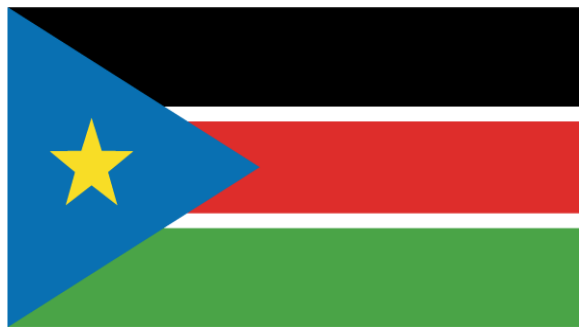




# **Saving the Lives of Mothers & Children**

Rising to the Challenge

## **South Sudan**



## 1. Introduction

South Sudan became an independent country and a Member State of the United Nations in July 2011, following the referendum for self-determination in January 2011. The total population of South Sudan is estimated at over 10 million<sup>1</sup>, living on a total area of 644 329 sq. km. It is a young population with one in five (21%) being under the age of 5 years<sup>1</sup>. Most (90%) of the population is rural (2011)<sup>2</sup>; 27% of the adult population is literate, with differentials by gender and place of residence<sup>3</sup>.

### Sociodemographic characteristics

The 10.1 million population is young: more than one fifth (21%) is under the age of 5 years.

Total estimated under-5 population (000) [2011] <sup>1</sup>	2130
Population growth rate <sup>2</sup> [2008]	2.8%
Estimated number of births	----
Percentage of population that is rural <sup>2</sup>	90.0%
Birth registration coverage <sup>3</sup>	35.4%

<sup>1</sup>Central Bureau of Statistics (projections from Sudan Census 2008)

<sup>2</sup>WHO Regional office for the Eastern Mediterranean, *Demographic, social and health indicators for countries of the Eastern Mediterranean, 2012*, based on country reports

<sup>3</sup>SHHS South Sudan, 2010

There is no information available on ranking of the country on the UNDP human development index, or on the percentage of the population living below the international poverty line of US\$ 1.25 (in purchasing power parity terms) a day<sup>4</sup>. However, it is estimated that 51% of the population lives below the poverty line<sup>5</sup>.

Information is also not available on the ranking of the country among the countries of the Eastern Mediterranean Region in terms of total fertility rate. South Sudan is among the 10 countries in the Region with highest child and maternal mortality rates. Despite the efforts of the authorities, South Sudan is falling behind the Millennium Development Goals (MDGs) which the international community fixed for 2015.

This document is meant to provide an analysis of the current status of maternal, newborn and child health in the country to highlight the reasons why the country is not on track to achieve MDGs 4 and 5 if current trends continue, and suggest possible solutions and the way forward to accelerate the progress towards MDGs 4 and 5.

## II. Maternal and child health situation analysis

### II-1 Health system

The South Sudan Health Strategic Development Plan for 2015 is based three main objectives: 1) to increase the utilization and quality of health services; 2) to increase health promotion and protection; and 3) to strengthen institutional functioning including governance and health system effectiveness, efficiency and equity.

There is an enormous shortage of human resources for health and the current health workforce comprises a large majority of poorly trained low-level professional and auxiliary staff, with an absolute shortage of higher-level professional staff, such as clinicians, midwives, medical officers, nurses, pharmaceutical technicians, laboratory technicians and health administrative cadres. It is estimated that just 10% of the staffing norms are filled by appropriately trained health workers. There is a severe

<sup>1</sup> Central Bureau of Statistics (projections from Sudan census 2008)

<sup>2</sup> WHO Regional Office for the Eastern Mediterranean, *Demographic, social and health indicators for countries of the Eastern Mediterranean, 2012*, based on country reports

<sup>3</sup> Central Bureau of Statistics, <http://ssnbs.org> accessed on 10 January 2013

<sup>4</sup> Human Development report, UNDP 2012

<sup>5</sup> Poverty in Southern Sudan: Estimates from NBHS (2010)

shortage of skilled professional health workforce and a surplus of unskilled staff. The quality and output of existing medical, midwifery, nursing and allied health education and training schools and institutions is poor. In terms of availability, for 10 000 population there are 0.15 physicians, 0.2 nurses and midwives, 0.02 dentists and 0.02 pharmacists<sup>6</sup>

The coverage of basic health services is around 25%. General government expenditure on health in 2010 was 4.2% of general government expenditure<sup>6</sup>. Total expenditure on health as % of GDP (2009) is SDG 77.0<sup>7</sup>. Health service infrastructure and equipment are inadequate, poorly maintained and unequally distributed among the regions. Of the 1487 health facilities in the country, in rural areas there are around 100 health centres<sup>8</sup> and 550 health units, resulting in a ratio of around one health centre per 75 000 people and one health unit per 14 000 population. There is one hospital for 400 000 people; in effect, rural South Sudan has literally no access to hospital care. Most of the health services in South Sudan are provided by international nongovernmental organizations – which are currently the major providers – and faith-based organizations. The Armed Forces and Ministry of Health provide curative health services. The private sector is expanding rapidly.

Of the 1487 health facilities in the 10 states, 340 are completely non-functional and the rest lack personnel, equipment or both. As far as health facility infrastructure is concerned, 26% of facilities are in good condition, 41% need repairs to varying degrees and 33% have been destroyed. Eight hundred facilities are run by nongovernmental organizations in varying degrees. The health management information system is not yet in use but will be starting shortly. According to the health sector development plan for 2012-2016, it is proposed to increase the per capita total public health expenditure from US\$ 6 to US\$ 9 by 2015, and the government budget allocated to health by 6%, raising it from 4% to 10% by 2015<sup>9</sup>.

People living in urban areas fare much better on most indicators than those living in rural areas, and wealthier families fare better than poorer families. Moreover, gender and geographical disparities are evident, clearly demonstrating the importance of social and spatial phenomena in access to basic services in the nation.

## II-2 Maternal, neonatal and child health (MNCH) policies and strategies

Health of women and children is the key to progress on all development goals, investing more in their health will help building peaceful, productive societies and reduces poverty. There is a need to adopt the globally agreed policies reported to the Countdown initiative related to maternal and child health. These are:

- costed national implementation plan for MNCH (in process)
- International Code of Marketing Breast-milk Substitutes
- community treatment of pneumonia with antibiotics
- Low osmolarity oral rehydration salts (ORS) and zinc for management of diarrhea.
- introduction of rotavirus vaccine
- introduction of pneumococcal vaccine
- maternity protection in accordance with Convention 183
- notification of maternal deaths.

<sup>6</sup> WHO Regional office for the Eastern Mediterranean, *Demographic, social and health indicators for countries of the Eastern Mediterranean, 2012*, based on country reports

<sup>7</sup> Brief on CCS at a glance for South Sudan. WHO HQ [http://www.who.int/countryfocus/cooperation\\_strategy/ccsbriefs\\_sdn\\_en.pdf](http://www.who.int/countryfocus/cooperation_strategy/ccsbriefs_sdn_en.pdf)

<sup>8</sup> CCS Sudan 2008 – 2013, WHO EMRO

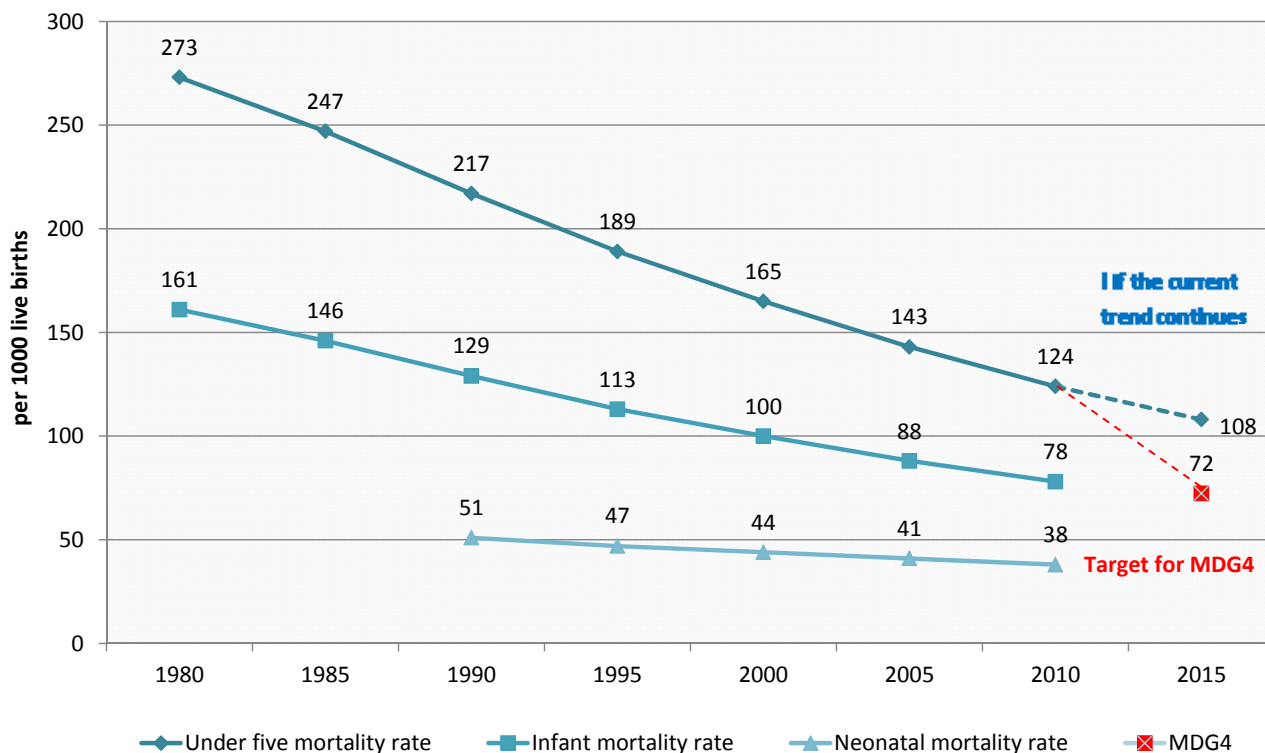
<sup>9</sup> South Sudan country scale up workplan. Ministry of Health, Juba, 2013

## II-3 MNCH current status

### II-3.1 Maternal, newborn and child mortality

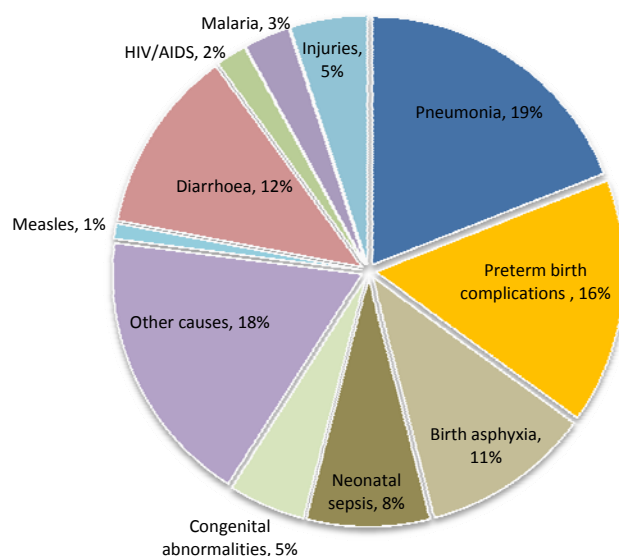
The South Sudan Household Survey conducted in 2010 reveals the alarmingly poor status of children and women in the country and also highlights geographic and social inequities within the country. Based on the results, the health status of children is poor; death rates among children and infants in South Sudan remain very high. The under-5 mortality rate declined by 45% between 1990 and 2011. The neonatal mortality declined by 25% in the same period.

**Trend in under-5 mortality between 1990 and 2011 and extrapolation to 2015**



Source: United Nations Inter-agency group for child mortality estimation (IGME)- *Levels and Trends in Child Mortality, Report 2012* - WHO / UNICEF / World Bank/ UNPD and independent experts. These figures are computed by the UN agencies and are not necessarily the official statistics of the Member State, which may use alternative methods of estimation of mortality. All Member States have undergone an official country consultation on these estimations.

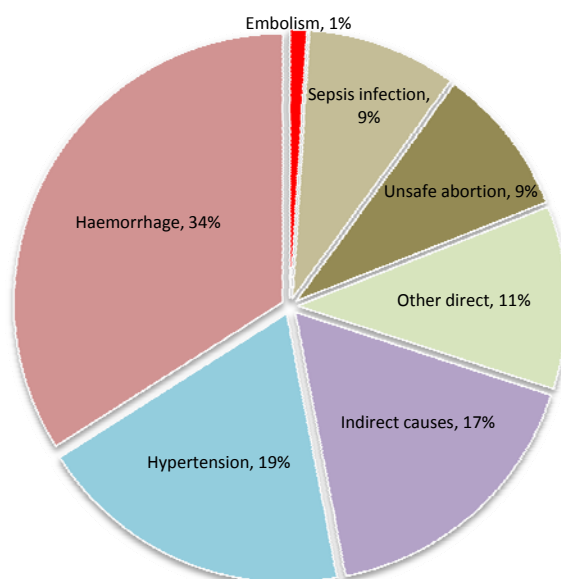
Although estimates about the distribution of causes of under-5 deaths currently available refer to 2010 and are therefore not yet disaggregated for South Sudan, infectious diseases such as pneumonia, diarrhoea, malaria and measles are likely to be among the leading causes of under-5 mortality in South Sudan, together with prematurity (pre-term births), birth asphyxia and neonatal sepsis in the neonatal period.



**Causes of under-5 deaths**

Source: WHO/CHERG 2012, 2010 data

South Sudan has the highest maternal mortality in the world, estimated at 2054 deaths per 100 000 live births. For every mother that dies, there are at least 30 other women who will suffer long-term illness and disability in the country<sup>10</sup>. However no data are available that would allow tracing a maternal mortality trend for South Sudan. The main direct causes of maternal death in South Sudan are haemorrhage (34%), pregnancy-induced hypertension (19%), infection (9%) and complications of unsafe illegal abortion (9%), while anaemia and malaria contribute indirectly. In the absence of country data on causes of maternal deaths, regional estimates for north Africa were used.



**Causes of maternal death**

Source: Source, WHO 2010

**II-3.2 Maternal, newborn and child morbidity**

Malnutrition among under-5 children is one of the main health problems in South Sudan and increases the risk of mortality. About one in three children under 5 years in South Sudan is stunted (35%), one in four wasted (23%) and 28% are underweight, according to the SHHS South Sudan, 2010. More than half of pregnant women suffer from anaemia which also represents a high risk for mortality.

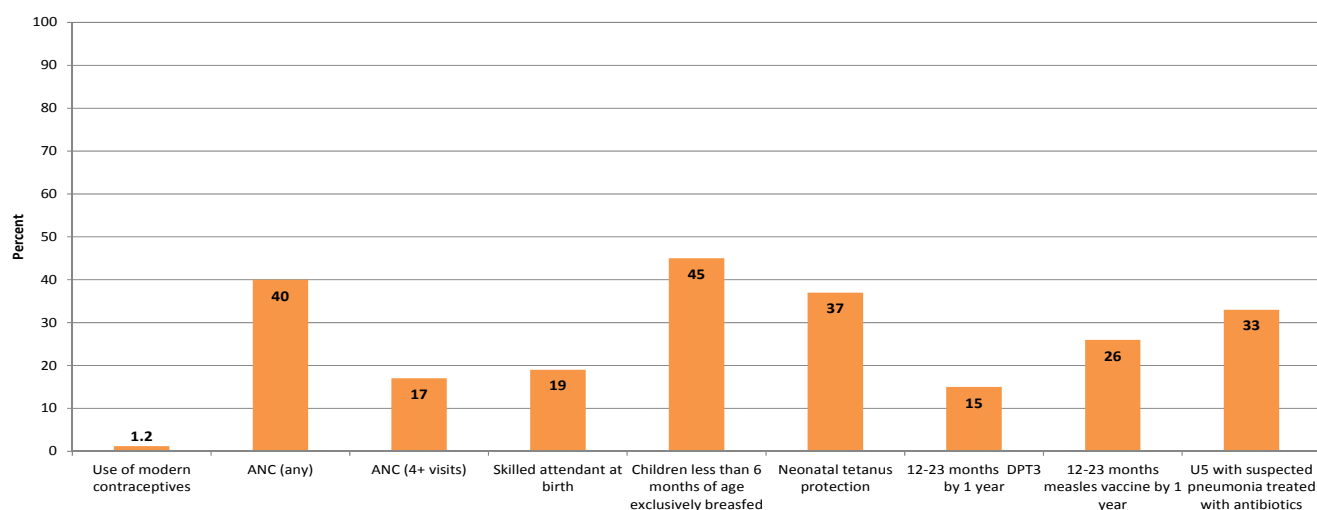
<sup>10</sup> Source: South Sudan National Bureau of Statistics (SSNBS) <http://ssnbs.org/> accessed 26/4/12.

<b>Maternal:</b>		<b>Nutritional status in children under 5<sup>1</sup></b>	
Anaemia in pregnant women	----	Stunting	31%
<b>Newborn:</b>		Wasting	23%
Low birth weight in newborns	----	Underweight	28%
<b>Child:</b>		<sup>1</sup> SHHS South Sudan, 2010	
Children under 5 with suspected pneumonia (2010) <sup>1</sup>	19%		
Children under 5 with diarrhoea (2010) <sup>1</sup>	34%		

It is worth mentioning that a considerable proportion of the country's households have to travel more than 30 minutes to get to the nearest site for safe drinking-water<sup>8</sup>. The percentage of population with access to an improved drinking-water source is 69%<sup>11</sup>. Use of sanitary facilities is still very limited (7.4%)<sup>12</sup> with a large proportion of household population using open air spaces to dispose of human waste. This has a negative impact on health, particularly that of children.

Due to the lack of access to services most women deliver at home without skilled attendance and this increases morbidity, including fistula, uterine prolapse, anaemia, reproductive tract infections and infertility.

### II-3.3 Coverage indicators across the continuum of care



Source: SHHS South Sudan 2010

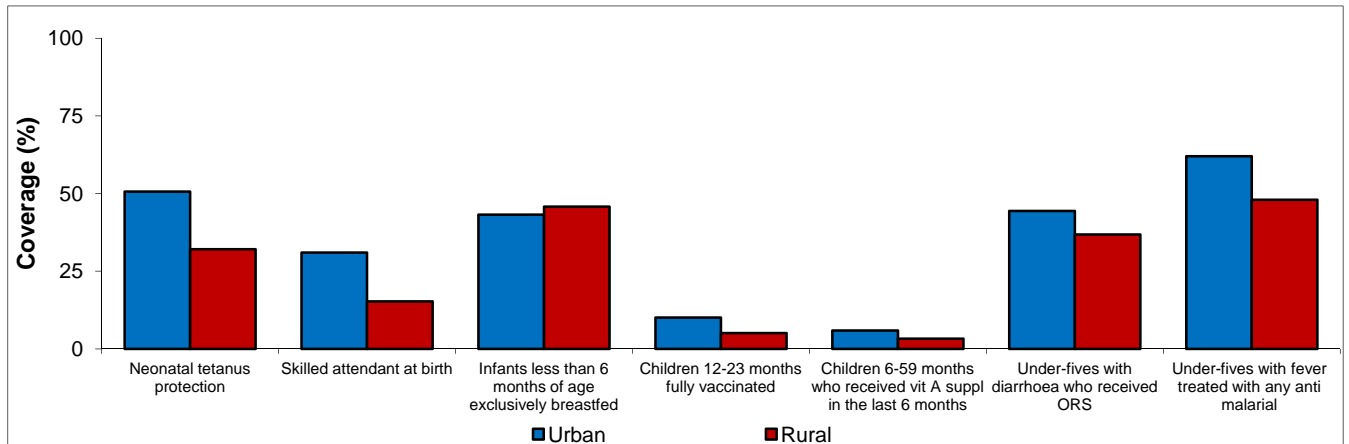
In the most recent SHHS South Sudan, 2010, there is a general low coverage of maternal, neonatal and child health interventions in the continuum of care, ranging from 1.2% for use of modern contraceptives to 45% for exclusive breastfeeding for children less than 6 months.

It worth mentioning that there was an encouraging increase in coverage of some interventions in South Sudan between the surveys of 2006 and 2010 (e.g. antenatal care, neonatal tetanus protection, skilled attendance at birth, exclusive breastfeeding) but unfortunately there was at the same time also a decrease in the coverage of other interventions during the same period (e.g. children with diarrhoea given ORS, children with suspected pneumonia taken to an appropriate provider).

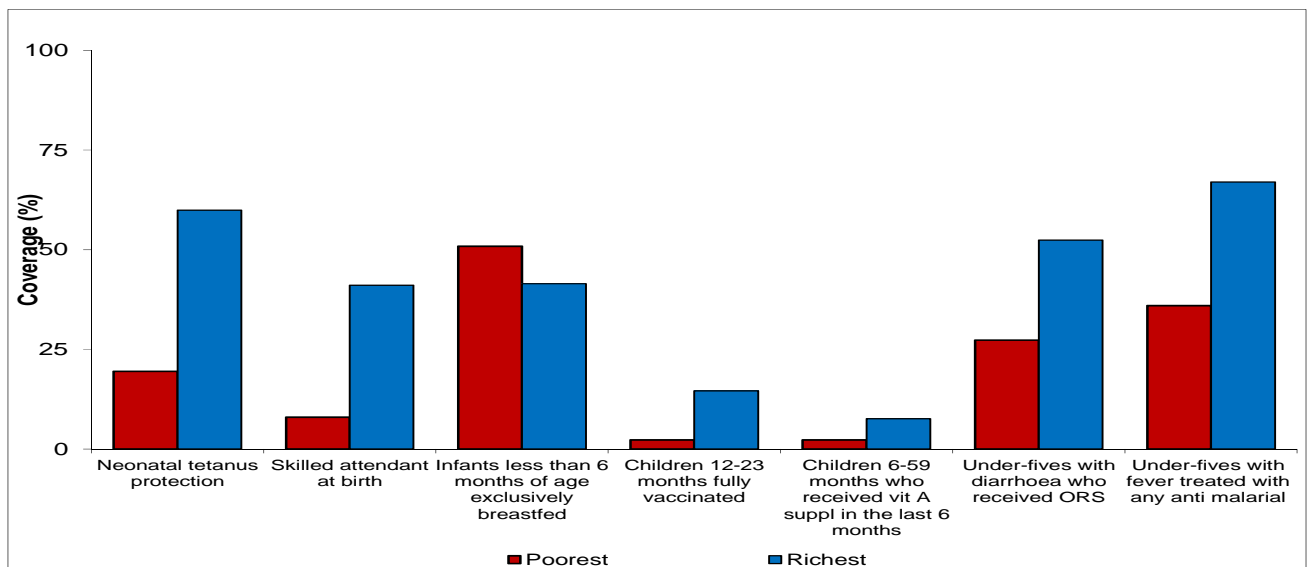
<sup>8</sup>SHHS South Sudan 2010

### II-3.4 Inequities in coverage of indicators across the continuum of care

According to SHHS South Sudan 2010, for most maternal and child health indicators, except for breastfeeding, coverage was higher in urban than rural areas.



The coverage of key child survival interventions during the continuum of care in South Sudan shows significant inequities between children in the richest households (highest wealth quintile) as compared to the poorest (lowest wealth quintile). There was a 6-fold difference in children fully vaccinated, 5-fold difference in skilled attendance at birth, a 3-fold difference in neonatal tetanus protection and children who received vitamin A supplementation, and a 2-fold difference in children with diarrhoea who received ORS.



### II-4 Towards the MDGs 4 and 5

South Sudan is a new country that is facing a major challenge related to maternal and child mortality. The country has started to develop its strategies and policies for these two areas of work in order to respond to the existing MNCH situation in the country.

These include:

- a high level of political commitment to maternal and child health;
- commitment to the MDGs;

- adoption and implementation of a package of interventions targeting the main causes of child and maternal deaths based on the global cost-effective and evidence-based interventions, delivered in an integrated way. Research has shown that these interventions have the highest impact on mortality.

#### II-4.1 Child health

The country is planning to introduce and scale up a set of interventions targeting the main causes of under-5 mortality, packaged and implemented under the umbrella of the Integrated Management of Childhood Strategy (IMCI) and the Integrated Community Case Management (ICCM). This strategy addresses not only the main causes of under-5 mortality but also the key health promotive and preventive elements. The three components of the IMCI strategy aim at improving the quality of child health care services at primary health care level, the health system-related elements and child health-related family and community practices.

##### **Package of child health key cost effective interventions implemented at PHC level**

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• Child case management:           <ul style="list-style-type: none"> <li>– pneumonia case management and prevention</li> <li>– diarrhoea case management and prevention</li> <li>– malaria case management and prevention</li> <li>– malnutrition case management</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• Early initiation of breastfeeding</li> <li>• Promotion of exclusive breastfeeding</li> <li>• Promotion of sound complementary feeding</li> <li>• Improving care seeking</li> <li>• Increasing immunization coverage</li> <li>• Vitamin A supplementation.</li> </ul> |
|--|---|

Shortage of qualified and trained human resources and commodities, and the low access to primary health care facilities represent major challenges to implementation of this package.

Efforts have been made to improve vaccination coverage as a major intervention to reduce under-5 mortality: DTP3 coverage in South Sudan increased from 16% in 2006 to 63% in 2011. However, vaccination coverage is still far below the target level. DTP3 coverage is <80% in 75% of the districts.

Routine measles vaccination coverage has increased from 40% in 2007 to 64% in 2011 but the coverage in half of the districts has not yet reached 80%.

Although DTP3 coverage is still below the eligibility criteria of GAVI Alliance support for new vaccines introduction, South Sudan was exceptionally approved (with conditions) for pentavalent vaccine introduction which is expected in 2014.

#### II-4.2 Maternal health

The package of interventions accorded to the maternal and neonatal health includes the following interventions:

- antenatal care
- skilled attendance at birth
- provision of basic and comprehensive emergency obstetric and neonatal care, including PAC
- prevention of mother-to-child transmission of HIV
- postnatal care
- family planning
- prevention and prompt treatment of malaria among pregnant women.

This package has been implemented in primary health care facilities and at community level.



#### II-4.3 Can South Sudan reach the targets set by MDG4 and 5 by 2015?

The average annual rate of reduction (AARR) of under-5 mortality between 1990 and 2011 was 2.8%. Despite this progress, achieving MDG4 would require an AARR of 12.7% between 2011 and 2015, which is a very high rate.

Information is not yet available for South Sudan on the AARR related to maternal mortality. However, having such a high mortality rate with the current status of health system and lack of qualified staff, it is most unlikely that South Sudan will achieve MDG5.

### III. Feasibility analysis

- South Sudan is a new country where the health system, together with its policies, strategies and workforce capacity, are under development.
- The insufficient financing to the health sector is an obstacle to the improvement of health services to the population in general and mothers and children in particular.
- There are donors interested in investing in maternal and child health in South Sudan.
- There is a low access to health care facilities, and many of the existing health facilities are not functioning.
- There is a major concern about the quality of services provided to mothers and children both at primary health care and referral level. In the absence of a functioning monitoring and evaluation system this concern will remain.
- There is major shortage in the workforce, in particular physicians and midwives, both in numbers and skills, and high turnover of trained staff.
- The Accelerated Child Survival Initiative (ACSI), initiated in 2007, has reached 85% of children in its jump-start phase but its impact on under-5 children's health has not yet been evaluated. Most of the services delivered to mothers and children are dependent on community health workers. In the absence of good quality training and supervision and monitoring systems, the quality of these services will remain a major concern.
- The shortage of commodities and supplies, including medicines and vaccines, hampers efforts to save lives of mothers and children.
- Sociocultural attitudes and perceptions and the lack of community awareness about the optimal key child and maternal health care-related practices also contribute to the problem of high mortality among mothers and children.
- The limited coverage of the maternal and child key effective interventions including vaccination currently reduces their potential impact on mothers' and children's health.

### IV. Is it achievable?

With the current trends of reduction in mortality, status of health system, funds and human resources allocation, South Sudan is most unlikely to achieve MDGs 4 and 5. However, if the country makes a high-level commitment and concerted efforts to improve the health system, accelerate the implementation of the cost-effective evidence-based packages of interventions in full collaboration with partners allocating the required human and financial resources, the country will be able to accelerate progress towards the MDGs and more lives of mothers and children will be saved.

### V. Conclusions: key drivers

With the active support of the international community, the country should aim at accelerating the pace of reduction of under-5 and maternal deaths by scaling up interventions in light of the coverage targets set by MNCH programmes at the Ministry of Health. The accelerated pace of reduction of mortality will bring the country closer to the set MDGs targets and will save more lives of mothers and children.

This acceleration requires:

- Maintaining the President's high level of interest and commitment to maternal and child health and set targets for accelerated reduction of deaths among children and mothers.
- Increasing the financing of the health sector and creation of budget lines for maternal, child and EPI programmes.
- Providing access to improved drinking-water sources and sanitation facilities as basic population needs and major social determinants for health.
- Construction and rehabilitation of health facilities and equipping them to be able to provide key essential interventions for mothers and children.
- Development of a national costed MNCH plan and allocation of required resources to scale up the child and maternal health interventions.
- Strengthening partnerships and coordination among concerned stakeholders to contribute to one national plan for MNCH and to achieving the national related targets.
- Moving towards scaling up primary health care services by expanding the network of primary health care facilities and adopting alternative innovative approaches to accelerate the provision of MNCH services at community level (such as mobile teams and expansion of community-based care)..
- Building capacities to produce an adequate qualified workforce to meet the service needs of the population.
- Ensuring adequate numbers of qualified workforce.
- Strengthening the key health systems essential elements such as, in particular, medicines availability, the health information system and supervision.
- Improving the quality of health services provided to children and mothers.
- Establishing a strong monitoring and evaluation system as a key intervention to ensure the quality of services delivered to children and mothers.
- Strengthening routine immunization to improve the current low coverage through proper implementation of the reaching every district (RED) approach and implementation of high quality periodic intensification of routine immunization.

