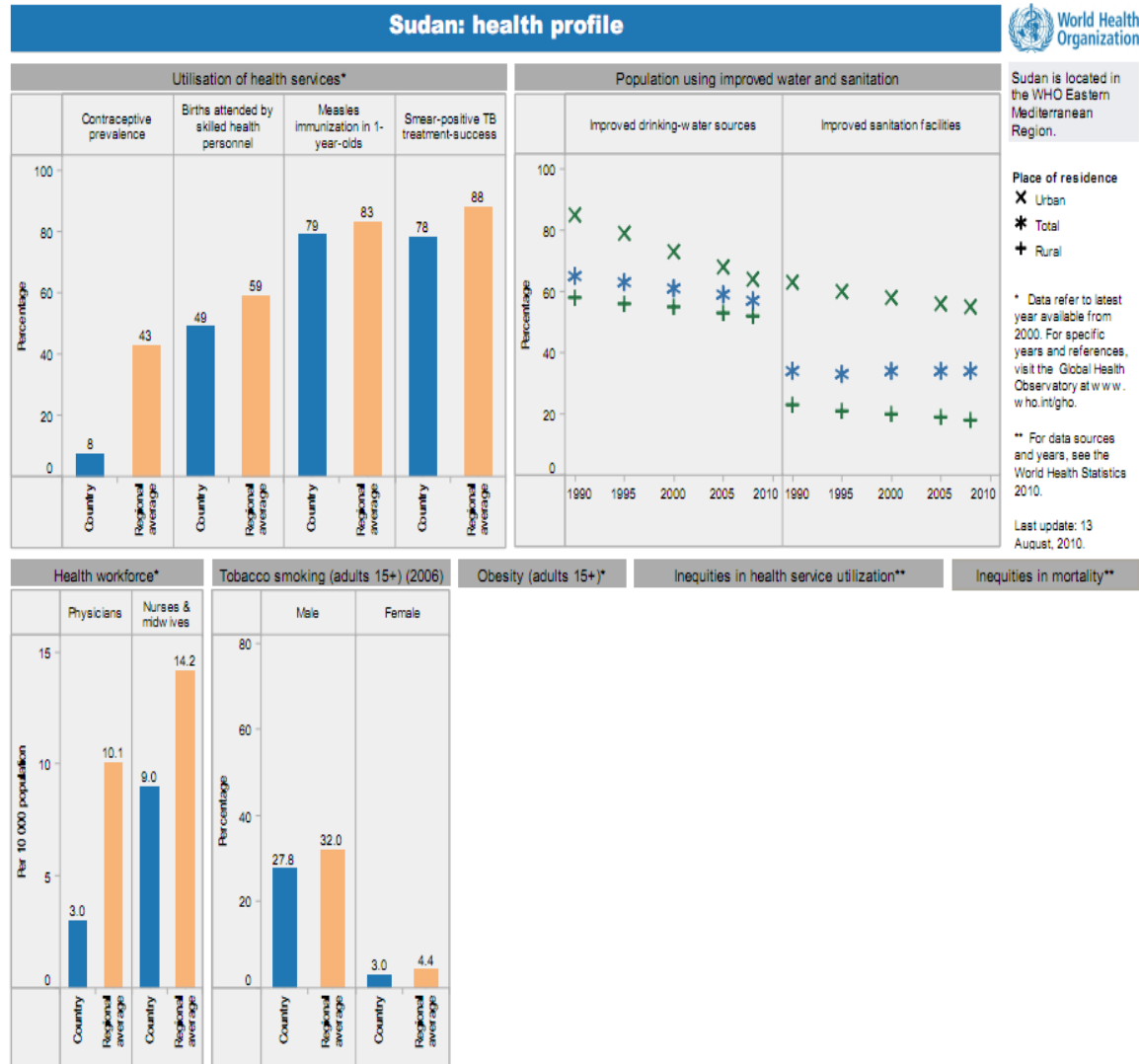
Annex 2 – Types and dates of disasters in Sudan between 1965 and 2002 [7]

Date	Type of Disaster	Remarks
27/2/1965	Accident	Train (Near Port Sudan)
1/4/1965	Epidemic	Meningitis Khartoum (April 1965)
1/3/1966	Epidemic	Cholera (All over the Country)
9/10/1966	Earthquake	All over the Country
1/1/1974	Drought	All over the Country
1/10/1974	Floods	All over the Country
1/9/1975	Floods	El Gash Flood
1/9/1976	Epidemic	Maraidi Fever
1/7/1978	Floods	El Gazira
1/1/1980	Drought	East Africa (Five Countries)
1/1/1983	Drought	Northern Region
1/1/1983	Civil War	South Sudan
1/4/1983	Drought	Maban
15/8/1983	Floods	Kassala – Heavy Rains
1/10.1983	Floods	Soon Floods – Mandiri
1/5/1984	Starvation	Red Sea – Kordufan , Darfur
6/1/1984	Displacement	
1/6/1985	Epidemic	Cholera
6/1/1986	Locust infestation	Desert Locust
1/1/1987	Locust infestation	Locust
1/1/1987	Rates infestation	
1/10/1987	Drought	Kordufan – Darfur
1/1/1988	Epidemic	Meningitis – Khartoum / Central
4/8/1988	Floods	Khartoum/Elshamalia / Central
1/11/1988	Epidemic	Malaria
19/5/1990	Earth quake	Juba /Tirkaka
26/5/1990	Earth quake	Tirkaka
28/5/1990	Refugees	50 Thousand Ethiopian Soldier – El Lafa Kassla
22/8/1992	Floods	Kassala – El Gash
18/4/1993	Floods	Port Sudan , 26 death , Losses 150 Million Sudanese Pound
1/8/1993	Earth quakes	Earthquake in wide parts of country, one Woman and her child passed way in Khartoum.
1999	Gastro-enteritis	In different Parts of Country
1998	Floods	Northern State
1999	Meningitis	Large Parts of Country
2001 – 2002	Sunstroke	Red Sea

Annex 3 – GHO Country profile [38]



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Annex 4 – Distribution of health facilities in Greater Darfur by locality and facility type [35]

State	Locality	Rural Hospitals			PHCCs			BHUs			Mobile Clinics			Grand TOTAL		
		Total	Func.	% Func.	Total	Func.	% Func.	Total	Func.	% Func.	Total	Func.	% Func.	Total	Func.	% Func.
North Darfur	El Fasher	1	1	100%	46	40	87%	61	40	66%	5	0	0%	113	81	72%
	Kebkabiya	4	4	100%	1	1	100%	9	9	100%	1	1	100%	15	15	100%
	Kutum	1	1	100%	16	15	94%	20	6	30%	1	1	100%	38	23	61%
	Mellit	1	1	100%	12	12	100%	22	19	86%	4	4	100%	39	36	92%
	Umm Keddada	3	3	100%	7	7	100%	42	40	95%	0	0	-	52	50	96%
ND State Total		10	10	100%	82	75	91%	154	114	74%	11	6	55%	257	205	80%
South Darfur	Adila	1	1	100%	1	1	100%	21	18	86%	4	4	100%	27	24	89%
	Buram	2	2	100%	9	9	100%	74	64	86%	2	2	100%	87	77	89%
	Ed Daein	1	1	100%	0	0	-	65	54	83%	0	0	-	66	55	83%
	Ed el Fursan	2	2	100%	4	4	100%	36	36	100%	0	0	-	42	42	100%
	Kass	1	1	100%	2	2	100%	24	8	33%	3	1	33%	30	12	40%
	Nyala	0	0	-	32	30	94%	65	44	68%	4	1	25%	101	75	74%
	Rahad el Berdi	1	1	100%	0	0	-	21	18	86%	0	0	-	22	19	86%
	Sheiria	2	2	100%	4	2	50%	19	16	84%	0	0	-	25	20	80%
Tullus	1	1	100%	2	2	100%	13	6	46%	0	0	-	16	9	56%	
SD State Total		11	11	100%	54	50	93%	338	264	78%	13	8	62%	416	333	80%
West Darfur	El Geneina	2	1	50%	19	18	95%	56	34	61%	6	3	50%	83	56	67%
	Habila	2	1	50%	9	9	100%	13	2	15%	0	0	-	24	12	50%
	Jebel Marra	2	2	100%	1	1	100%	43	27	63%	1	0	0%	47	30	64%
	Kulbus	1	1	100%	3	3	100%	24	14	58%	3	2	67%	31	20	65%
	Mukjar	1	0	0%	2	2	100%	2	1	50%	9	9	100%	14	12	86%
	Wadi Salih	1	1	100%	5	5	100%	7	5	71%	3	3	100%	16	14	88%
	Zalingei	1	1	100%	7	6	86%	22	18	82%	3	3	100%	33	28	85%
WD State Total		10	7	70%	46	44	96%	167	101	60%	25	20	80%	248	172	69%
Grand Total		31	28	90%	182	169	93%	659	479	73%	49	34	69%	921	710	77%

*Func. = Functioning

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Annex 5 – List of Sector leads in Sudan (15.12.2010) [41]

Location	Function	Lead	Email	Cellphone	Focal Point	Email	Cellphone
Sudan Sector Leads							
Khartoum	Basic Infrastructure and Settlement Development (BI)	Sebastiano Bagnasco	sebastianob@unops.org	0914388146	Mohamed Arbab	arbabm@un.org	0912150726
Khartoum	Common Services and Coordination	Ghada Nasreldeen Cindy Isaac	nasreldeen@un.org isaacc@un.org	0912167761 0912170423	Cindy Issac	issacc@un.org	0912167761
Khartoum	Education (E)	Wigdam Adam Ahmed Abdel Rahman El rehiema El Dood	WigdanA@ecaf.savethechildren.se arereleddood@unicef.org	0912366586 0912880340	Ghada Nasreldeen Salah Koko	nasreldeen@un.org Koko@un.org	0912167761 0912170940
Khartoum	Food Security and Livelihoods (FSL)	Marc Abdalla Emmanuel Lujuo Jimmy Owani Samir Wanmali (Nyala)	marc.abdala@fao.org emmanuel.lujuo@fao.org jimmy.owani@fao.org Samir.wanmali@wfp.org	0912396706 0912396237 0912313433 0912178473	Aisha Hummeida	hummeida@un.org	0912160991
Khartoum	Health (H)	Dr. Siddiqi Randa Mirghani Iman Shankiti	siddiqis@sud.emro.who.int merghanira@sud.emro.who.int shankitii@sud.emro.who.int	0912174681 0912167391 0912502286	Samir Mahmoud/Arbab Mohammed Stella Ajwang	Mahmoud14@un.org arbabm@un.org ajwang@un.org	0912160066 0912150726
Khartoum	Mine Action (MA)	Emeka Nwadike Adina Dinca	emeka@sudan-map.org adinad@sudan-map.org	0912501143 0912162727	Adil Saad	Saad12@un.org	0912174436
Khartoum	Non-Food Items and Emergency Shelter (NFI)	Aditya Tiwathia Glyn Saunders Bjorn Strandberg	Aditya.Tiwathia@wfp.org glyn.saunders@wfp.org Bjorn.strandberg@wfp.org	091 217 4156 0912177227 0912329355	Ghada Naserldeen	nasreldeen@un.org	0912167761

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Khartoum	Nutrition (N)	Mercy Chikoko Susan Lillicrap	mchikoko@unicef.org slillicrap@unicef.org	0912160292 0912303472	Raga Makawi	makawi@un.org	0912179042
Khartoum	Protection (P)	Shoba Rao Alexandra Krause Francesca Bonelli	raos@unhcr.org Krause@unhcr.org bonelli@unhcr.org	0912179237 0912734095 0912177952 0912042167	Ghada Nasreldeen Stella Ajwang	nasreldeen@un.org ajwang@un.org	0912167761 0912167042
Khartoum	Water and Sanitation (WS)	Haraprasad Vaddiparthi Sampath Kumar	hvaddiparthi@unicef.org skumar@unicef.org	0927954756 0912390648	Adil Saad	saad12@un.org	0912174436
Sudan Cross-Cutting Strategy Leads							
Khartoum	Gender	Ghada Shawgi	Ghada.shawgi@unifem.org	0912328152	Raga Makawi	makawi@un.org	0912179042
Khartoum	HIV/AIDS	Mohammed Ali Bhuiyan	BhuiyanM@unaids.org	0912 532 800	Yasir Omer Taha	tahay@un.org	0912178033
Khartoum	Early Recovery	Massimo Diana Omer Ishag Stephen Kinloch- Pichat (El Fasher)	massimo.diana@undp.org omer.ishag@undp.org stephen.kinloch-pichat@undp.org	0912532359 0918210867 0912160602	Salah Koko	koko@un.org	0912160066
Khartoum	Environment	Robin Bovey Fabian Kruezer Corinne Both	Robin.bovey@unep.org Kruezer@un.org Corinne.both@unep.org	0912322884 0912164552 0904657959	Ghada Nasreldeen	nasreldeen@un.org	0912167761
Coordination							
Blue Nile	Blue Nile	TBC	TBC		Salah Koko	koko@un.org	0912160066
Southern Kordofan	Southern Kordofan	Takako Ugaya	ugaya@un.org	0912170025	Salah Koko	koko@un.org	0912160066
Kassala	Eastern States	Hayder Hamdnalla	hayder.hamadnalla@undp.org	912166403	Yasir Taha	tahay@un.org	0912178033

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Zalengei	(East) West Darfur	Blaise Kabongo	kabongob@un.org	0912140178	Cindy Issac	issacc@un.org	0912170423
Khartoum	Other Northern States	Kai Yamaguchi	yamaguchik@un.org	0912150879	Yasir Taha	tahay@un.org	0912178033
El Fasher	North Darfur	Matthew Mpitapita	mpitapita@un.org	0912174438	Cindy Issac	issacc@un.org	0912170423
Nyala	South Darfur	Yusuf Salah	salahy@un.org	0912167043	Cindy Issac	issacc@un.org	0912170423
Juba	Southern Sudan	Sheri Ritsema Thomas Nyambane (OPS)	ritsema@un.org nyambanet@un.org	0922406088 0912166239	Cindy Issac	issacc@un.org	0912170423
Geneina	West Darfur	Jayne Mbakaya Nassir Guma Mohammed	mbakaya@un.org Mohammed184@un.org	0912170419 0915555856	Cindy Issac	issacc@un.org	0912170423