Sudan National Health Account

2008

Country Report

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Acknowledgement

The Health Economics Center (HEC), University of Khartoum and the Health Economics Department (HED), Federal Ministry of Health, express their gratitude to all stakeholders and partners, national and international, who contributed to the process of implementing the National Health Accounts (NHA) first round in Sudan. Great benefits have been achieved from the interaction during the course of initiating, preparing, funding, coordinating, and completing the exercise and this report.

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HEC and HED also gratefully acknowledge the collective contribution of stakeholders, the National Health Account technical committee, Federal Ministry of Health Departments, States Ministries of Health and all Federal Ministries. This report which summarizes the findings of the NHA was the product of diligence and hard work of all the cooperating partners. Working together has brought about broad-based cooperation and experiences for HEC, HED, and stakeholders in accomplishing such huge work. We would like to put this on record for future similar exercises as a clear manifestation of the coordination and cooperation that such an undertaking requires.

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We hope that the data and information that came out from NHA will be useful for country health planners' in their future decision-making and policies structuring processes aiming at better health of Sudanese people and responding effectively and efficiently to their real needs for better treatment and quality care.

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Share of THE from GDP	6%	
Share of out-of-pocket health expenditure from THE	64.3%	
Total out- of – pocket health expenditure	SDG 4,585,980,410	$ 2,183,800.195.35
Per capita out- of – pocket health expenditure	SDG 135	$ 71.14
Share of public sector health expenditure from THE	28.90%	
Share of FMOH from THE	21.7 %	
Total Health Expenditure (THE)	SDG 7,135,865,890	$ 3,398,031,376
Total Government Health Expenditure as percentage of Total Government Expenditure	8.7%	
Per-capita total health expenditure	232 SDG	$111
Total Expenditure for curative care.	SDG 5,992,264,921	$ 2,853,459,486
Share of curative care expenditure from THE	84%	
Per- capita expenditure on medicine	SDG 92.28	$ 43.94
Share of medicine expenditure from THE	39.7%	
Share of medicines from out-of-pocket expenditure	29%	
Total expenditure on PHC & vertical programmes	SDG 393,260,534	$ 87,266,920.80
Share expenditure on PHC care expenditure from THE	6%	
Share of Donors expenditure from THE	4.16%	
Share of private sector (out – of-pocket + other private) expenditure from THE	66.94%	

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Abbreviations

CBS	Central Bureau of Statistics
CMS	Central Medical Supplies
EMR	East Mediterranean Region
EPI	Expanded Programme on Immunization
FP	Family Planning
FMOF	Federal Ministry of Finance
FMOH	Federal Ministry of Health
FS	Financing Sources
HF	Financing Agents
GDP	Gross Domestic Product
GF	Global Fund
GGE	General Government Expenditure
GGHE	General Government Health Expenditure
GHE	Government health expenditure
HC	Healthcare Functions
HH	Household
HI	Health Insurance
HP	Healthcare Providers
HPI	Human Poverty Index
ICHA	International Classification of Health Accounts
IMCI	Integrated Management of Childhood Illness
INGOs	International Non Government Organizations
KAP	Knowledge Attitudes and Practices
MCH	Mother and Child Health
MOF	Ministry of Finance
FMOF	Federal Ministry of Finance

FFMOH	Federal Ministry of Health
MOH	Ministry of Health
MOHESRSR	Ministry of Higher Education & Scientific Research
MOIA	Ministry of Interior Affairs
MTDF	Multi Donors Trust Funds
NCD	Non-Communicable Diseases
NGOs	Non Government Organizations
NHA	National Health Account
NHI	National Health Insurance
OOP	Out – Of- Pocket
PHC	Primary Healthcare
RH	Reproductive Health
SDG	Sudanese Pound
SHI	State Health Insurance
SHUES	Sudan Household Utilization and Expenditures Survey
SMOH	State Ministry of Health
SNAP	Sudan National Aids Programme
STI	Sexually Transmitted Infections
TB	Tuberculosis
THE	Total Health Expenditure
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

Executive Summary

Introduction & background

National Health Account (NHA) is a standardized, globally accepted tool to collect, catalogue and estimate flow of funds in the health system. It has rigorous classifications of the types and purposes of expenditures and of the actors in the health system; and provides an integrated picture of mobilization, management and use of health funds in the health system. It is a powerful tool to inform policy makers as well as monitor the impact of financing policy interventions.

Sudan is one of 26 low-income countries considered highly vulnerable to the global recession. It ranks 139 out of 177 countries based on Human Development Index, and 53 out of 88 developing countries in terms of Human Poverty Index (HPI)

Demographic and socio economics

The FMOH Annual health Statistical Report estimates Sudan's total population to be 39,154,490 for 2008, with an increase of 5% from 2007 estimates.15% of the population is under the age of 5 years; however 42% of the total population is under the age of 15 years. Moreover 54% of the total population is between 15 and 64 years and 3.4% over the age 65 years (Sudan Annual Statistical Report, 2008).

The pattern is typical in countries that experienced relatively high fertility rates in the past. The highest percent of population is in the age group 20-49 (reproductive age group). Population has been growing at 2.5 percent per year as per the censuses (SHHUES, 2009)

The interesting findings from the SHHUES survey were the rate of spending on health per household income quintile, which is found to be 20.2% for the lowest quintile (highest average) and 19% for other quintiles. It indicates that in aggregate, all households spend on average 20% of their income on health, which gives us an estimation of an average out of pocket spending on health of SDG 814 per household per year. (SHHUES, 2009)

Sudan has provided health services to its citizens, including the free supply of medicines, funded by general resources since independence in 1956. However, the government has been constrained by an array of political and economic problems and

has started progressive deregulation of the health care system and started the introduction of the user fee in 1992.

Sudan National Health Account 2008

The Sudan NHA 2008 is the first ever NHA conducted in the country by the Federal Ministry of Health (FMOH), with partnership with Central Bureau of Statistics, together with the support from the World Health Organization (WHO). The study were mainly funded jointly from Multiple Donors Trust Fund (MDTF), managed by the World Bank (WB) and the Global Alliance for Vaccination and Immunization (GAVI) fund managed by the WHO. A core team developed at the Health Economics Department (HED) at the FMOH together with Health Economics Centre (HEC) at University of Khartoum were responsible for implementing different survey phases and activities.

Methodology & data sources

The Sudan NHA study followed the methodology provided by the Guide to Producing National Health Accounts prepared by the WHO, WB and the USAID. Needed adjustments were made to the classification schemes to bring them in line with Sudan national specifications. Transactions were grouped and partitioned, putting into consideration existing international standards and conventions when placing certain transactions into one group, so that each represents an important policy relevant dimension and assure international comparability of the Sudanese data.

The core team created several sub teams to collect data required to accomplish the first round of NHA in Sudan. Teams were built at both federal and state level targeting different sources of primary and secondary data. Secondary data were available at ministries of health and other ministries (mainly ministries of finance, ministry of defence and ministry of interior), in addition to the health insurance, Al Zakat, International NGOs and all public facilities (hospitals and health centres). Primary data were obtained through operational research such as Household Health Utilization and Expenditure Survey (SHHUES), Private Firms Survey (PFS) and Local NGOs Survey.

Sudan National Health Accounts 2008 Main Findings

The results of Sudan NHA 2008 showed that the total National Health Expenditures in Sudan amounted to SDG7.1 billion (USD3.3 billion), with per capita spending SDG232 (US$111). Health spending as a share of Gross Domestic Product (GDP)

came to 5.6%. This suggested that there was a significant improvement in country expenditure on health sector as percentage of GDP; however this expenditure still within the average rate compared to other countries of the East Mediterranean region.

Almost 64% of the total funds (equivalent to 3% of GDP) originate from the households, whereas 29% are apportioned public funds, 4% is contributed by international donors or other sources and the remaining 3% from other private sources. The public expenditure on health as a percent of total health expenditure in 2008 is 30%. The Ministry of Health plays a major role in managing the health funds in the country and (23% of THE), while other ministries for 4% (including ministries of defence and interior). The household out-of-pockets accounts for 63% of funds allocated to various health providers and National Health Insurance Fund for 4% while Private Employers for 2%. International Donors acting as agents account for the remaining 2%.

A breakdown of THE by providers indicates that almost 56% was spent on Public Hospitals, of which 25% spent on SMOH General Hospitals, 2% on FMOH General Hospitals, 3% on Specialized Hospitals and 26% on other Governments General Hospitals. 11% at the physicians, 2% on outpatients centres 2% on private hospitals, 16% at the private pharmacies. Provision and administration of public health programs utilized a share of 6% of THE anMd the Government General Administration of Health Interventions and health workers salaries share was 6%.

THE by functions indicate that almost 60% of health expenditure in Sudan were spent on curative services, out of which 35% were spent on inpatients curative care, 25% on outpatients care including general and specialised curative care. Only 4% were spent on preventive and primary care, while 6% were spent on health administration and 5% on other health related functions. Drugs and Pharmaceuticals expenditure accounted for a major share of THE by 39.7%.

Conclusion, POLICY implications & Recommendations

The multiple sources of financing throughout the country suggesting that the Federal Ministry of Health should activate the National Council for Coordinating Health Services (NCCHS), so as to mitigate the inefficiencies in allocation of resources. Similarly, establishing and activating Coordination Councils at different state is one of top priorities to maximize the benefits from available resources.

Health is uncertain and the update of the information will minimize the risks and enlighten the system with enough information for planning and re-planning. The continuity and institutionalization of NHA is needed.

Chapter (1) Introduction & Background

Like many other countries of the East-Mediterranean Region (EMR), the Government of Sudan faces a situation in which it is expected to: meet a growing burden of disease, rationalize service delivery systems, regulate the quality and cost of services, and meet these demands despite declining public financing. As the economy continues to struggle, and the population keeps growing, the challenges of providing Healthcare services increases. Government health budget continues to grow and reached an amount of SDG 1.5 billion, or 6.6% of Government budget, in the year 2008. This remains an area of concern to policy-makers who need to think about the sustainability of such situation and plan for effective, efficient and equitable Healthcare financing schemes.

National Health Account (NHA) is a globally accepted approach to collecting, cataloguing and estimating flows of funds in the health system. It has rigorous classifications of the types and purposes of expenditures and of the actors in the health system; and provides an integrated picture of mobilization, management and use of health funds in the health system. It is a powerful tool to inform health financing policy as well as monitor the impact of policy interventions. (Egypt, 2008)

The Sudan NHA 2008 is the first ever NHA conducted in the country by the Federal Ministry of Health, with support from the World Health Organization (WHO). Sudan is expected to use the findings from this NHA study to inform health policy makers. Both country policy makers and donors are eager to use the NHA results to shape the health sector reform strategy. (WHO, 2010)

1.1. Sudan Economy

Over the past decade, Sudan has enjoyed some of the highest economic growth rates in Africa, bolstered by considerable oil production, a good harvest, and a continuing boom in construction and services. Gross Domestic Product (GDP) grew from $10 billion in 1999 to $ 60 billion in 2008, and per capita income rose from $506 in 2003 to $1,545 in 2008. Driven primarily by oil revenues, the economy has become more integrated with the rest of the world, the trade-to-GDP ratio increased from 25 percent in 2000 to 44 percent in 2008. Indeed, the country continues to be one of the highest recipients of direct foreign investment in Africa. (MDTF, 2009)

Despite this progress, the sustainability of Sudan's growth is endangered by financial threats, such as the worldwide economic downturn; and political uncertainty, such as the unsettled political climate in Southern Sudan, where in January 2011 residents decided to become a separate nation.

Sudan is one of 26 low-income countries considered highly vulnerable to the global recession. It ranks 139 out of 177 countries based on Human Development Index, and 53 out of 88 developing countries in terms of Human Poverty Index (HPI). The incidence of poverty is high and there is considerable variation in poverty levels between and within states. Economic activity is largely agricultural, which provides livelihood to 70 percent of the population, contributing to 37 percent of GDP and 15 percent of total export earnings. Real non-oil growth is driven by the service sector, which remains underdeveloped and vulnerable to reduced public consumption, inadequate government support, and low external investment.

Civil war, political instability and natural disasters have characterized the life in Sudan and hampered economic progress. Since 1999, Sudan began to work with foreign partners to exploit its lucrative oil fields. This has improved

the growth in national income to an average of 7 percent per annum and ultimately has resulted in steady growth of the economy. Oil production has become an important source of government revenues contributing about 50 percent of the Government budget. (World Bank)

1.2. Demographic and socio-economics

The FMOH Annual health Statistical Report estimates Sudan's total population to be 39,154,490 for 2008, with an increase of 5% from 2007 estimates (Sudan Annual Statistical Report, 2008). Table 1 shows the distribution of the population by age group.

Table 52: Population Estimates, 2008 (5 Years Interval)

Population by Age Group and sex (5 years interval)

Age Group	Total	Male	Female
All Ages	**39,154,490**	**20,073,977**	**19,080,513**
0 to 4	5,845,991	3,005,746	2,840,245
5 to 9	5,801,776	3,023,603	2,778,173
10 to 14	5,036,037	2,689,626	2,346,411
15 to 19	4,176,355	2,151,401	2,024,954
20 to 24	3,537,012	1,740,076	1,796,936
25 to 29	3,114,966	1,466,418	1,648,548
30 to 34	2,503,963	1,207,987	1,295,976
35 to 39	2,314,365	1,134,069	1,180,296
40 to 44	1,773,831	905,533	868,298
45 to 49	1,303,680	689,233	614,447
50 to 54	1,094,706	581,191	513,515
55 to 59	635,801	350,041	285,760
60 to 64	691,103	380,847	310,256
65 to 69	396,288	227,674	168,614
70 to 74	415,695	229,753	185,942
75 to 79	193,068	112,065	81,003
80 to 84	178,990	97,556	81,434
85 to 89	65,235	38,504	26,731
90 to 94	41,546	23,528	18,018
95 and over	34,082	19,126	14,956

Source: Annual Health Statistics Report , 2008

Table 2 shows that 15% of the population is under the age of 5 years; however 42% of the total population is under the age of 15 years. Moreover

54% of the total population is between 15 and 64 years and 3.4% over the age 65 years.

The pattern in table (2) is typical in countries that experienced relatively high fertility rates in the past. The highest percent of population is in the age group 20-49 (reproductive age group). Population has been growing at 2.5 percent per year as per the censuses (SHHUES, 2009).

Table 2: Population Distribution by Age Group

Age Group	Male	Female	Total	%
0 to 4	3,005,746	2,840,245	5,845,991	14.9%
5 to 14	5,713,229	5,124,584	10,837,813	27.7%
15 to 64	10,606,796	10,538,986	21,145,782	54.0%
65+	748,206	576,698	1,324,904	3.4%
Total	**20,073,977**	**19,080,513**	**39,154,490**	

Source: SHHUES, 2009

In 2009, a Sudan Household Utilization and Expenditures Survey (SHUES) was conducted and aimed to obtain comprehensive statistical data on the economically active population, comprising employed and unemployed persons, as well as on the inactive population of working age. It made use of a nationally representative sample of households, and was conducted over the period from January 2009 and December 2009, as a joint work between the FMOH and Central Bureau of Statistics. The survey was implemented over 10 months and three rounds to account for the seasonality in expenditures distribution. (SHUES, 2009)

The SHHUES indicated that the average household size in Sudan is 6 persons, where the highest average is in North Darfur and South Kordofan (7 persons per household) and the lowest in West Darfur and Red Sea (5 persons per household) states. The interesting findings from the survey were the rate of spending on health per household income quintile, which is found to be 20.2%

for the lowest quintile (highest average) and 19% for other quintiles. It indicates that in aggregate, all households spend on average 20% of their income on health, which gives us an estimation of an average out of pocket spending on health of SDG 814 per household per year. (SHHUES, 2009)

Table 3 summarizes the indicators related to income quintile and table 4 presents those related to Household Spending by Rural/Urban comparison.

Table 3: The distribution of households by quintiles by State:

No.	States	Lowest Quintile	Quintile 2	Quintile 3	Quintile 4	Highest Quintile
1.	Northern state	7.2%	12.4%	17.5%	30.6%	32.3%
2.	River Nile	11.3%	13.5%	22.7%	26.2%	26.2%
3.	Red Sea	24.0%	23.1%	19.8%	19.2%	13.8%
4.	Kassala	25.5%	22.7%	22.9%	19.3%	9.6%
5.	ElGadarif	25.6%	22.2%	23.3%	16.9%	12.0%
6.	Khartoum	4.4%	6.9%	14.8%	21.0%	52.9%
7.	Al Gezira	10.6%	21.3%	24.1%	22.1%	21.8%
8.	White Nile	12.7%	22.2%	23.5%	21.1%	20.5%
9.	Sinnar	19.8%	23.7%	20.9%	19.2%	16.4%
10.	Blue Nile	34.2%	27.4%	17.1%	13.8%	7.4%
11.	N. Kordufan	42.3%	22.0%	14.7%	12.9%	8.1%
12.	S. Kordufan	31.2%	27.4%	20.3%	13.2%	8.0%
13.	N. Darfur	20.4%	21.8%	24.1%	18.7%	14.9%
14.	W. Darfur	28.0%	18.7%	14.6%	18.2%	20.5%
15.	S. Darfur	19.3%	22.1%	20.8%	19.7%	18.0%

Source: SHHUES, 2009

Table 4: Household Spending by Rural / Urban and Income Quintile

Average household spending on Health per Income	Mean % Health Expenditure by income quintiles				
	1	2	3	4	5
Urban	10.8%	15.6%	18.4%	23.3%	31.9%
Rural	25.4%	22.4%	20.8%	18.1%	13.3%
All Sudan	**20.2%**	**19.9%**	**20.0%**	**19.9%**	**20.0%**

Source: SHHUES, 2009

1.3. Health status of the population

Health is now widely recognized as a basic human right, and the urgency of some global health issues has pushed global health policy to the top of the international agenda (WHO, 2004).

Sudan has provided health services to its citizens, including the free supply of medicines, funded by general resources since independence in 1956. However, the government has been constrained by an array of political and economic problems and has started progressive deregulation of the health care system and started the introduction of the user fee in 1992.

In consequence, the proportion of GDP allocated for the health sector is 6% and out-of-pocket expenditure contribute 64.3 % of total health expenditure, while 47% of population were below poverty line (spend less than 1$ earning a day). As a result, the government faced the question of how to meet the health needs of the population, especially the poor, with falling government resources (Habbani, 2007).

Due to the unsustainable and efficient health financing system in Sudan, the maternal mortality ratio is estimated at 1,107 deaths per 100,000 live births in 2008.

However the health information system in Sudan collects little data from the nongovernment sector, making it difficult to obtain a full picture of the health status and usage patterns of the population. That has lead to inefficient allocation of resources to the provision Primary Health Care services, leading to significant urban-rural and regional disparities, related to conflict, displacement, and chronic poverty, therefore providing poor health services. Moreover the overall health indicators in Northern Sudan, such as MDG indicators are comparable to Sub-Sahran Africa averages, but are not as good as averages in the Middle East and North Africa.

Table 5 shows the major health indicators presented in the FMOH Annual Health Statistical report. That recorded the population growth was to be 5.1% in 2008. Whilst the total fertility rate varied between 5.9 per thousand population in 2004 to 4 per thousand population in 2008.

Table 53: Key Health Indicators

Key Health Indicators	2004	2005	2006	2007	2008
Population	34,500,000	35,900,000	36,297,000	37,239,000	39,154,490
Women (15-44)	5,254	5,467	5,528	5,671	8,815,008
Crude Birth Rate (per 1000 pop)	37.8	37.8			
Crude Death Rate	11.5	11.5			
Child Mortality Rate (per 1000 Live birth)	104	104	109	109	109
Infant Mortality Rate			81		
Neonatal Mortality (death 1-12 months)	N.A		41		
Post Neo-natal mortality Rate			40		
Maternal Mortality Ratio	504	504	1107	1107	1,107
Gross Fertility Rate (per 1000 CBA)	5.9	5.9	4.4	4.3	4
Family Planning Protection Rate			7.7	7.7	8

Sudan's epidemiological profile is dominated by communicable diseases. There are frequent outbreaks of meningococcal meningitis, acute watery diarrhea, dengue fever, while the whole range of neglected tropical diseases remain endemic. Therefore, Sudan faces huge challenges as it should meet the basic needs of the populations, while at the same time investing in the human and physical infrastructures needed to ensure economic growth and development.

The main challenges faced by the FMOH in Sudan, in addition to the continuing incidence of communicable diseases, is the increasing prevalence of non-communicable Diseases (NCD), such as Diabetes and Hypertension, due to life changes, poor diet, smoking, changing patterns of physical activity as well as the continuing malnutrition problem. NCD have become the principal cause of ill-health and death. The leading causes of death and serious illnesses are Malaria, Pneumonia, acute respiratory infections and diarrhoea [this contradicts with the sentence before]. A rapid increase has been recorded in HIV/AIDS cases, where xxx cases (SEIKA) were confirmed as of 31st December 2008, as well as sexually transmitted infections (STI) [please check if this is true for Sudan?]. Despite the increasing burden of Chronic diseases, respiratory disease and infectious and parasitic diseases continue to represent the leading causes of admission to hospital. Table 6 show the ten top diseases of morbidity and mortality.

Table 54: Ten Major Causes of Mortality and Morbidity

No.	Major causes of Morbidity	Major causes of Mortality
1.	Malaria	Malaria
2.	Pneumonia	Pneumonia
3.	Diseases of respiratory system	Septicaemia
4.	Diarrhoea and Gastroenteritis	Other heart diseases
5.	Acute tonsillitis	M. Neoplasm's
6.	Other disorders of urinary track	Post procedural disorders of circulatory system
7.	Essential hypertension	Heart failure
8.	Injuries involving multiple body regions	Acute renal failure
9.	Diabetes Mellitus	Diabetes Mellitus
10.	Disorders of other digestive organs	Diarrhoea and Gastroenteritis

Source: Annual Health Statistics Report, 2009

1.1. Sudan Health System

Driven by the needs of the population the health system has been developing even with the lack of expertise and resources. During the past decade, the health system continued to develop and expand in an unregulated, unplanned and low quality manner.

The Sudan health system is a three-tier system. The federal level is concerned with policy making, planning, supervision, co-ordination, international relations and partnership. The state governments are concerned with planning, policy making and implementation at state level while the localities are concerned mostly with policy implementation and service delivery. Some responsibilities remain shared between the different levels like early preparedness and response to disasters and epidemics, monitoring and supervision and tertiary level specialized centers.

Accountability, as a tenet of governance, is not well structured yet. This is further accentuated by a weak information system and the inability of the line ministries to reward performance or provide additional support to States that are lagging behind. Performance appraisal of staff is done through the annual confidential report, which forms the criteria for promotion, but is mostly written on routine basis with no objective assessment of the individual performance.

Thirty one percent of the PHC facilities provide service package comprising treatment of common diseases, medication disbursement, immunization, reproductive health, and nutrition and growth monitoring. In terms of service provision, hospitals and urban health centers provide better services than rural health facilities. About one fifth of the population has no access to health facilities. But, this figure masks the huge disparity between states as well as within the individual states. For instance, in South Darfur State only 34.5 % of the population has access to health facilities. On the other hand, only 0.1% of the population in Northern state lacks access to health care facilities.

Less than 50% of health facilities have the minimally required equipment, which is additionally ill-maintained, rendering services offered at health facilities inefficient and of poor quality. Only 44% of health centers happen to have sterilizing equipment. Availability of functional infrastructure (water and electricity) ranges from 100% in Khartoum to only 20% in peripheral states. Likewise, while health technology management system is weak, health technology assessment processes and procedures are not in place.

Regarding the pharmaceutical human resources, the number of pharmacists registered at the Sudan medical council exceeds 10,000, while the active workforce for pharmacist in 2009 was found to be 4710 with more than 67% concentrated in the private sector.

The career structure, incentive regimen, and mechanism for retention and equitable deployment in rural, underserved and conflict and emergency prone areas are not well developed. Health workers tend to move to the capital or major cities in the states resulting in nearly 70% of health workforce living in urban settings of which 38% are in Khartoum state, serving only 30% of the population. This urban bias is more acute for specialized cadres as 65% of specialist doctors and 58% of technicians are in the capital. The mal-distribution of health workers extends also to other levels of care, i.e. 67% of staff are employed in secondary and tertiary care units as opposed to only 33% in PHC settings. The great majority of them work in the public sector and 9.3% work exclusively in the private sector. However, dual practice is quite common among public sector employees.

In the case of Sudan, health workforce absorbs a considerable share of health budget, which is generally consistent with the pattern of spending in developing countries. The total spending on HRH is estimated at 49% of the general government health expenditure. This is comparable to EMRO average of 50.8% and higher than AFRO figure of 29.5%. Total spending on health workforce as a percent of recurrent health budget is in the order of 69% (this includes salaries and incentive packages) falling within the 60-80 % range for developing countries.

Table 7 shows the distribution of hospitals and beds by both different health providers i.e. public & private sector at different states of Sudan. It shows that there are a total of 866 hospitals with more than 28,000 beds in Sudan out of which 387 are FMOH Public Hospitals with 24,388 beds in Sudan in 2008. More than 85% of total Hospitals beds are in the public sector. The private sector has the minorityof hospitals (2516 beds). The predominance of the public sector reflects the major role of the government in term of financing and provision. A financing arrangement where the public sector purchases services from the private sector is minimal.

Sudan has almost 1 bed per 1000 population. The hospitals are not uniformly distributed. As example, for the FMOH there are 29 hospitals in Khartoum, 58hospitals in Gezira and only 6 in west Darfur. Specialized hospitals are mainly located in the capital city of Khartoum. Most of the Hospitals have sixty beds or more with less than 50% occupancy. (Ref)

Table 55: Distribution of Hospitals and Beds in Sudan

States	Hospitals		Health Centres	Primary Health Units Hospitals	Armed forces		Ministry Of interior affair Hospitals	Health Insurance Hospitals	Private Sector Hospitals	NGOs Hospitals
	Number of hospitals	No. Beds			Number of hospitals	No. Beds				
Federal Ministry of Health	**20**	**3877**								
Khartoum	29	2230	440	0	31	983	9	90	162	232
Gezira	69	3511	260	21	2	47	1	17	54	1
White Nile	26	1240	57	110	1	120	1	1	4	0
Blue Nile	16	602	23	0	1	96	1	5	2	2
Sinnar	24	1267	48	0	1	12	1	9	4	0
River Nile	32	1800	175	30	1	86	1	0	15	0
Northern	28	1545	75	12	1		1	0	2	0
Kassala	20	995	96	161	3	116	1	6	2	0
Gadarif	25	1333	42	52	1	190	2	4	1	24
Red Sea	17	1073	57	155	4	219	2	1	4	7
North Kordofan	27	1692	56	9	1	286	1	5	1	0
South Kordofan	16	995	143	224	1	21	1	0	1	1
North Darfur	15	874	38	214	1	100	1	5	0	0
South Darfur	11	1097	17	147	1	85	1	0	2	0
West Darfur	12	593	41	183	1	100	1	5	1	4
Sudan	**387**	**24724**	**1568**	**1318**	**51**	**1117**	**25**	**148**	**255**	**271**

In addition to the secondary care there is a medical treatment referral system abroad which is not maintained by the FMOH. T*he Medical Commission* used to sort out the treatment abroad seekers. Main countries engaged in the treatment abroad are Jordan, Egypt and Saudi Arabia and few European countries (mainly Germany and UK)(Statistical report, 2008).

1.1.1. Profile of Health Sub-Systems in Sudan

A brief overview of the Sudan health sector in terms of health services coverage, sources of financing, prevailing provider-payer relationships, and the size of operation of each of the Healthcare sub-systems. Such as FMOH, SMOH, National Health Insurance, State Health Insurance, Khartoum State Health Insurance, Army, private Health Insurance, is illustrated in Annex (1).

1.2. National Health Budget: Past and Future Trends and Index

The actual total government budget on health has been increasing overall since 1996. Figure 2 shows the comparison of FMOH health expenditure, Government expenditure and GDP in term of yearly percentage increase. It shows the inconsistency of the money allocated for health between FMOH, governmental expenditure on health and GDP expenditure on health. The high GDP expenditure on health doesn't reflect on the FMOH budget.

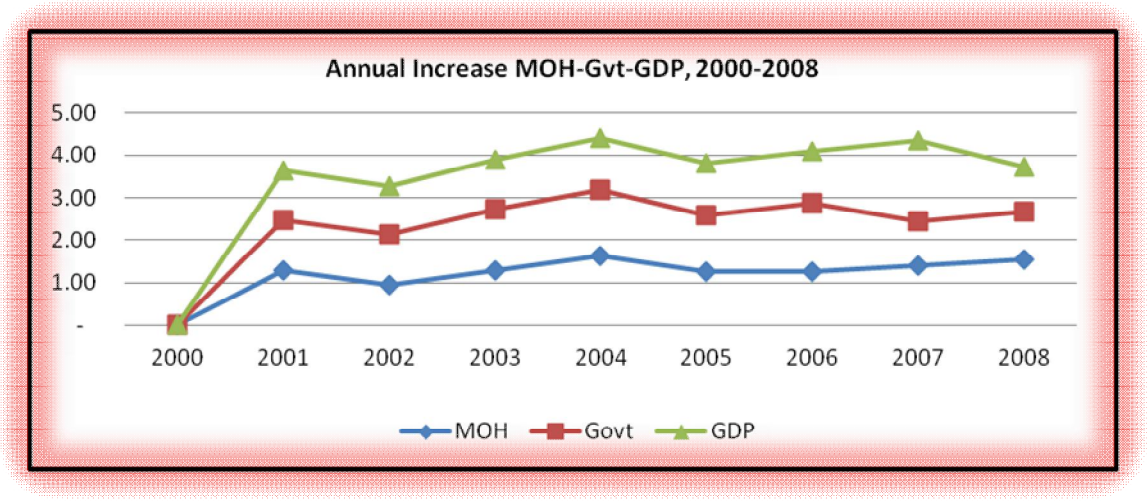

Figure 2: Actual Annual Increase in Government Health Expenditures

Overall health budget has been increased dramatically since 2000. Because of this fluctuation in Health Budget, it is useful to compare three dimensions: the increase in Health Budget, the increase in Government Budget and the increase in GDP. Although the view of each comparison depends upon which dimensions and increases are being observed. The key finding out of this figure is that the rate of increase in Government budget and Health evaluated like a horse and carriage, although the increase in GDP was faster than the government and the Health,

2.1. Methodology and data sources

The Sudan NHA study followed the methodology provided by the Guide to Producing National Health Accounts prepared by the World Health Organization (WHO) in collaboration with the World Bank and USAID. Needed adjustments were made to the classification schemes to bring them in line with Sudan national specifications. Several criteria was used to adapt the classifications. Transactions were grouped and partitioned so that each represents an important and policy relevant dimension. Partitioned transactions are mutually exclusive and exhaustive, so each transaction of interest is placed in one and only one category.

Efforts were made, to the extent possible, to consider existing international standards and conventions when placing certain transactions into groups to assure international comparability of the Sudanese data. While preparing preliminary 2008 NHA tables, the NHA team relied on existing data sources and, where absolutely essential, additional efforts were made to compile the information.

The following are the main sources of data collected to produce the report:

1. The Ministry of Finance or Public revenues and expenditures;
2. The Central Bureau of Statistics (CBS),
3. The 2009 Household Utilization and Expenditure Survey (SHUES)
4. Study of Healthcare Financers, Agents & Providers (Institutions)
5. Knowledge Attitude & Practices (KAP) study to determine PHC services cultural & social utilization barriers
6. The Private insurance and Providers market;
7. The Annual Reports of the Ministry of Health, Ministry of Finance and other line Ministries were used to obtain details on public financing;
8. The Army Medical Scheme was consulted to collect information about amounts disbursed by this agency to different providers and for different services;
9. For donor financing and NGOs, special surveys were made with the organizations active in the country to capture the size of donor assistance and purpose of funds/programs and projects.
10. For Information about imported pharmaceuticals and other medical goods, the Central Medical Supplies (CMS) as well as the financing agents were consulted.
11. Sudan Household Survey 2006.

Definitions used during NHA preparation were documented and were also subject to thorough review by the NHA team. After their revisions and approval, the required changes were made to the preliminary estimates and a final NHA for 2008 were produced.

2.2. Use of National Health Accounts

National Health Account (NHA) is a widely accepted tool that is promoted by the World Health Organization to allow policy makers to understand and manage these health needs and systems used, and to improve system performance. It is a framework for measuring total – public, private, and donor – national health expenditures [redundant]. Structured around a simple framework, the NHA methodology organizes, tabulates, and presents information on health spending in user-friendly format. It outlines some basic principles underpinning financial resource management and accounting rules that will be applied to monitor, mobilize and match resources to recognized needs [redundant].

The Sudan (2008) NHA report provides a clear and transparent picture regarding the structure of the health financing system in Sudan and essentially measures the "financial pulse" of the national health system and helps policy makers making better-informed decisions by answering questions like:

1. Who in the country is financing health services?
2. How much do they spend in 2008? On what types of services?
3. Who benefits from these health expenditures?

This NHA also intend to highlight the equity imbalances in the distribution of health expenditures as a valuable input into the financial projections of Sudan health system needs. The actual picture of how the fund is distributed among different groups, occupations and employment status are not available and approximations were made before. The distribution of population by occupation categories along with Health spending to occupation NHA matrix can help to derive how much of resources can be pulled out from the government funding, currently being used to finance those who can potentially be financed by some form of insurance.

Financial protection for everyone is a major concern of the government of Sudan. With limited government resources, the government has been debating to reallocate the government resources since they started the National health insurance to cover the population including those who cannot afford care on their own and depend on the government resources. Fairness in distributing health resources in a "Financial

Protection" way is important. This can be understood by considering how the Healthcare is financed by different partners.

The Government has the following general aims in regulating health financing systems:

12. Raise revenue to provide individuals with adequate protection against medical expenses caused by illness and injuries by coordinate with different partners.
13. Manage these revenues to pool health risks equitably and efficiently
14. Ensure the provision and or the purchase of health services efficiently and effectively.

From an expenditure point of view, NHA is built on four main classifications:

Financing Sources (FS), Institutions or entities that provide the funds used in the system by financing agents,

Financing Agents (HF), [1]institutions or entities that channel the funds provided by financing sources and use those funds to pay for, or purchase, the activities inside the health accounts boundary,

Healthcare Providers (HP), entities that receive money in exchange for, or in anticipation of, producing the activities inside the health accounts boundary,

Healthcare Functions (HC), goods and services produced by Healthcare providers and by institutions and actors engaged in related activities to Healthcare.

2.3. *Study Limitations*

Preliminary NHA production revealed several strength as well as shortcomings of the existing systems and data.

The main challenges faced were:

1. Health Utilization and Expenditure Survey failed to provide information on catastrophic expenditure in Sudan due to technical problem in data entry.
2. Disaggregating spending by different Ministries and the armed forces medical scheme, other than the FMOH, proved difficult, although special efforts have been made by the NHA team to collect as much possible data as they can.
3. Private insurance companies and private hospitals data proved sometimes inadequate and some other times not available. The NHA team used further analysis to extrapolate data from other researches and studies available.

[1] An international abbreviation

4. NGOs expenditure data is of poor quality and what was available was on an aggregate level and not by functions and/or providers.
5. The quality of household level data, however, has been given prior attention, because it will help improving NHA estimates and will contribute to better private health spending and thus better Healthcare financing policy development. Thus, presented data should be treated as best possible estimation.
6. Private market of Pharmaceutical was derived mainly from the provider's survey as well as the Central Medical Supplies.

These are the first NHA estimates that attempt to achieve a compromise between timeliness and detail on one side and data quality on the other. As with any such estimation, revisions will be necessary to the methodology and numbers of new data sources. The improved estimation procedures should be developed. Routine revisions will therefore be necessary in future years in order to maintain and improve the quality and usefulness of the NHA, as well as updating it.

Chapter (3) NHA 2008 Main Findings

Sudan NHA 2008 was a joint work between different health partners in the country. It was initiated by FMOH & WHO where a proposal was submitted to the MDTF to cover the cost of the survey. Consequently as the summary went further other partners encouraged to participate in the projects GAVI/UNICEF. National partners also facilitate the implementation of the study through data collection & analysis phase. The CBS, University of Khartoum (Faculty of Economics & social Studies) Health Economics Centre, State Ministries of health were the main implementer partners worked together with the NHA core team in the survey sub-studies. These sub-studies were as follows:

1. Household Health Utilization Expenditure Survey
2. Public health facilities survey (Hospital, health centers)
3. National & State level & other Ministries Survey
4. National & International NGOs (Multilateral & Bilateral donor survey)
5. National & State insurance survey
6. Private Firms health Expenditure Study
7. Al Zakat Study

Secondary & primary data were used to track the flow of fund in country health system, and the following summary results were obtained:

Table 56: Sudan NHA 2008 Summary Results

Summary NHA Results		
Population for Sudan 2008	39,154,490	
Population for Northern Sudan 2008	30,698,976	
Exchange Rate US$1	2.1	
Health Expenditure	SDG	USD
Total Health Expenditure (THE)	7,128,961,504	3,394,743,573
Total Government Budget, 2008	23,567,000,000	11,222,380,952
GDP Estimates for Sudan, 2008	127,011,000,000	60,481,428,571
GDP Per Capita	3,244	$1,545
Per Capita Government Spending	602	$287
Percent GDP Spent on Health	5.6%	
Per Capita Expenditures on Health	232	$111
Sources of Financing		
Public	28.87%	
Private	66.97%	
Donors	4.16%	
Health budget		
Ministry Of Health budget as Percent Government Budget	6.6%	
Localities as Percent Government Budget	0.6%	
Household Spending as Percent THE	64.3%	
Drugs Expenditure as percentage of THE	39.7%	

Table 8 shows the summary of NHA results 2008. The total National Health Expenditures in Sudan amounted to SDG7.1 billion (USD3.3 billion) in 2008 fiscal year, with per capita spending SDG232 (USD 111). Health spending as a share of gross domestic product (GDP) came to 5.6%. This suggested that there is an improvement in Sudan expenditure on health sector from the GDP however this expenditure is within the average rate compared to other countries in the region.

3.1. Healthcare Financing Sources in Sudan

Sudan has several different public and private financing sources [why to talk about schemes? This shall confuse the picture. Let us simply focus on FS, FA, HP and HC] including a growing private sector. These include:

1. The Ministry of Health financing that covers all Sudanese citizen not dependent on the income of the beneficiary
2. National Health Insurance Schemes
3. The Armed forces employment-based social insurance schemes
4. A growing private insurance market
5. Out-of-pocket expenditures

Table 9 shows, the NHA 2008 results show that almost 64% of the total funds (equivalent to 3% of GDP) originate from the households, whereas 29% are apportioned public funds, 4% is contributed by international donors or other sources and the remaining 3% from other private sources. The public expenditure on health as a percent of total health expenditure in 2008 is 30%.

Table 57: Sources of Funds, 2008:

Sources		Amount SDG	Percent	Per Capita
Public Sources	***Federal Ministry of Finance***	734,642,519	10.3%	23.93
	State Ministry of Finance	1,029,147,641	14.4%	33.52
	Localities	92,364,552	1.3%	3.01
	Parastatal funds	51,369,882	0.7%	1.67
	Other Public (Al-Zakat)	150,633,828	2.1%	4.91
Private Sources	***Employer Funds***	168,846,947	2.4%	5.50
	National NGOs	7,720,495	0.1%	0.25
	Community Finance	2,231,655	0.0%	0.07
	Household funds (FS.2.2)	4,583,326,532	64.3%	149.30

	Other Private funds	11,816,539	0.2%	0.38
Rest of the World	***Donors Funds (FS.3)***	296,860,914	4.2%	9.67
Total SDG		***7,128,961,504***	***100%***	***232.22***
Total USD		***3,394,743,573***		***USD 110.58***

3.2. Healthcare Financing Agents in Sudan

As per the figure 4 and table 10 shows, the Ministry of Health plays a major role in administrating the health funds in the country and manages almost 23% of THE, other ministries for 4%, the household out of pockets accounts to 63%, Government Health Insurance funds for 4%, Private sector for 2% and Donors agents for the remaining 2%. It is important to mention that it is the first ever estimation of the private sector at the national level in Sudan.

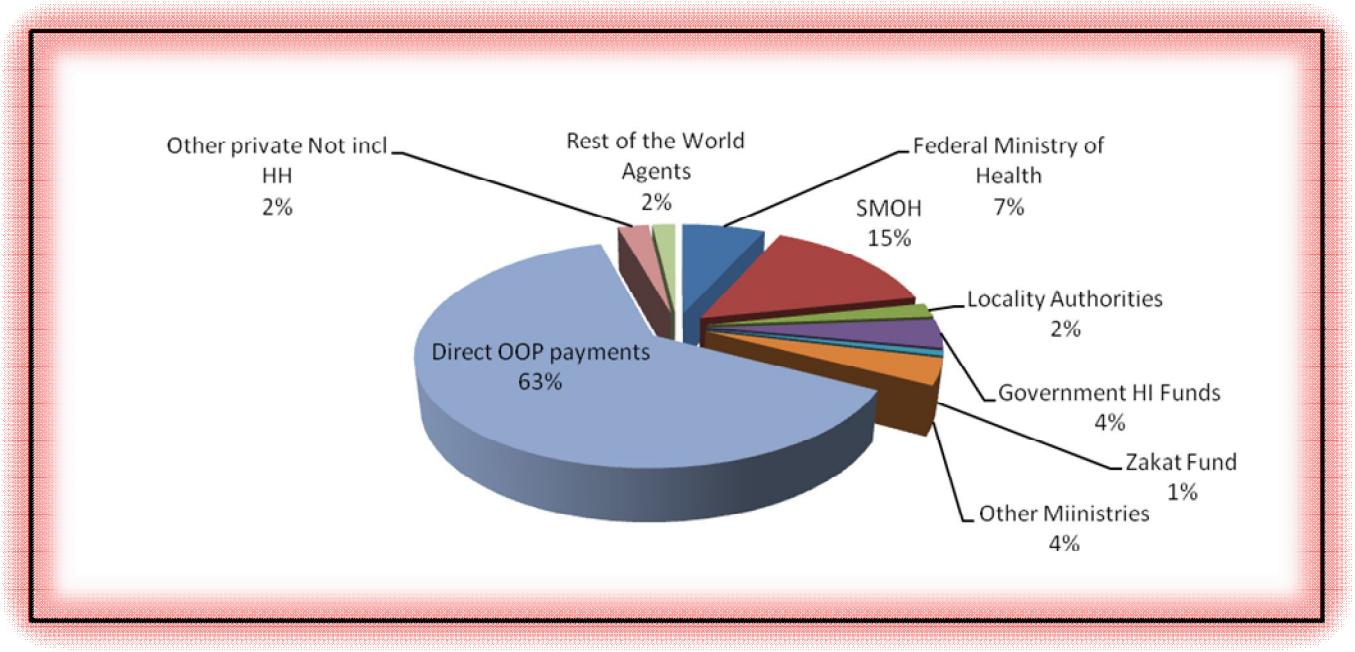

Figure 4: Agents of Health expenditures, 2008

Table 58: Total Healthcare Expenditures by Financing Agents, 2008

Financing Agents		Amount SDG	Percent	Per Capita
Public Agents	*Federal Ministry of Health*	489,290,753	6.9%	15.94
	Ministry of Defence	208,100,000	2.9%	6.78
	Ministry of Interior Affairs	36,803,697	0.5%	1.20
	Ministry of Higher Education	26,770,910	0.4%	0.87
	Other Ministries	4,034,232	0.1%	0.13
	Zakat Fund	53,197,663	0.7%	1.73
	SFMOH	1,059,379,770	14.9%	34.51
	Locality Authorities	145,034,121	2.0%	4.72
	National Health Insurance Fund	183,770,960	2.6%	5.99
	Khartoum State Health Insurance Funds	84,420,847	1.2%	2.75
	Parastatal Firms	34,191,927	0.5%	1.11
Private Agents	*Private insurance enterprises (other than social insurance)*	55,110,794	0.8%	1.80
	Private household out-of-pocket payments	4,486,071,402	62.9%	146.13
	Nonprofit institutions (other than social insurance)	19,276,672	0.3%	0.63
	Other private firms and corporations	108,157,423	1.5%	3.52
Rest of the World Agents	*Donors*	74,616,472	1.0%	2.43
	International NGOs	60,733,862	0.9%	1.98
Total SDG		***7,128,961,504***	***100%***	***232.22***
Total USD		***3,394,743,573***		***USD 110.58***

3.3. Healthcare Providers in Sudan

A breakdown of total health expenditures by providers indicates (table 12) almost 56% is spent on Government Hospitals out of which 25% spent on SMOH General Hospitals, 2% on FMOH General Hospitals, 3% on Specialty Hospitals and 26% on other Governments General Hospitals, 11% at the physicians, 2% on outpatients centres, 2% on private hospitals, 16% at the private pharmacies. Provision of public health programs utilizes a share of 6% and the Government administration and health workers salaries.

Share is 6%. It is important to mention that secondary care is provided mainly at the government facilities.

Expenditure on health in Sudan is relatively higher than some countries at the same socio-economic background in the region. It accounted for approximately 111$ USD per Capita with a total Health Expenditures of USD 3.4 billion.

Table 59: Total Healthcare Expenditures by Providers, 2008

Providers of Health In Sudan		Amount SDG	Percent	Per Capita
General hospitals	*Federal Ministry of Health General Hospitals*	159,336,424	2.2%	5.19
	State Ministry of Health General Hospitals	1,690,015,258	23.7%	55.05
	State Ministry of Health Rural Hospitals	110,461,492	1.5%	3.60
	Ministry of Defence General Hospitals	321,734,690	4.5%	10.48
	Ministry of Interior General Hospitals	69,514,627	1.0%	2.26
	Other Ministries General Hospitals	4,210,202	0.1%	0.14
	Ministry of Higher Education General Hospitals	48,533,855	0.7%	1.58
	National Insurance General Hospitals	1,206,108,029	16.9%	39.29
	Private Sectors General Hospitals	165,782,390	2.3%	5.40
	Local NGOs General Hospitals	3,692,554	0.1%	0.12
	International NGOs General Hospitals	-	0.0%	-
	Other Ministries & departments General Hospitals	7,388,712	0.1%	0.24
Mental health and substance abuse hospitals	*State Ministry of Health Mental Hospitals*	302,168	0.0%	0.01
	Ministry of Interior Mental Hospitals	1,290,000	0.0%	0.04
Specialty hospitals	*Federal Ministry of Health specialized Hospitals*	112,294,628	1.6%	3.66
	State Ministry of Health specialized Hospitals	69,341,280	1.0%	2.26
	Private specialized Hospitals	308,566	0.0%	0.01
Providers of ambulatory Healthcare	*Offices of physicians*	757,362,929	10.6%	24.67
	Offices of dentists	5,254,035	0.1%	0.17
	Offices of other health practitioners	101,521	0.0%	0.00
	Out-patient care centers	19,739,742	0.3%	0.64
	Federal ministry of Health Dialysis care centers	45,462,407	0.6%	1.48
	state ministry of Health Dialysis care centers	3,640,357	0.1%	0.12

	Ministry of Interior Dialysis care centers	1,573,225	0.0%	0.05
	State Ministry of Health PHC	64,182,540	0.9%	2.09
	Ministry of Interior centers	426,000	0.0%	0.01
	Private centers	4,834,083	0.1%	0.16
	Mobile Clinic	923,762	0.0%	0.03
	Other providers of ambulatory Healthcare	4,806,808	0.1%	0.16
Medical and diagnostic laboratories	*States medical and diagnostic laboratories*	39,901,464	0.6%	1.30
	Private labs	1,704,292	0.0%	0.06
Retail sale and other providers of medical goods	*Pharmacies of Federal ministry of health*	5,581,024	0.1%	0.18
	Pharmacies of State ministry of health	25,508,120	0.4%	0.83
	Pharmacies of Public insurance	65,404,385	0.9%	2.13
	private Pharmacies	970,930,622	13.6%	31.63
	National NGOs pharmacies	2,431,750	0.0%	0.08
	Other suppliers of pharmaceuticals and medical good	251,602,901	3.5%	8.20
Provision and administration of public health programmes	*By federal Ministry of health*	161,238,972	2.3%	5.25
	By States Ministry of health	260,919,934	3.7%	8.50
	Other institutions	12,881,221	0.2%	0.42
General administration of health and insurance	*Federal ministry of health*	207,232,929	2.9%	6.75
	States ministry of health	160,791,254	2.3%	5.24
	Public Insurance administration	50,387,003	0.7%	1.64
	Private Insurance administration	4,453,754	0.1%	0.15
	Other institutions & administrations	511,000	0.0%	0.02
Institution providing health related services	*Research institutions*	-	0.0%	-
	Education & training institutions	4,567,681	0.1%	0.15
	Other institutions providing health related services	559,218	0.0%	0.02
Rest of the world	*Rest of the world*	14,505,461	0.2%	0.47
	Provider not specified by kind	9,226,238	0.1%	0.30
Total SDG		***7,128,961,504***	***100%***	***232.22***
Total USD		***3,394,743,573***		***USD 110.58***

3.4. Healthcare Functions in Sudan

A breakdown of total health expenditures by function indicates (table 11) almost 60% is spent on curative services out of which 35% spent on inpatients curative care, 25% on outpatients including general and curative, 4% on preventive and primary and 6% on health administration and 5% on other health related functions.

Pharmaceuticals utilize a major share of 23%. It is important to mention that it is the first ever estimation of the functional classification at the national level in Sudan [no need to mention this again].

Table 60: Total Healthcare Expenditures by Functions, 2008

Functional classification of Health		Amount SDG	Percent	Per Capita
Services of curative care	*In-patient curative care*	986,290,696	13.8%	32.13
	Basic medical and diagnostic services	3,162,757,561	44.4%	103.02
	Out-patient dental care	80,699,649	1.1%	2.63
	All other specialized Healthcare	28,450	0.0%	0.00
	All other out-patient curative care	68,106,072	1.0%	2.22
Services of rehabilitative care	*In-patient rehabilitative care*	15,481,092	0.2%	0.50
	Out-patient rehabilitative care	101,521	0.0%	0.00
Ancillary services to Healthcare	*Clinical laboratory*	35,737,344	0.5%	1.16
	Diagnostic imaging	27,260	0.0%	0.00
	Ambulance services	4,587,226	0.1%	0.15
Medical goods dispensed to out-patients	*Pharmaceuticals & other medical non-durables*	1,380,174,768	19.4%	44.96
	Therapeutic appliances & other medical durables	257,964,716	3.6%	8.40
	Glasses and other vision products	308,566	0.0%	0.01
Maternal & child health, family planning and counseling	*RH*	19,248,468	0.3%	0.63
	Child health	12,362,108	0.2%	0.40
	EPI	96,563,760	1.4%	3.15
	Nutrition	5,325,178	0.1%	0.17
	Other MCH ,FP & child programs	33,576,128	0.5%	1.09
	School health services	355,965	0.0%	0.01
Prevention of communicable diseases	*Epidemiology program*	4,784,475	0.1%	0.16
	Sudan national AIDS program	18,830,727	0.3%	0.61
	Malaria preventive program	103,223,579	1.4%	3.36
	National Tuberculosis preventive	7,596,280	0.1%	0.25
	All other preventive communicable disease program	14,073,338	0.2%	0.46
Prevention of non communicable diseases	*Other Non communicable Diseases*	196,365	0.0%	0.01
	Occupational health	42,543	0.0%	0.00
	All other miscellaneous public health service	23,777,266	0.3%	0.77
General government administration of Health	*General government administration of health (except social security)*	396,418,022	5.6%	12.91
	Administration, operation and support activities of social security funds	7,087,701	0.1%	0.23
Health administration and health insurance: private	*Health administration and health insurance: private*	43,062,192	0.6%	1.40
	Health administration and health insurance: other private	4,453,754	0.1%	0.15
Health Related Function	*Capital formation of Healthcare provider institutions*	221,895,152	3.1%	7.23
	Education and training of health personnel	58,989,808	0.8%	1.92
	Research and development in health	2,280,558	0.0%	0.07
	Environmental health	53,304,353	0.7%	1.74
	HC.R expenditure not specified by kind	9,248,862	0.1%	0.30
Total SDG		***7,128,961,504***	***100%***	***232.22***
Total USD		***3,394,743,573***		***USD 110.58***

Chapter (4) Sudan NHA Findings Analysis

Sudan is dominated mainly by the public sector and facilities, whilst the ministries of health remain the main player in this sector. Not only it is the generator of curative Healthcare in Sudan, but it is also the largest provider of collective health prevention services.

Sudan public sector is consisted of six active medical schemes, as follows:

1. Two employment-based social insurance schemes to cover the Armed Forces members and their dependants and the Ministry of Interiors members and their dependants.
2. One compulsory social health insurance scheme for formal government sector employees and their dependants, which became a major significant player in the Sudanese health financial system
3. Social insurance scheme for formal private sector employees and their dependants
4. The Ministry of Health financing that covers any citizen who is not covered under any other scheme and is not dependent on the income of the beneficiary
5. A growing private insurance market that is largely employment based
6. Out-of-pocket expenditures

4.1. Ministries of Health

Both Federal Ministry of Health and State Ministry of Health were the largest sector in the Sudanese national health system. It is a very important sector due to its weight in the national health system. The FMOH expenditures account for almost 21.8% of total health expenditures. It is the generator of health fund and represents the largest provider of care and collective health prevention services.

This chapter will analyze the Ministries of Health budget, sources of its funds, economic and functional classification and describing the degree of equity in distributing funds.

Health is a true priority for the government of Sudan. With the considerable population growth and needs in care and in health prevention, the changes in budget allocated to the Ministry of Health has reflected this priority specially when comparing its share with the government budget fluctuation from 5 to 9%. The total FMOH share of government budget has been raised since the year 2000. Figure 1 above (figure 7) highlights this increase when comparing the ongoing evolution of the FMOH budget and Government and GDP respectively. Over the past 10 years, the curve of the FMOH expenditures index variable has been always almost at the same level of the Government budget but almost always been below that of the GDP.

The examination of the changes in the Ministry of Health's budget per capita and in constant value shows that, during the last ten years, the Government has made great efforts in this sector. These efforts have primarily been a benefit to the curative care and administration at the expense of the rest of the operating budget and the preventive care. Prevention and public health was mainly covered by Donors and international NGOs. This migrates and weakens the benefits of increases in investing on public programs and preventives.

However, since 2000, the rate of the budget allocated to FMOH, when compared it with the increase of the government expenditures, has been decreasing with a highest decrease occurring in the year 2002. A significant increase in government expenditures occurred in the year 2007. In order to allow for a more meaningful comparison of the FMOH expenditures over time it was necessary to compare FMOH share over the Government budget as indicated in Figure 5 below.

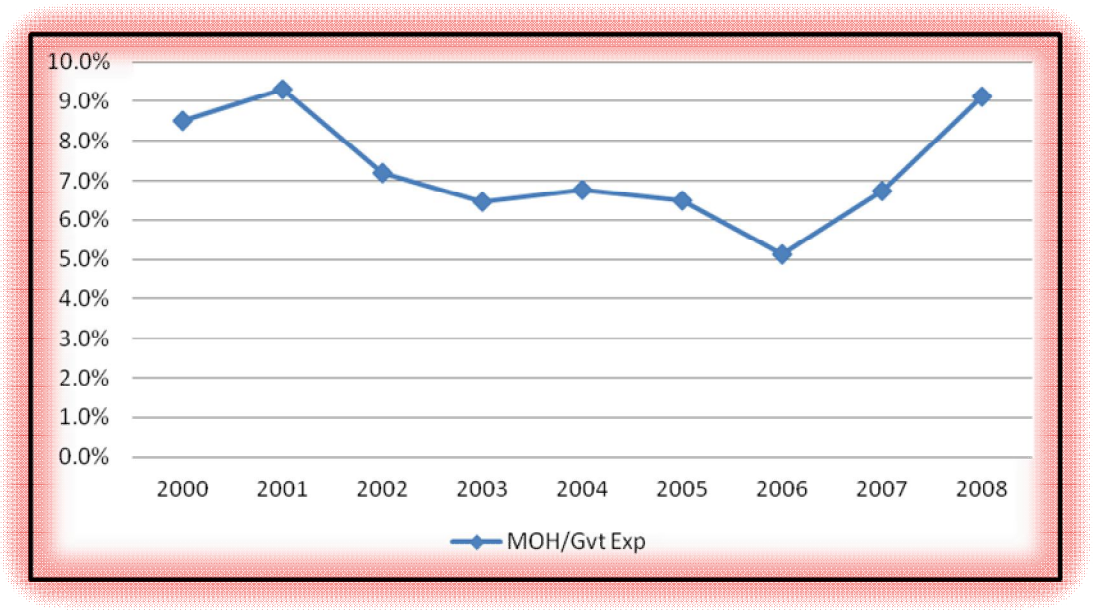

Figure 5: Actual Annual Increase in Government Health Expenditures

4.1.1 Federal Ministry of Health

Sudan offered its citizens free public Healthcare services after independence. In 1992, in response to financial problems, user fees for services and drugs were introduced. Additional measure to increase access and reduce hardship was the health insurance policy in 1994 and the Presidential declaration in 1996 that emergency care would be provided free of charge, including any procedures and expenses incurred within the first 24 hours in hospital. Since 1996, the setting of the budget for free care varied. The budget was studied at the level of the State and sent to the Federal Ministry of Health (FMOH). Therefore cost estimates had been drawn up by the States, and submitted to the FMOH. Whether these estimates informed negotiations between the FMOH over the total budget, or whether they were mainly used to allocate resources between States within a given limit is unclear. There is a budget committee representing both ministries which negotiates the final distribution, which is then sent direct from the MOF to tertiary hospitals, the CMS, the FMOH and the States.

The FMOH expenditures figures were obtained from the Ministry of Finance as well as the Federal Ministry of Health itself. Sudan NHA 2008 gives the FMOH overall expenditure from the Ministry of Finance as well as from other sources of funding. A special attention was given to eliminate double counting spending when including FMOH spending and cash transfers to the States.

4.1.1.1. Sources of Funding for FMOH spending

Table 13 indicates that the main source of the FMOH funds is the Government, which accounts to almost 79% of its expenditures. Donors contributed to 21%.

Table 61: Sources of FMOH Funds, 2008

Sources of FFMOH Funds	Total in SDG	%
Federal Ministry of Finance	420,953,342	77.81%
Al-Zakat	51,845	0.01%
Household Funds	4,203,832	0.78%
Rest of the World	113,602,550	21.00%
Other Private Funds	2,090,832	0.39%

Para-statal Employer Funds	4,000	0.00%
Private Employer Fund	36,600	0.01%
Community Finance	70,000	0.01%
TOTAL	**541,013,000**	**100%**

As indicated in table13, the main sources of fund is the Federal Ministry of Finance providing almost 80% of its budget Donors played a major role in its financing and contributed to 21% mainly on Public Health Programs. Household and other private funds contributed to less than 1%.

4.1.1.2. FMOH Expenditures by Providers

The NHA 2008 results show that the FMOH Providers are the major recipients of national health funds. Table 14 shows the breakdown of the FMOH expenditures among the public providers.

Table 62: FMOH Expenditures by Providers, 2008

FMOH Expenditures by Providers	Total in SDG	%
Federal Ministry of Health General Hospitals	90,632,916	16.75
Federal Ministry of Health Specialized Hospitals	102,254,203	18.90
Federal ministry of Health Dialysis care centers	44,097,863	8.15
Federal ministry of health provision and administration of public health programmes	98,274,217	18.16
Federal ministry of health general administration	205,537,100	37.99
Education and training institutes	216,700	0.04
TOTAL	**541,013,000**	**100**

This breakdown indicates that the bulk of its budget is spent on administration with almost 38% of its funds. General Hospitals accounts to 17%, specialized hospitals to 19% and Dialysis centres to 8%. Provision of Public Health Programs by the FMOH utilizes the remaining 18%.

4.1.1.3FMOH program Functions

The 2008 NHA findings in table 15 reveal that most of the FMOH budget was spent on curative care and administration including wages and salaries.

Table 63: FMOH Expenditures by Functions 2008

FMOH Expenditures by Functions	Total in SDG	%
Curative Care		
Services of curative care	223,124,830	41.24
Public Health Programs		
Reproductive Health	1,454,255	0.27
Expanded Program on Immunization	30,131,216	5.57
Nutrition	387,463	0.07
Other MCH ,FP & child programs	845,334	0.16
Epidemiology program	775,490	0.14
Sudan national AIDS program	3,235,851	0.60
Malaria preventive program	52,956,355	9.79
National Tuberculosis preventive	2,858,712	0.53
National Bilharsiasis control program	1,479,936	0.27
All other preventive communicable disease program	255,000	0.05
Administration of Health		
General government administration of health (except social security)	160,777,920	29.72
Health Related Functions		
Capital Formation of Healthcare provider institutions	13,860,152	2.56
Training (internship)	48,500,186	8.96
Nursing & paramedical education	216,700	0.04
Environmental health	153,600	0.03
TOTAL	**541,013,000**	**100%**

Of the entire FMOH budget, 41% is used for local curative inpatient care versus 18% for the prevention and public health programs. The administration of the central office of

the FFMOH utilizes 30% of the budget and the remaining part of the budget was spent on other health related functions. It should be noted here that most of the public programs were funded by the Donors and International NGOs through their own network of providers and only few are considered passed through the FMOH channel.

4.1.2 State Ministries of Health

4.1.2.1Sources of Funding for SFMOH spending

Table 16 indicates that the main source of the FMOH funds is easily the Government budget, which amounts to almost 95% of Total Ministry of Health expenditures.

Table 64: Sources of State Ministry of Health Fund:

Sources of SMOH	Total in SDG	%
Federal Ministry of Finance	69,946,146	**11.14**
State Ministry of Finance	511,010,339	**81.40**
Localities	3,500	**0.00**
Al-Zakat	2,142,289	**0.34**
National NGOs	397,154	**0.06**
Rest of the World	40,525,755	**6.46**
other public fund	2,128,358	**0.34**
community	1,616,655	**0.26**
TOTAL	**627,770,196**	**100%**

As indicated in table 16 and Figure 6 below, the main sources of funding is the State Ministry of Finance providing more than 82% of its budget. Federal Ministry of Finance played the second major role in financing the State FMOH contributing to 11% of SFMOH expenditures. Other sources of fund (households, localities, and zakat) provide less than 1% of the SFMOH Spending. Donors contribute to some 7% of total State Ministry of Health expenditures and mainly on Public Health Programs.

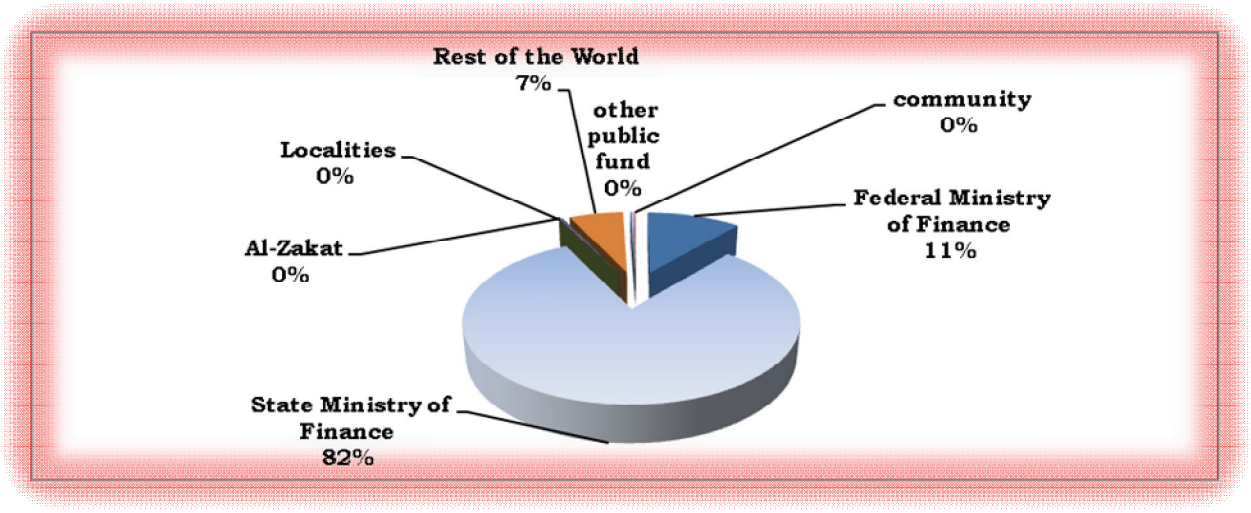

Figure 1: Sources of SMOH funds, 2008

4.1.2.2SMOH Expenditures by Providers

The NHA 2008 results show that the SMOH providers are the major recipients of national health funds. Table 17 shows the breakdown of the FMOH expenditures among the public providers.

Table 65: SMOH Expenditures by Providers, 2008

SMOH Expenditures by Providers	AMOUNT	%
State Ministry of Health General Hospitals	206,850,393	32.95
State Ministry of Health Rural Hospitals	105,048,638	16.73
State Ministry of Health Mental Hospitals	302,168	0.05
State Ministry of Health Specialized Hospitals	27,866,500	4.44
State ministry of Health Dialysis care centers	971,742	0.15
State ministry of Health PHC centers	27,429,655	4.37
States medical and diagnostic laboratories	21,058,622	3.35
State ambulance services	4,746,402	0.76
Pharmacies of State ministry of health	426,712	0.07
States ministry of health provision and administration of public health programmes	86,730,108	13.82
States ministry of health general administration	142,916,585	22.77
Education and training institutes	3,422,672	0.55
TOTAL	**627,770,196**	**100%**

This breakdown indicates that the major providers of the SFMOH were mainly hospitals with almost 55% of total funds. General Hospitals accounts to 33%, Rural Hospitals to 17% and Specialized hospitals to 7%. Provision of Public Health Programs by the FMOH utilizes 14% and salary and wages of the Central accounts to 23% of the budget not including the salary and wages of Hospital and Health centres' staff.

4.1.2.3SMOH Functions

The NHA study results show the Sudan first ever breakdown of FMOH health expenditures by functions following the International Classification of Health Accounts (ICHA).

The Sudan FMOH is facing a number of health challenges. The SMOH budget has been segregated by State and subdivision. This segregation was not compatible with the NHA functional classification. In 2008, The FMOH budget has been allocated to six main functional classifications with a highest share favour the Curative Care services. A breakdown of FMOH spending by division is indicated in Tables 18 below.

Of the entire SMOH budget, 49% is used for local curative inpatient care versus 3% for the basic care network. It is true that this percentage is fairly high, but it is mostly spent on Salary and Wages including Doctors and nurses. The Administration of the Central office of the SMOH utilizes 19% of the budget. However it should be stated that, in the context of health programs and monitoring, health prevention activities continue to be substantial and not exceeding 12%. Pharmaceutical utilizes less than 2%.

Table 66: Uses of SMOH Funds, 2008

SMOH Expenditures by Functions	TOTAL	%
Curative Care		
Services of curative care	289,611,887	46.13
Services of rehabilitative care	15,481,092	2.47
Ambulatory Care		
Clinical laboratory	15,368,315	2.45
Diagnostic imaging	27,260	0.00
Ambulance services	4,587,226	0.73
Pharmaceuticals		
Pharmaceuticals & other medical non-durables	14,522,054	2.31
Therapeutic appliances & other medical durables	1,211,512	0.19
Public Health Programs		
RH	12,087,952	1.93
EPI	14,647,453	2.33
Nutrition	3,169,425	0.50
Other MCH ,FP & child programs	1,418,701	0.23
School health services	217,640	0.03
Epidemiology program	4,008,985	0.64
Sudan national AIDS program	4,530,337	0.72
Malaria preventive program	21,562,754	3.43
National Tuberculosis preventive	798,640	0.13
Bellharsia preventive program	246,339	0.04
All other preventive communicable disease program	6,291,364	1.00
Other Non communicable Diseases	11,640	0.00
Occupational health	42,543	0.01
All other miscellaneous public health service	3,342,703	0.53

Administration of Health		
General government administration of health (except social security)	122,352,000	19.49
Health Related Functions		
Capital Formation of Healthcare provider institutions	80,334,198	12.80
Training (internship)	6,922,296	1.10
Internal courses (short, long)	173,500	0.03
Nursing & paramedical education	1,583,254	0.25
Other program	183,000	0.03
Environmental health	3,017,458	0.48
HC.R expenditure not specified by kind	18,667	0.00
TOTAL	**627,770,195**	**100%**

4.1.4. Localities

Localities are the third government level and have its share contributing to the health sector in Sudan. Localities spent almost 2% of Total Health Expenditures. All its medical funds are spent on provision of Public Health Programs at the State and municipality levels. Table 26 shows that SDG 145 millions have been spent in the year 2008 and are funded by the Localities budget and the SMOH.

Table 67: Sources of Locality Medical Funds, 2008

Sources of Localities Medical Funds	TOTAL SDG	%
Federal ministry of finance	11,197	0.01
State Ministry of Finance	52,503,790	36.20
Localities	92,351,052	63.68
National NGOs	3,506	0.00
Rest of the World	1,964	0.00
other funds	162,611	0.11
TOTAL	**145,034,121**	**100%**

Tables 20 and 21 illustrated the uses of Localities funds by providers and functions. Our study revealed that the SMOH allocate a good share of its role to Localities to provide public Health Programs. Two thirds of the Localities funds are spent on basic Medical services and environmental health and one third on reconstruction and capital formation (building new Healthcare facilities) of Healthcare providers at its level.

Table 68: Uses of Localities Medical Funds by Provision, 2008

Localities Health Expenditures by Providers	TOTAL	%
Provision and administration of public health programme By States Ministry of health	127,159,451	87.68
Provision and administration of public health programme by Other institutions	17,874,670	12.32
TOTAL	**145,034,120**	**100%**

Table 69: Uses of Localities Medical Funds by Functions, 2008

Localities Health Expenditures by Functions	TOTAL	%
Basic medical and diagnostic services	38,220,850	26.35
Malaria preventive program	14,738,399	10.16
Capital Formation of Healthcare provider institutions	36,960,126	25.48
General government administration of health (except social security)	5,169,935	3.56
Environmental health	49,944,812	34.44
TOTAL	**145,034,121**	**100%**

As illustrated in Table 22, NHA study distributes the localities funds by State. This will give a good picture the distribution of funds and financial equity between those states when compare it with the distribution of the population size and services provided. This will be a good start for a national discussion on priority in budgeting and funding health services by states.

Table 70: Distribution of Localities Medical Funds by States, 2008

States	Provision and administration of public health programmes By States Ministry of health	Provision and administration of public health programmes by Other institutions	Total	%
Blue Nile	353,982.10	328,926.00	**682,908.10**	**0.5%**
Sennar	1,848,253.46	149,882.24	**1,998,135.70**	**1.4%**
Gezira	28,338,658.94	8,634,681.60	**36,973,340.54**	**25.5%**
Northern	259,718.00	238,514.00	**498,232.00**	**0.3%**
Red Sea	23,961,729.00	479,087.00	**24,440,816.00**	**16.9%**
Gadarif	3,719,410.77	2,329,212.67	**6,048,623.44**	**4.2%**
Kassala	8,091,687.63	744,339.15	**8,836,026.78**	**6.1%**
South Kurdofan	3,194,562.53	554,481.91	**3,749,044.44**	**2.6%**
Khartoum	35,967,446.94	15,250.00	**35,982,696.94**	**24.8%**
South Darfour	1,473,591.39	1,305,853.00	**2,779,444.39**	**1.9%**
West Darfour	667,977.16	309,740.32	**977,717.48**	**0.7%**
North Darfour	4,562,668.00	445,564.00	**5,008,232.00**	**3.5%**
River Nile	1,661,838.00	1,190,656.00	**2,852,494.00**	**2.0%**
White Nile	2,799,944.79		**2,799,944.79**	**1.9%**
North Kurdofan	10,257,982.03	1,148,481.74	**11,406,463.77**	**7.9%**
Total	**127,159,450.74**	**17,874,669.63**	**145,034,120.37**	**100.0%**

Table 22 shows that Gezira, Red Sea and Khartoum states utilize most of the localities funds. A more detailed analysis is needed a later stage to highlight equity and efficiency criteria and it will be a subject of a more in depth analysis that the Government of Sudan should look at, and a policy would be arisen to utilize any inefficiencies or equity problem.

4.2. Health Insurance market

Like many other developing countries, Sudan after independence, offered its citizens free public Healthcare services. In 1991, in response to financial problems, user fees for services and drugs were introduced. The access problems which this generated led to the development of health insurance, which has been implemented since 1995. Coverage is however largely confined to the formal sector.

As part of the NHA study, various efforts were made to collect more accurate information on the public and private insurance sector. The NHA team use two methods. First attempt was to collect data through cooperation with the three main public insurance schemes as a secondary data. Second, we approached the private insurance companies in Sudan. According to the Health Insurance survey, a first attempt for privately insuring people was in the mid nineties when one insurance company started a special medical insurance scheme.

Today, the health insurance market in Sudan is compulsory and estimated at around 3,590,820 insured, representing around 40% of the total population and covered through three public insurance scheme and few private insurance companies. As per the latest household survey, the Health Insurance coverage in Sudan amounted to 35.3% of the target population and not of the total population. Most insurers provide comprehensive health plans covering in-patients, out-patients and drugs with some offering additional benefits (treatment abroad, evacuation, etc).

The main two social insurance schemes are National Health Insurance Fund and State Health Insurance corporations. The HI covers employees and their family members. 23% of the population were covered under the HI.

One of the interesting finding that currently, the rating methodology of the current insurance scheme is based neither on experience rating nor on community rating. Under experience rating, health insurers collect information regarding the health status and the claims experience of the insured group to determine the premium rate charged to the group. Under community rating, premiums are based on average costs of the whole population.

At the moment, premiums charged by those insurance schemes are not based on any of the two methodologies but it is more in line with community rating defined above. It is worse to note that when managing these Insurance schemes, we suppose to price our products based on experience rating and the premiums are likely to increase if the utilization rate of services increases more than expected.

The Monthly premium in Sudan varies between SDG 186.16 and SDG9.94 per single and a rate of SDG 15 per family (with no special consideration of the family size). Based on the survey, the total Health Insurance expenditures market was estimated to SDG 450 million in 2008.

4.2.3. National Health Insurance

4.2.3.1. Sources of Funding for NHI scheme

According to the NHA, the NHI Health fund represents 2.6% of total Health Expenditures. The number of people who contributed to the NHI were 8,932,387 in 2008 and were lower than expected in previous reports. Table 23 shows that the FMOF contributed to the majority of the funds (88%), 6% was contributed by Al-Zakat and 4% from other private funds. The result of the survey illustrate that NHI doesn't cover all the population as it is meant to be. The per capita share of NHI is SDG 6 per year.

Table 71: Sources of NHI Funds, 2008

Sources of National Health Insurance	TOTAL SDG	Share
Federal & state Ministry of Finance	160,923,393	87.6%
Al-Zakat	11,993,474	6.5%
Parastatal Employer Funds	799,565	0.4%
Private Employers Funds	999,456	0.5%
Household Funds	1,199,347	0.7%
other private funds	7,855,725	4.3%
TOTAL	**183,770,960**	**100%**

4.2.3.2. National Health Insurance fund by Providers

Table 24 shows that one third of the NHI funds are used at the Pharmacies level, 16% at the hospitals, mainly the SFMOH hospitals, 12% at the primary level and 9% at the States medical and diagnostic centres. The administration of the scheme utilizes 23.4% of the funds.

Table 72: Uses of NHI Funds by Providers, 2008

NHI Expenditures by Providers	TOTAL SDG	Share
Federal Ministry of Health General Hospitals	3,520,220	1.9%
State Ministry of Health General Hospitals	8,800,548	4.8%
Private Sectors General Hospitals	5,040,438	2.7%
State Ministry of Health Specialized Hospitals	13,081,151	7.1%
Private offices of physicians	1,760,109	1.0%
Private offices of dentists	1,280,328	0.7%
State ministry of Health Dialysis care centres	2,640,165	1.4%
State ministry of Health PHC centres	17,601,096	9.6%
States medical and diagnostic laboratories	16,300,000	8.9%
Pharmacies of Public insurance	65,404,385	35.6%
Other Ministries & departments General Hospitals	5,280,328	2.9%
Public Insurance administration	43,062,192	23.4%
TOTAL	**183,770,960**	**100%**

4.2.3.3. National Health Insurances fund by functions

The distribution of the NHI expenditures, as illustrated in Table 25, shows that Pharmaceuticals utilize a good share of 35.6% of the funds (35.6%), 31.4% for inpatient curative care, 23.4% for administration of the insurance funds and the remaining funds is divided between outpatient dental and clinical laboratories.

Table 73: Uses of NHI Funds by Functions, 2008

NHI Expenditures by Functions	TOTAL SDG	Share
In-patient curative care	57,724,055	31.4%
Out-patient dental care	1,280,328	0.7%
Clinical laboratory	16,300,000	8.9%
Pharmaceuticals and other medical non-durables	65,404,385	35.6%
Health administration and health insurance:	43,062,192	23.4%
TOTAL	**183,770,960**	**100%**

4.2.4. Some States Health Insurance

4.2.4.1. Sources of SHI Funds

According to the NHA State Health Insurance survey, table 26 shows that the primary source of funding for all states is the State Ministry of Finance (78.3%). However, the proportion of Al-Zakat and Parastatal Employers funds are significantly good and comes to 10.1% and 5.5% respectively.

Table 74: Sources of SHI Funds, 2008

Sources of State Health Insurance	TOTAL SDG	Share
State Ministry of Finance	89,631,264	78.3%
Al-Zakat	11,542,703	10.1%
Parastatal Employer Funds	6,266,383	5.5%
Private Employers Funds	1,900,636	1.7%
Household Funds	2,317,155	2.0%
other fund	2,774,005	2.4%
TOTAL	**114,432,146**	**100%**

4.2.4.2. SHI Funds by Providers

On average table 27 shows that the SMOH facilities utilize the highest share of total Health spending by the SHI. Almost 30% of the funds are used at the State FMOH pharmacies, 17% at the SFMOH hospitals and 11% at the State medical diagnostic services centres. FFMOH Hospitals utilizes 3.4%. Public administration representing wages and salaries and capital formation and utilizes a good share of 15% and the results from the exercise left a surplus of 10.2% during the year 2008.

Table 75: Uses of SHI Funds by Providers, 2008

SHI Expenditures by Providers	TOTAL SDG	Share
Federal Ministry of Health General Hospitals	3,902,047	3.4%
State Ministry of Health General Hospitals	16,343,452	14.3%
Social Insurance General Hospitals	2,478,267	2.2%
Private Sectors General Hospitals	1,434,806	1.3%
International NGOs General Hospitals	457,000	0.4%
State Ministry of Health Specialized Hospitals	482,380	0.4%
Private offices of physicians	1,036,781	0.9%
Private offices of dentists	1,121,246	1.0%
State ministry of Health Dialysis care centres	35,380	0.0%
State ministry of Health PHC centres	2,259,065	2.0%
States medical and diagnostic laboratories	12,381,175	10.8%
Pharmacies of State ministry of health	34,103,661	29.8%
Public Insurance administration	17,534,002	15.3%
Research Institutes	4,066,186	3.6%
other	5,176,956	4.5%
Surplus	11,619,741	10.2%
TOTAL	**114,432,146**	**100%**

4.2.4.3. SHI Funds by Functions

Table 28 shows the distribution of funds by functions which resulted that the highest share is spent on pharmaceuticals and utilizes 23.2%. Inpatient and outpatients curative care was 13.2% vis 9.2% respectively. Clinical and Diagnostic services was 17%, administration of the scheme cost the scheme a share of 5.2% as wages and salaries and 7.8% as capital formation and new investments.

Table 76: Uses of SHI Funds by Functions, 2008

SHI Expenditures by Functions	TOTAL SDG	Share
In-patient curative care	15,081,283	13.2%
Out-patient curative care	10,562,810	9.2%
Basic medical and diagnostic services	1,138,276	1.0%
Out-patient dental care	1,653,934	1.4%
All other specialized Healthcare	6,471,475	5.7%
Clinical laboratory	7,224,243	6.3%
Diagnostic imaging	12,601,978	11.0%
Pharmaceuticals and other medical non-durables	26,535,225	23.2%
Therapeutic appliances & other medical durables	6,676,993	5.8%
Administration, operation and support activities of social security funds	5,987,745	5.2%
Capital Formation of Healthcare provider institutions	8,878,442	7.8%
Surplus	11,619,741	10.2%
TOTAL	**114,432,145**	**100%**

4.2.5. Khartoum state Health Insurance

4.2.5.1. Sources of Khartoum State Health Insurance Funds

Khartoum state health insurance sources of funds are mostly generated from the SFMOH with 66%, that presented in table 29. Other sources of Khartoum state health insurance funds are distributed between Parastatal Employers funds (16.3%), Private Employer's funds (5.5%) and Household share of 12%.

Table 77: Sources of Khartoum State Health Insurance Funds, 2008

Sources of Khartoum state health insurance	TOTAL SDG	Share
State Ministry of Finance	60,518,298	66.3%
Parastatal Employer Funds	14,843,141	16.3%
Private Employers Funds	5,067,914	5.5%
Household Funds	10,895,880	11.9%
TOTAL	**91,325,233**	**100%**

4.2.5.2. Khartoum State Health Insurance Funds by Providers

The uses of funds are illustrated in Tables 37 and 38.(30&31) Of all the total funds of Khartoum state health insurance, 29.5% is used at the SFMOH specialized hospitals, 8% at the FMOH General Hospitals, 2.1% at the SFMOH General Hospital, 2% at the Other ministries Hospitals, 1.1% at its own hospitals and 1.5% at the Private Sector Hospitals. Almost 45% of its funds are used at the hospital level, versus 20.4% at the SFMOH PHC centres. SFMOH Pharmacies utilize 18.6% of its funds and 8% was for administration of the fund. This resulted that the uses of Khartoum state health insurance funds are mainly on curative and oriented to hospital level. The surplus comes to almost 8% per year.

Table 78: Uses OF Khartoum State Health Insurance Funds by Providers, 2008

Khartoum state health insuranse Expenditures by Providers	TOTAL SDG	Share
Federal Ministry of Health General Hospitals	7,356,173	8.1%
State Ministry of Health General Hospitals	1,886,356	2.1%
Other Ministries & departments General Hospitals	1,847,652	2.0%
Social Insurance General Hospitals	1,008,233	1.1%
Private Sectors General Hospitals	1,403,688	1.5%
Private offices of dentists	391,551	0.4%
State ministry of Health specialized care centers	26,957,749	29.5%
State ministry of Health PHC centers	18,601,725	20.4%
States medical and diagnostic laboratories	652,885	0.7%
Pharmacies of State ministry of health	16,990,024	18.6%
Public Insurance administration	7,324,811	8.0%
Surplus	6,904,386	7.6%
TOTAL	**91,325,233**	**100%**

4.2.5.3. Khartoum State Health Insurance Funds by Functions

When comparing the uses of Khartoum state health insurance scheme by functions, we find out that the uses of funds at the hospital level was oriented mainly to curative outpatient and comes to almost 50% versus 14.8% on inpatients. Pharmaceuticals consume 18.6% of its total uses.

Table 79: Uses OF Khartoum State Health Insurance Funds by Functions, 2008

Khartoum state health insurance Expenditures by Functions	TOTAL SDG	Share
In-patient curative care	13,502,102	14.8%
Out-patient curative care	45,559,474	49.9%
Basic medical and diagnostic services	652,885	0.7%
Out-patient dental care	391,551	0.4%
Pharmaceuticals and other medical non-durables	16,990,024	18.6%
Administration, operation and support activities of social security funds	7,087,701	7.8%
Capital Formation of Healthcare provider institutions	237,110	0.3%
Surplus	6,904,386	7.6%
TOTAL	**91,325,233**	**100%**

4.2.6. Private Health Insurance

4.2.6.1. Sources of Private Insurance Funds

Private Insurance sources of funds are mostly from the employers and the private sector. Table 32 shows that 66% comes from the employers funds shared between Parastatal and private employer's funds. 29.6% are from the FMOF and 4.5% from the households.

Table 80: Sources of Private Insurance Funds, 2008

Sources of Private Insurance	TOTAL SDG	Share
Federal Ministry of Finance	13,762,168	29.6%
Parastatal Employer Funds	18,687,932	40.2%
Private Employers Funds	11,890,129	25.6%
Household Funds	2,091,790	4.5%
TOTAL	**46,432,019**	**100%**

4.2.6.2. Private Insurance Funds By Providers

Of all the total funds of SDG 46 million in 2008, 40% is used at the private sectors hospitals and 17.4% at the SMOH Pharmacies. Private insurance markets generate almost 20% profit in the year 2008.

Table 81: Uses of Private Insurance Funds by Providers, 2008

Private Insurance Expenditures by Providers		Share
Federal Ministry of Health General Hospitals	1,310	0.0%
Private Sectors General Hospitals	18,576,384	40.0%
Private vision facility	308,566	0.7%
Private offices of physicians	3,640,718	7.8%
Private offices of dentists	716,002	1.5%
All other Private offices of health practitioners	101,521	0.2%
State ministry of Health PHC centers	550,064	1.2%
States medical and diagnostic laboratories	788,066	1.7%
Pharmacies of State ministry of health	8,069,396	17.4%
Public Insurance administration	4,453,754	9.6%
Surplus	9,226,238	19.9%
TOTAL	**46,432,019**	**100%**

4.2.6.3. Private Insurance Funds by Functions

A functional distribution of Private Insurance market shows that 34.6% is spent on services of curative cares, 2.5% on dental, 10.7% on clinical Laboratories and 21.8% on Pharmaceuticals versus 9.6% on administration and operating cost (table 33 and 34).

Table 82: Uses of Private Insurance Funds by Functions, 2008

Private Insurance Expenditures by Functions		Share
Services of curative care	16,075,530	34.6%
Out-patient dental care	1,162,928	2.5%
Out-patient rehabilitative care	101,521	0.2%
Clinical laboratory	4,975,347	10.7%
Pharmaceuticals and other medical non-durables	10,128,134	21.8%
Glasses and other vision products	308,566	0.7%
Administration, operation and support activities of social security funds	4,453,754	9.6%
Surplus	9,226,238	19.9%
TOTAL	**46,432,019**	**100%**

4.3. The Military Forces Medical Scheme

4.3.1. Sources of Military Funds in 2008

The Military Forces Medical Scheme in Sudan has some feature of the social health insurance. The Ministry of Defence covers the members of the military and their families and treats them in their own public facilities. The scheme covers the forces personnel members and their dependants. The scheme covers health expenditure at the military hospital (which is owned and run by the scheme itself) and treatment abroad, table 35 shows the sources of military fund.

Table 83: Sources of Military Funds In 2008

Sources of Military Funds	Total in SDG
Federal Ministry of Finance	18,500,000
Ministry of Defence Budget	108,600,000
Other Public Funds	81,000,000
TOTAL	**208,100,000**

4.3.2. Military Funds by Providers

The NHA study shows that a total SDG 208 million was spent on military Healthcare during the year 2008. Table 36 shows that most of their funds come from the Government either from the FMOF or from the Ministry of Defence budget. Some data were not able to get data regarding this sector for many reasons. Disaggregating spending by the armed forces medical scheme, proved impossible, although in volume terms this agent manage less than 3 percent of Total Health Expenditure (THE), so this will not have significant impact on the findings.

Table 84: Military Funds by Providers In 2008

Military Expenditures by Providers	Total in SDG
Ministry of Defence General Hospitals	207,740,000
General administration of health	360,000
TOTAL	**208,100,000**

4.3.3. Military Funds by function

In 2008, SDG 207.7 Million almost all the funds are spent on treatment in its own facilities. Hospitalization costs at Ministry of Defence referral hospitals are covered by the government budget and only SDG 360 thousands are paid to the medical army brigade to administer the scheme.

Table 37 illustrated the distribution of the military funds by functions. It shows clearly that wages and salary of the military force hospitals utilize half of its budget and another 40% were spent on capital formation and hospital renovation.

Table 85: Military Funds by Function in 2008

Military Expenditures by Functions	Total in SDG
Services of curative care	12,533,000
Clinical laboratory	1,086,000
Pharmaceuticals & other medical non-durables	1,310,000
General government administration of health (except social security)	112,171,000
Capital Formation of Healthcare provider institutions	81,000,000
TOTAL	**208,100,000**

4.4. The Police Medical Scheme

4.4.1. Sources of Police Medical Funds

The Police Medical Scheme in Sudan, as the Military forces has also some feature of social health insurance. The Ministry of Interior Affairs covers the police members and their dependants and treats them in their own public facilities. The scheme covers the members and their dependants. The scheme covers health expenditure at the MOIA facilities as well as the private facilities.

The sources of its funds are simply from the budget of its supervising Ministry, the Ministry of Interiors affairs, table 38 show that. Almost more than 60% of the medical funds come from the MOIA budget and the remaining balance comes either from the police itself in form of users fees and small portion generated from Al Zakat.

Table 86: Sources of Police Medical Funds In 2008

Sources of Ministry of Interior Affairs Funds	
Federal Ministry of Finance	5,610,000
Ministry of Interior Affairs	20,273,497
Al-Zakat	120,200
Household Funds	10,800,000
TOTAL	**36,803,697**

4.4.2. Police Medical Funds by providers

The NHA study shows that a total SDG 36 million was spent on the Police Medical Scheme during the year 2008. A distribution by Providers (Table 39) shows that most of its funds are spent at the MOIA facilities and 13% spent on the treatment abroad. Administration of the scheme is very small and it is mainly the wages and salaries of the MOIA medical brigade.

Table 87: Police Medical Funds by Providers In 2008

Ministry of Interior Affairs Expenditures by Providers	
Ministry of Interior General Hospitals	24,996,219
Private Sectors General Hospitals	2,807,272
Ministry of Interior Mental Hospitals	1,290,000
Ministry of Interior Dialysis care centers	1,573,225
Ministry of Interior PHC centers	426,000
Mobile clinic	200,000
Provision and administration of public health programmes	293,000
General administration of health	151,000
Rest of the World Provider	5,066,981
TOTAL	**36,803,697**

4.4.3. Police Medical Funds by functions

Table 40 illustrated the Police Medical scheme by functions and shows that more than 80% of the funds are spent on service of curative cares while the remaining 20% on drugs and pharmaceuticals.

Table 88: Police Medical Funds by Functions In 2008

Ministry of Interior Affairs Expenditures by Functions	
Services of curative care	26,863,076
Pharmaceuticals & other medical non-durables	9,496,621
All other preventive communicable disease program	293,000
General government administration of health (except social security)	151,000
TOTAL	**36,803,697**

4.5. The Ministry of Higher Education & Scientific Research

4.5.1. Sources of MOHESR Medical Funds

The Ministry of Higher Education in Sudan plays its share in the health sector. It covers the MOHESR members and their dependants and treats them in their own public facilities. Table 41 shows that the total health spending by the MOHESR is about SDG 26 million in 2008. Almost all its funds come from the FMOF with a small share from the NGOs and community financing.

Table 89: Sources of MOHESR Medical Funds In 2008

Sources of Ministry of Higher Education Funds	
Federal Ministry of Finance	24,975,910
National NGOs	1,250,000
Community Finance	545,000
TOTAL	**26,770,910**

4.5.2. MOHESR Medical Funds by providers

Tables 42 and 43 illustrates the distribution of the MOHESR medical funds by providers and functions. It is clear that almost all of the funds are spent on curative care and pharmaceuticals.

Table 90: MOHESR Medical Funds by Providers in 2008

Ministry of Higher Education Expenditures by Providers	
Ministry of Higher Education General Hospitals	21,189,886
Pharmacies of Federal ministry of health	5,581,024
TOTAL	**26,770,910**

4.5.3. MOHESR Medical Funds by functions

Table 91: MOHESR Medical Funds by Functions In 2008

Ministry of Higher Education Expenditures by Functions	
Services of curative care	17,352,030
Nutrition	1,392,000
Pharmaceuticals & other medical non-durables	5,581,024
Capital formation of Healthcare provider institutions	2,445,856
TOTAL	**26,770,910**

4.6. Al Zakat Expenditures on Health:

Al Zakat is funded from a mandatory payroll tax for all Muslim employees. This fund is used for a variety of purposes. This includes a purchase of health insurance cards for poor families, and also paying for expensive surgical interventions and tertiary care. It makes significant financial contributions for Healthcare and has good targeting mechanisms using community committees.

The Sudan NHA 2008 study shows that Al Zakat is a good contributor to the health sector. Other current studies reported that its coordination with other programmes is limited and the expenditure on tertiary care may be less pro-poor, it is spending almost $1.5 million per month for people to receive treatment abroad and it doesn't provide any direct support to free care. Its main support is through paying for health insurance for specific families, selected by its social offices.

The NHA finding indicates that SDG 53 million have been spent on health from Zakat in the year 2008. This spending was mainly at the FMOH hospitals and only on curative care, mainly expensive surgical interventions and tertiary care. No information was found that Zakat funds are used for treatment abroad during that year.

Chapter (5) Household Expenditures on health:

A National Household Income and Expenditure survey has been conducted in 2009 by the Central Bureau of Statistic (CBS). The level of desegregation of health and health spending was extracted from this survey, as well as the information on utilization rate.

Sudan 2008 NHA report highlighted the household utilization and expenditures figures. The household out-of-pocket expenditures account for nearly 65% of total health expenditures in Sudan. The level of spending by household reported here was based on the survey finding as well as the other major NHA surveys, namely the providers' survey, the insurance survey and the secondary data from the Ministries and public agents conducted by the NHA team. Thus, a variety of data sources was used to estimate total household expenditures on health and this includes:

1. Data from the Household Income and Expenditure survey (HIES) regarding percentage of medical expenditures out of the household total income.
2. Data from the providers' survey to estimate OOP functional expenditures for outpatient and inpatient care as well as estimate average premium paid at the private insurance companies.
3. Data from public and private insurance companies to get the premium paid by contributors.
4. Data from the line Ministries and ministries of Finance (Federal and States).
5. Use of International organizations reports for the studied year.

The information was cataloged based on household sources of funds and uses of expenditures and was carefully examined to match all household spending during the considered year. However, it was impossible at one stage to extract more agreggate data to match the exact volume of funding received by international providers (treatment abroad) in the form of treatment cost, patient and escort travel cost, for which data were not available. Data sources, including the household survey, were not enough to get total household spending. Drugs spending by household was another major problem and secondary data sources out of the *Central office of drugs* has been carried out on pharmaceuticals to re evaluate the total consumption of drugs at the private and public providers.

5.5. Household Expenditures

Table 44 illustrated that the total household expenditure on health in 2008 accounted to SDG 4.5 billion or 64.3% of total health expenditure in Sudan for that year. Almost 98% of household expenditure was spent in form of users fees or direct out of pocket (OOP) spending and the remaining in form of national and social health insurance premiums and spending on medical certificates at the Federal Ministry of Health. NHI premiums utilize almost 52% of the remaining balance. A detailed analysis has been elaborated in the insurance market chapter.

Table 92: Household Distribution In 2008

Total Household spending on Health			
Household Spending	**TOTAL in SDG**	**Percentages**	**Per Capita**
Direct OOP spending	4,464,320,324	97.3%	145.42
Medical Certificate Fees	4,203,832	0.1%	0.14
Household Payment to Police Insurance	10,800,000	0.2%	0.35
NHI Informal Sector	1,200,000	0.0%	0.04
NHI (Government Employees)	62,184,663	1.4%	2.03
KhSHI (Government Employees)	24,207,319	0.5%	0.79
KHSHI HI (Informal Sector)	10,895,880	0.2%	0.35
Parastatal Firms	4,837,722	0.1%	0.16
Private Insurance	2,091,790	0.0%	0.07
Non-Profit Institutions	713,588	0.0%	0.02
International NGOs	525,292	0.0%	0.02
Total	**4,585,980,411**	**100%**	**149.4**

5.6. Direct out of pocket by Providers

Total Direct out of pocket spending on health in 2008 accountedor amounted to SDG 4.4 billion or 62.6% of total health expenditure in Sudan for that year. Table 45 shows that the hospital sector abosrbs the majority of the OOP and comes to almost 60% of total OOP spent by the people of Sudan. Almost 27% of total OOP was spent at the Social Insurance General Hospital and 22% at the SFMOH General Hospitals. A good share of 21% was spent at private pharmacies and 15% at private clinics.

Table 93: Household OOP Expenditure by Providers In 2008

Direct OOP spending by providers	TOTAL in SDG	Percentages	Per Capita
Federal Ministry of Health General Hospitals	28,357,832	0.6%	0.92
State Ministry of Health General Hospitals	1,020,577,583	22.9%	33.24
State Ministry of Health Rural Hospitals	18,830,913	0.4%	0.61
Ministry of Defence General Hospitals	113,607,361	2.5%	3.70
Ministry of Interior General Hospitals	44,518,408	1.0%	1.45
Ministry of Higher Education General Hospitals	27,343,969	0.6%	0.89
Social Insurance General Hospitals	1,205,099,796	27.0%	39.26
Private Sectors General Hospitals	75,781,074	1.7%	2.47
Federal Ministry of Health specialized Hospitals	33,582,397	0.8%	1.09
State Ministry of Health specialized Hospitals	4,995,321	0.1%	0.16
Offices of physicians	682,029,663	15.3%	22.22
Federal ministry of Health Dialysis care centres	4,747,146	0.1%	0.15
States medical and diagnostic laboratories	3,774,947	0.1%	0.12
Pharmacies of State ministry of health	76,492	0.0%	0.00
private Pharmacies	937,407,292	21.0%	30.54
Other suppliers of other medical appliances	251,602,901	5.6%	8.20
Administration (federal Ministry of Health)	5,899,660	0.1%	0.19
Rest of the world	6,087,569	0.1%	0.20

Total	**4,464,320,324**	**100%**	**145.4**

5.7. Functional distribution of direct out of pocket

When distributing the OOP spending by functions, it was evident and according to the HHS that the people of Sudan paid most of their money on outpatient care and pharmaceuticals. A surprising finding in table 46 showed that the basic outpatient care utilizes almost 68% of the OOP and if you add a good share of 17% on drugs, therefore you can conclude that most of the OOP health funds are spent when visiting a doctor either in a hospital or privately at a clinic. A share of 6.8% is spent at the inpatient level and 2% on dental.

Table 94: Household OOP Distribution by Functions In 2008

Direct OOP spending by Functions	TOTAL in SDG	Percentages	Per Capita
In-patient curative care	302,204,241	6.8%	9.84
Basic medical and diagnostic services	3,055,453,435	68.4%	99.53
Out-patient dental care	74,949,060	1.7%	2.44
Pharmaceuticals & other medical non-durables	743,656,359	16.7%	24.22
Therapeutic appliances & other medical durables	256,753,205	5.8%	8.36
Other MCH ,FP & child programs	31,304,025	0.7%	1.02
Total	**4,464,320,324**	**100%**	**145.4**

Table 46 also reflects that the people of Sudan are still paying for MCH, family planning and child programs mainly by visiting a private practitioner for prevention purposes.

Table 45 reflects the functional distribution of the direct OOP and highlights a good share of outpatient (68%) versus 7% of inpatient.

5.8. Household OOP per capita

Table 47 illustrated the household OOP per Capita and shows that 68.6 percent of the OOP was spent on the outpatient care versus 6.8% on inpatient. 16.7% on pharmaceuticals and 5.8% on medical equipments and the remaining balance is on prevention mainly mother and child and family planning services.

Table 95: OOP Per Capita In 2008

Direct OOP spending by Functions	Direct OOP in SDG	Percentages
In-patient curative care	9.84	6.8%
Basic medical and diagnostic services	99.53	68.4%
Out-patient dental care	2.44	1.7%
Pharmaceuticals & other medical non-durables	24.22	16.7%
Therapeutic appliances & other medical durables	8.36	5.8%
Other MCH ,FP & child programs	1.02	0.7%
Total	**145.42**	**100%**

According to the survey results, table 48 shows that the people paid a good part of their out of pocket on transport to the nearest medical facility. Our analysis shows that almost SDG 23 per capita is spent on transport to and from the health facility. In general, most of the transport cost (70%) was spent on visiting outpatient facilities. When redistributing the cost per capita by type of services and deducting the transport cost from the average cost of the household cost per capita, the breakdown becomes as follow:

Table 96: Distributing Transport to OOP Per Capita In 2008

OOP spending per Capita	Direct OOP (including Transport)	Transport	Direct OOP
Outpatient	*99.53*	*16.47*	*83.06*
Inpatient	*9.84*	*0.27*	*9.57*
Preventive	*1.02*		*1.02*
Treatment Abroad			-
Dental Care	*2.44*		*2.44*
Pharmaceuticals	*24.22*	*6.14*	*18.08*
Transport			*22.88*
Medical Equipment	*8.36*		*8.36*
Total	***145.42***	***22.88***	***145.42***

On the basis of the above survey analysis, almost 20% of the OOP was on transport and 80% was the actual spending at the facility itself as per the above mentioned type of treatment

Chapter (6) Donors

Out of the total Foreign Aid, UNDP through the Global Fund project and UNICEF were the largest donors comprising more than a third of the total aids given to Sudan, providing SDG 26 million and 31 million respectively. WHO is the third largest donor in Sudan. It contributed to almost SDG 16 million (25% of total donors funds) in 2008, whilst donors such as the UNFPA and others international organizations were responsible for the remaining funding mainly on Reproductive Health and other public health programs.

Table 49 illustrated the sources of Donors funds for Health in the year 2008.

Table 97: Sources of Donors Funds In 2008

Sources of Donors Funds, 2008	TOTAL in SDG
UNFPA	2,448,316
UNICEF	30,958,716
WHO	15,676,356
GF / UNDP	25,533,085
TOTAL	**74,616,472**

A breakdown in table 50 shows that the total Donors health expenditures by programs indicates that UNICEF and WHO are the two main donors administered public programs in the country including the UNDP / GF program.

Table 98: Donors Funds by Programs, 2008

Donors Funds by Programmes	WHO	UNFPA	UNICEF	TOTAL in SDG
UNFPA Programmes				
RH (UNFPA)	-	2,298,226	-	2,298,226
HIV/AIDS (UNFPA)	-	1,317,211	-	1,317,211
UNICEF Programmes				
EPI	-	-	26,969,388	26,969,388
IMCI /PHC	-	-	588,676	588,676
Maternal health / RH	-	-	711,174	711,174
Emergency	-	-	298,000	298,000
HIV/AIDS (SNAP)	-	-	1,118,668	1,118,668
Malaria	-	-	6,905,314	6,905,314
WHO Programmes				
Malaria	7,060,757	-	-	7,060,757
TB	3,938,928	-	-	3,938,928
HIV/AIDS	7,455,086	-	-	7,455,086
Blood Safety	278,688	-	-	278,688
Provision and Admin of Public Health Program by FMOH	15,676,356	-	-	15,676,356
TOTAL	**34,409,815**	**3,615,437**	**36,591,220**	**74,616,472**

6.1. International Non Government Organizations

International NGOs (INGOs) provide a bulk of welfare assistance in Sudan, generally through non-cash donations, which is a very cost-effective manner. The bulk of INGOs funds provide public health programs and primary Healthcare and first aid kits to villages organizations such as Reproductive Health Centres. Table 51 illustrated the sources of INGOs funds simply coming from international donors and foreign governments.

Table 99: Sources of International NGOs Funds, 2008

Sources of International NGOs Funds, 2008	Total
Foreign Governments	17,479,959
Foreign NGOs	8,682,983
UN Agencies (WHO, UNICEF, UNFPA...)	1,683,127
Other International NGOs	13,629,721
Donors	17,874,553
Other individuals	110,538
Italian private donors	451,500
Domestic Funds:	
Private firms	380,045
Individuals	414,754
Other local funds	26,681
TOTAL	**60,733,862**

International NGOs contributed mainly to public Health Programs and to different small projects focusing on health related functions like education and training and provision of safe drinking water, which has considerable impact on health, and nevertheless cannot be properly measured and incorporated into the health sector account. These numerous projects accounted to SDG 61 million in 2008 and are managed by the INGOs themselves and therefore sometimes the FMOH does not have a complete figure of the resources involved. Tables 52 and 53 indicate the INGOs Health expenditures distribution in 2008.

Table 100: Uses of International NGOs Funds by Providers, 2008

International NGOs Funds by Providers, 2008	Total
Other Ministries & departments General Hospitals	260,732
International NGOS Family planning centres	10,043,289
Mobile Clinic	149,762
Private labs	1,298,046
private Pharmacies	1,942,891
Administration of Health Programs	45,979,818
Education & training institutions	530,107
Other institutions providing health related services	529,218
TOTAL	**60,733,862**

Table 101: Uses of International NGOs funds by Functions, 2008

International NGOs Funds by Functions, 2008	TOTAL in SDG
In-patient curative care	10,500
Out-patient dental care	48,056
All other out-patient curative care	7,159,868
Clinical laboratory	141,124
Pharmaceuticals & other medical non-durables	1,373,181
RH	2,549,861
Child health	11,714,432
EPI	24,736,703
Nutrition	271,290
School health services	5,325
All other preventive communicable disease program	5,507,698
Other Non communicable Diseases	13,725
All other miscellaneous public health service	4,303,612
Training (internship)	523,282
Research and development in health	2,186,719
Environmental health	188,484
TOTAL	**60,733,862**

6.2. Local Non Government Organizations

Local NGOs, like international NGOs provide a bulk of welfare assistance in Sudan, generally through non-cash donations, which is a cost-effective trend. The bulk of NGOs funds provide public health programs and different small projects focusing on health related functions. These numerous projects provided by Sudanese NGOs accounted to SDG 19 million in 2008 and are managed by the NGOs themselves. As some of its sources are funded by the State Ministries of Health, the FMOH was able to follow up and control to some extend its spending.

Chapter (7) Conclusion, Policy Implications & Recommendations

The main objective of the NHA was to inform the country health financing strategy with up-to-date, refined estimates of total health spending and uses of resources in the health sector. The estimations will create a scientific framework to build on a holistic vision for the future reform plans of health system, in general and the health financing policy, in particular.

As indicated in Table 8 total expenditure on health in Sudan is almost 5.6% of the GDP. The proportion of Out of Pocket share is high and come up to 3.7% of GDP (or 64.3% of THE) and public share for around 1.6% of GDP. As we can observe, Sudan lies in the middle of the spectrum of East Mediterranean Region (EMR) countries in terms of GDP and in term of Health expenditures per capita.

However, in terms of expenditure on Healthcare, Sudan Public expenditure as a percentage of total health spending is the lowest amongst countries in the region. The government of Sudan has the opportunity to correct the imbalance between the GDP and health budget and express its high commitment to health

In addition, the public control of finance is small as household is the main agent of the financing system (64%), hence, little flexibility is permitted to control and use funds. There is steady increase in the government allocations for health although Abuja commitment (15% of government budget) is not yet reached.

High direct out-of-pocket payments share in the total health expenditure (64.3%) has many equity, affordability and services utilization implications. Moreover, high health expenditure means that people need to cut down other necessities such as food, clothing and education, consequently they went into catastrophe expenditure and pushed into poverty, a situation that should be avoided by all means as the household might enter in a viscous cycle of poverty and ill health.

Thus there should be a refocus on risk pooling policies and funds available now from direct payments need to be reinvested in large prepayment social protective schemes. Social insurance has a share of about 20% of the health market in the country, with coverage of 23% of the total population. Advanced role of health insurance is expected in the future health financing reforms.

The use of funds allocated for health from different sources is not addressing health priorities. Secondary and tertiary curative services utilize the major part of the budget allocations form both public and private sources, a clear sign of inefficiency in using resources. States with lowest public expenditure rates recorded the poorest health outcome indicators. Although the share of donors' funds is unexpectedly low compared to other sources, still their contributions are crucial to maintain important public and preventive programs such as immunization, Malaria, TB and HIV/AIDS.

Priority to the primary care in the national health policy needs to be translated to a sustainable financing policy. Focusing and refocusing on primary Healthcare services should be the mandate and robust environment towards the update of the health reform. Significant proportion of total health expenditure approved for drugs (39.7%), which put the country among the highest in this category. This reflects the absence of proper regulatory policies. On the other hand expenditure on training and research is not correlating with their critical role in improving the performance of the health system.

The multiple sources of financing throughout the country suggesting that the Federal Ministry of Health should activate the National Council for Coordinating Health Services (NCCHS), so as to mitigate the inefficiencies in allocation of resources. Similarly, establishing and activating Coordination Councils at different state is one of top priorities to maximize the benefits from available resources.

Health is uncertain and the update of the information will minimize the risks and enlighten the system with enough information for planning and re-planning. The continuity and institutionalization of NHA is needed.

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9. Annexes

Annex 1: Profile of Sub-Systems In Sudan

Benefits by Health Subsystems	Coverage/ Special Categories	Principal Financing Sources	Provider - Payer Relationship	Percentage of Population Covered or Eligible	Size of Operation
Describes types of services and benefits available.	***Describes coverage and eligibility criteria, special programs for specific population groups***	***Describes main sources of financing***	***Describes relationship between financing and service delivery functions***	***No. of people covered or eligible by health system nation wide***	***As indicated by staff, beds, or number of facilities***
Government Services					
Federal Ministry of Health					
a) Provides comprehensive public health services; primary, preventive and curative care subject of users fees with exemptions. b) Performs the following financing functions: 6. Hospitalization, outpatients services as well as treatment abroad 7. Provision and	10. Every Sudanese is eligible for the FFMOH services 11. Subsidized primary and curative care for the entire population.	1. Federal Ministry of Finance (general tax revenues earmarked tax **wounds tax**)	1. The FFMOH runs hospitals where staff are paid on salary 2. Subject of users fees with an exemption of under 5 years, prenatal services, maternal and emergency services , some tertiary services	100% of the population are eligible	1. 20 Public Hospitals (3877 beds) 2. 0 Primary Healthcare Centers 3. 0 Dispensaries

administration of public health programs 8. Federal Administration of Health 9. Educate and train Health workers		2. Co-payments for services 3. Donor assistance	3. The FFMOH provide public health programs for the entire population through its own providers in the capital city of Khartoum and in the states		
States Ministry of Health					
a) Provides comprehensive public health services; primary, preventive and curative care b) Performs the following financing functions: 4. Hospitalization for anyone not covered under any other insurance plan 5. Subject to limits and restrictions pays for some specialized tertiary services (special referral to the federal states for treatment abroad)	6. Everyone Sudanese is covered as per his state residency 7. Highly subsidized primary and curative care for the entire population.	8. Ministry of Finance (general tax revenues) 9. Users fees 10. Donor assistance	11. State Ministry of Health Owns its own public facilities 12. Subject of users fees with an exemption of under 5 years, prenatal services, maternal and emergency services patients, some tertiary services 13. The Ministry also runs hospitals where staff are paid on salary	100% of the population are eligible	1. 328 working Public Hospitals (21900 beds) 2. 20461 Primary Healthcare Centers 3. 2864 Dispensaries 4. 101 public pharmacies
National Health Insurance					
1. Curative care services,	1. Those	1. Governmen	Has own facility but	45 % percent	They run

pharmaceuticals, 2. it covers dental care, ophthalmology, immunization, and treatment abroad??????	working in the formal private sector, contracted employees, wage earners in the private sector 2. Dependents of Beneficiaries	t budget 2. Pay roll taxes 3. Co-payments 4. Informal sector pays premium	largely purchases services from public (70%) and private providers		1. hospitals (xxx beds) 2. Health centers
State Health Insurance					
1. Curative care services, pharmaceuticals, ... 2. it covered dental care, ophthalmology,	3. Those working in the formal private sector, contracted employees, wage earners in the private sector 4. Dependents of Beneficiaries	5. Governmen t budget 6. Pay roll taxes 7. Co-payments 8. Informal sector pays premium	Has own facility but largely purchases services from public (70%) and private providers	45 % percent	They run 9. 10 hospitals (xxx beds) 10. 58 Health centers
Khartoum state health insuranse (Civil Servants Insurance) Khartoum state health insurance corporation					
1. Curative care including	1. Covers	1. Ministry of	Has its own facilities	% 31 of population	They run

hospitalization, physician specialist, and ambulatory care, pharmaceuticals 2. Subject to limits in some coverage, and treatment abroad	government employees and their dependents	2. Finance 2. Copayments	and purchases services from the public and private sector	Khartoum state	3. 1 hospitals (xxx beds) 4. 90 Health centers
Armed Forces (Army, Ministry of Interior)					
1. Curative care including hospitalization, physician specialist, and ambulatory care, pharmaceuticals through 1. Private Insurance Companies 2. Their own Medical funds 3. Covers all Medical expenses with no co payments	Those employed in the army and Ministry of Interior and their dependents	1. Ministry of Finance (general tax revenues) 2. Pay roll taxes	The Armed forces have their own facilities where employees are paid a salary. They also purchase services from the public and private providers	XXX% of population	They run 3. 76 hospitals (1117 beds) 4. Health centers They purchase services from public and private providers
Private Health Services					
Private Health					
1. Owns and operates private clinics and hospitals for primary and curative care. 2. Owns and operates pharmacies	1. Beneficiaries of any private health plan self-insured. 2. Company employees	1. Direct out-of-pocket payments. 2. Payments from insurance plans. 3. Payments	Private hospitals & clinics, by contract. Fee-for-service, or through a third-party payer (government, insurance company or	All citizens with a willingness to pay are eligible. Persons referred by government agencies	1. 255 hospitals and Healthcare centers 2. With 2516 beds. 3. XXX pharmacies and 2068 registered pharmacists 4. 0 dispensaries

	and their dependents. 3. All citizens with willingness to pay.	from employees and employers. 4. Payments from FMOH, Armed forces, and other government agencies	employer)		5. 1970 offices of physicians 6. 146 Offices of dentists

Annex 2: Household Out Of Pocket Spending In 2008

Description		Amount SDG	Percentages	Per Capita
Medical Certificate Fees	*Federal Ministry of Health*	***4,203,832***	0.1%	0.14
Premiums Government Employees	*Ministry of Interior Affairs*	***10,800,000***	0.2%	0.35
	National Health Insurance Fund	***63,384,663***	1.4%	2.06
	Government Employees Health insurance	***35,103,199***	0.8%	1.14
	Parastatal Firms	***16,034,509***	0.3%	0.52
Premiums Private Insurance	*Private insurance enterprises (other than social insurance)*	***2,091,790***	0.0%	0.07
Direct Household spending Spending	*Private household out-of-pocket payments*	***4,431,372,459***	96.6%	144.35
Other Private HH spending	*Nonprofit institutions (other than social insurance)*	***713,588***	0.0%	0.02
	Other private firms and corporations	***21,751,078***	0.5%	0.71
	International NGOs	***525,292***	0.0%	0.02
Total Household spending in 2008 (SDG)		***4,585,980,410***	***100%***	***149.39***
Total Household spending in 2008 (USD)		***2,183,800,195***		***USD 71.14***