



**Joint appraisal report**

<b>Country</b>	Sudan
<b>Reporting period</b>	<i>Month/Year of the last appraisal report – August/2015 of the current appraisal</i>
<b>cMYP period</b>	2012-2016
<b>Fiscal period</b>	Jan- Dec 2014
<b>Graduation date</b>	<i>Only relevant for graduating countries</i>

**1. EXECUTIVE SUMMARY**

**1.1. Gavi grant portfolio overview**

- Gavi Alliance has been supporting Sudan National Immunization Programme since 2001 through three different windows of support, namely New Vaccine Support (NVS) Pentavalent, Rota, PCV 13 and IPV, Immunization Services Support (ISS), Health System Strengthening Support (HSS) and Civil Society Organization (CSO). In addition Gavi also supported Meningitis-A conjugate vaccine Supplementary Immunization Activities SIA (1-29yrs) and Yellow Fever SIA (total population). To date, a total amount of \$ 10,598,300 and \$ 23,153,500 cash based support has been disbursed in the form of Immunization System Strengthening and Health System Strengthening respectively.
- In 2014 the Federal EPI program sustained 94% Penta3/OPV3, 97% PCV3, 95%BCG, 86%MCV1, 61%MCV2, 86% Rota2 and 53% TT2+ coverage in 2014. The implementation of outreach, mobile and acceleration EPI activities contributed to achieving this target. The program experienced a 6% drop out rate.
- The Effective vaccine management assessment that was undertaken in 2013 highlighted that most of the EVM criteria were above the standard required EVM score of 80% except four areas that included building maintenance, maintenance, stock management, and distribution.
- The positive cold chain capacity at the central store was increased from 60 cubic meters in 2011 to 143.9 cubic meter in 2014; and from 9 cubic meters in 2011 to 14.7 cubic meter in 2014 for the negative cold chain. At the state level the capacity has been increased from 115.8 cubic meters in 2011 to 123.5 cubic meter in 2014.
- The total EPI expenditure in 2014 was \$ 68,013,469 of which the Government of Sudan contributed 13%. The majority of the government contribution is for its co-financing payment. UNICEF procures the traditional vaccines. Sustainability of the EPI program is a major challenge which is a concern given that in 2014 the GNI increased by 54% to \$1740. This implies that under the new co-financing policy Sudan is projected to graduate in 2017/ 2018. The Government of Sudan met its co-financing obligations in 2014.
- The main challenge to surveillance and data quality in the EPI program is that of a denominator calculation. The last national census was conducted in 2008. The EPI program plan to conduct a national coverage survey in 2015 at locality level. The aim of the coverage survey is to identify the respective target population for the development of more accurate micro plans.
- The weekly case based vaccine preventable diseases (VPD) surveillance meetings were held. Surveillance systems are in place for polio (AFP), diphtheria, pertussis, neonatal tetanus, Rota virus & bacterial meningitis, intussusceptions, pneumonia AEFI and Measles.

- In 2014 the country experienced a measles outbreak; by end of December 676 confirmed measles cases were reported, incidence rate was 15.6/1,000,000 population and CFR was 1.7. The EPI program responded to undertake a measles campaign with the support of MRI that covered 50% of the localities. Resources to immunize the remaining 50% of the localities is presently being mobilized.
- A country led HSS1 evaluation was undertaken in 2014/2015. Achievements of the HSS1 grant include a) the generation of evidence that helped the government to focus on PHC, addressing equity challenges and to redirect the focus of the NHSSP 2012-2016 towards an integrated health care system, b) improved access to services through the rehabilitation of the health facilities in general and the cold chain equipment and c) fostered and strengthened institutional arrangements at all levels, building capacity in leadership and management. Recommendations include a) continuation of the recent trend of allocating more resources to the health sector, b) addressing migration of the health workforce which is a major issue to Sudan health system (Federal EPI program experienced 3 managers in 3 years), efforts to support and advocate for strengthening the NGO network to ensure their plans and resources are well reflected and compliment Government efforts. The evaluation report suggested that an impact study should be carried out of Gavi and GFATM support to HSS.
- Performance on mandatory indicators: Out of 13 reported intermediate indicators they have not met targets for 1 indicator, however out of the 10 reported outcome indicators they have not met targets for 7 indicators. While the coverage targets for penta3 were met, the discrepancies in denominator renders the coverage figures to be viewed with caution. Furthermore, it is important to note that the denominators used by the administrative system are questionable hence the interpretation of the coverage level may require caution. The target coverage for measles was not achieved despite the fact that there have been several outbreaks in the country. While the country has set up VPD surveillance system, it is important to note that desired level of detection and response was not achieved. Despite seemingly robust supervision systems, the data quality remains a challenge in the country both in terms of reporting as well as accuracy of reported numbers. There are several indicators (both outcome and intermediate) that Sudan had proposed to report on an annual basis but they haven't. It is important that they only choose indicators on which they are able to report as planned.

## 1.2. Summary of grant performance, challenges and key recommendations

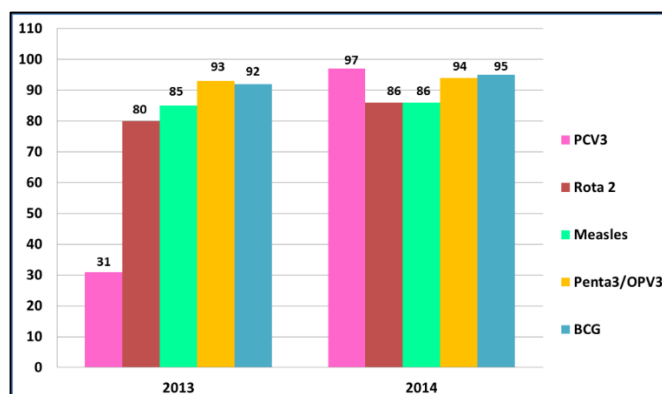
### Grant performance (programmatic and financial management of NVS and HSS grants)

The Expanded Program of Immunization was created in 1976. In 2001 Gavi commenced supporting the program when the immunization coverage was 64%. In 2014 the official country estimate is a coverage of 94% DPT3 with 90% of the districts receiving greater than 80% coverage. In general the appraisal team found that the EPI program is a well-functioning program.

### Program Management And Service Delivery Performance

#### Achievements:

- The Federal EPI program sustained 94% *Figure 1: Sudan EPI coverage by antigen 2013-2014* Pentavalent (Penta3/OPV3), 97% PCV3, 95% BCG, 86% MCV1, 61% MCV2, 86% Rota2 and 53% TT2+coverage in 2014. The implementation of outreach, mobile and accelerated EPI services contributed to achieving this target. The program experienced a dropout rate of 6%. Figure 1 reflects the increase from 2013 to 2014 in coverage by antigen.
- In 2014 preparation for introduction of IPV vaccine into the routine EPI schedule in regard to a) cold chain capacity expansion and rehabilitation, b) update and



distribution of vaccination cards and registers and c) human resource capacity building was undertaken.

- Successful implementation of phase one yellow fever campaign that showed a coverage of 89.72% was undertaken.
- A 9% expansion of fixed immunization network from 1685 fixed sites to 1863 was achieved.
- 90% of the civil works including new construction and rehabilitation of health facilities at GAVI focus states have been completed from the planned activities in the first year of HSS2.
- Implementation of the integrated training activities such as supplementary training for vaccinators and nutritionists, bridging courses for medical assistants, leadership and management for locality health management teams and M&E for HIS staff.
- Implementation of work load indicator for staffing needs assessment using Workload Indicators of Staffing Need (WISN) tool to improve HRH management and implementation of the integrated supportive supervision.
- Provided support to National Human Resource for Health Observatory to provide information that supports evidence based HRH management.
- Establish CSOs network (Sudan Health Network) that will focus on immunization related activities.
- Training of CSOs on resource development and project management.
- Participation in the fourth round of the IHP monitoring process and the local health compact has been signed by different partners including GAVI.
- Development of the national health financing policy.
- Support for state EPI vehicle fleet through procurement of 66 vehicles to support mobile session implementation and supportive supervision.

**Challenges:**

- Splitting of the localities every year which affect the capacity at locality level and the resources and resulted in weak technical and managerial capacities at locality level.
- In addition to the hard to reach population and conflict areas in South Kordofan and Blue Nile states, conflict in some states and neighboring countries led to influx of IDPs and refugees.
- High staff turnover at federal and locality level (brain drain) of the EPI staff affects all EPI components in term of managerial capacity, service provision monitoring and supportive supervision, cold chain and vaccine management.
- Despite the significant increase in the governmental support to PHC universal coverage plan there remains a funding gap resulting in insufficient domestic resources for the payment of routine traditional vaccines.
- The international sanctions, financial crisis and the high inflation rate are impacting the program.
- Using three different currencies in management of the cash based support may cause currency exchange losses.
- Timely payment of the country co- financing in 2014.

**Vaccine And Supply Chain Management**

**Achievements:**

- The positive cold chain capacity at the central store was increased from 60 cubic meters in 2011 to 143.9 cubic meter in 2014 for and from 9 cubic meters in 2011 to 14.7 cubic meter in 2014 for the negative cold chain. At the state level the capacity has been increased from 115.8 cubic meters in 2011 to 123.5 cubic meter in 2014.
- Other procurements related activities (vehicles, IT, motorcycles and cold chain equipment) have been implemented as per HSS2 first year plan. Fund saved from the first grant has been reallocated to UNICEF to procure cold chain equipment.

**Challenges:**

- Despite of the investment on cold chain from all partners and government; a lot of localities still have cold chain functionality less than 80% and large proportion of the currently functioning refrigerators are aging and need replacement.
- Continuous destruction and looting of cold chain equipment in security compromised areas.

- Unavailability of spare parts to properly implement the maintenance plan due to the international sanctions against Sudan.

### **Demand Generation, Advocacy And Social Mobilization**

#### Achievement:

- Establishment of immunization friends' societies in all states and many localities that support EPI in defaulter tracing, conduction of home visits for awareness raising regarding immunization. In addition they have considerable role during campaigns as volunteers and social mobilizers.
- Strong social mobilization and community awareness raising during new vaccines introduction and campaigns.
- Conduction of MCH KAP survey (first draft is prepared) that include immunization will serve a base line for development of a communication strategy and plan.

#### Challenges:

- Communication and social mobilization is the most neglected part of routine EPI program, investment on this area is negligible. There is neither infrastructure nor qualified HR for social mobilization at state and locality levels with the program being dependent on volunteers.
- Lack of comprehensive communication plan for routine EPI.

### **Surveillance and data quality**

#### Achievement

- The weekly case based vaccine preventable diseases (VPD) surveillance system includes polio (AFP), diphtheria, pertussis, neonatal tetanus, Rota virus & bacterial meningitis, intussusceptions, pneumonia AEFI and Measles. The National Expert committee supports the surveillance system in classification of cases of polio and measles and AEFI.
- The performance indicators are in accordance with the recommended WHO standard in AFP/measles surveillance.
- Comprehensive guidelines and reporting tools are available. Data quality assurance tools using DQS are available.

#### Challenge

- The main challenge to surveillance and data quality in the EPI program is that of a denominator calculation. The last national census was conducted in 2008.
- High staff turnover is a challenge in all components of the program.
- Community based surveillance especially among nomads and IDP camps and refugees from Republic of South Sudan is weak.

### **Health System strengthening**

#### Achievement:

Several crosscutting activities has been implemented through Gavi HSS grant such as:

- 7 Family Health Centers and 13 Family Health Units have been completed.
- 150 medical assistant trained in integrated PHC including EPI.
- Provision of cold chain equipment through UNICEF.
- Implementation of the integrated health information system.
- Training of staff from 8 states on DHIS II to improve data quality and reporting.
- National CSO network for health had been established and 20 CSO members have been trained on project management and resource mobilization.
- Gavi HSS had been aligned with other HSS grants (e.g. GF, EU, IDC etc.) to insure continuity and complementarity.

#### Challenges:

- Difficulties in availing HR (quantity and quality) in light of challenging financial and social context
- Challenge in managing the HSS project implementation through numerous stakeholders.
- Compliance with data quality and survey requirements.

**Key recommended actions to achieve sustained coverage and equity** (list the most important 3-5 actions)

1. Continuous advocacy at all levels to increase Government resources for EPI
2. Continue expansion of the immunization services in all communities (rural and urban areas) and create modalities to reach all hard to reach and inaccessible children
3. Advocacy and social mobilization at all levels to gain effective political commitment and increase public awareness and demand for vaccination.
4. Strengthen federal supportive supervision in routine immunization and SIAs to ensure high quality implementation
5. Finalize implementation of the EPI coverage survey that should mitigate against the problem of the denominator.

### 1.3. Requests to Gavi's High Level Review Panel

Grant Renewals
<p><b>New and underused vaccine support</b></p> <ul style="list-style-type: none"> <li>• Request for renewal of DTP-HepB-Hib (Pentavalent), 1 dose(s) per vial, LIQUID vaccine in the existing presentation for the year 2016.</li> <li>• Renewal of Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID vaccine in the existing presentation for the year 2016.</li> <li>• Renewal of Rotavirus, mono tube of one dose vaccine for the year 2016</li> <li>• Renewal of IPV, 10 dose(s) per vial, LIQUID with VVM on the vial to allow applying the open vial policy.</li> </ul> <p><b>Health systems strengthening support</b> The second tranche of HSS2 funding has been approved by the IRC in 2014 that of (\$ 6,330,000.0) 6.3 million.</p> <p><b>Immunization system strengthening funds</b> Request to transfer \$631,080 following submission and approval of audit report of 2013 and 2014.</p>

### 1.4. Brief description of joint appraisal process

The country participated in the 21st GAVI regional working group, where the plan and purpose of the Joint Appraisal to review the financial and programmatic performance of the Gavi supported grants and identify challenges and recommendations were discussed.

In country preparatory meetings were conducted with the different stakeholders and a committee was formulated from the FMOH, WHO and UNICEF to plan and prepare the joint appraisal visit. A desk review of all documentation and a technical report was prepared prior to the visit by the appraisal team and in country partners.

The Joint Appraisal mission was conducted from 23 to 27 August with the participation of EMRO RO and Gavi secretariat. It was unfortunate that there was no regional UNICEF representation. The appraisal process included a workshop with participation of all partners and stakeholders (WHO and UNICEF country offices, GFATM, UNDP, JICA, EU, and CSOs) to identify achievements and key challenges. A field visit to Gazera state by the mission to observe the EPI and HSS performance in the field was undertaken.

NHSCC/CCM HSS sub-committee discussed and endorsed the findings of the Joint Appraisal report in a meeting held on 27<sup>th</sup> August 2015.

The final report was endorsed by the ICC/HSCC on Thursday 28<sup>th</sup> August 2015



## 2.0 COUNTRY CONTEXT

### Leadership, governance and programme management:

Sudan is composed of 18 states and had 174 localities in 2014. In 2013 there was 169 localities reflecting a 5% increase in localities. Sudan shares its borders with 8 countries and allows free movement across these borders. Factors that significantly impact the provision of immunization services include difficult access to some areas, rural-urban migration, natural disasters, the longstanding civil war and limited resources. The impact of these factors result in wide variations in delivery of services, vaccination coverage and disease incidence.

The health system in Sudan is three-tiered, the Federal Ministry of Health (FMOH) has a leading role in policy and stewardship, while responsibility for delivery of public services is largely led by states and their localities. The Federal Expanded Program on Immunization (EPI) has a four-tier management system; the expanded programme of immunization is one unit of the Maternal and Child Health (MCH) directorate which lies under the primary Health care General Directorate (PHC) reporting directly to the Undersecretary Ministry of Health.

At state level the EPI is under the supervision of SMOH, Director General and PHC directorate. The EPI program is supported by many professional and technical committees e.g. the NITAG, measles expert committee, polio expert committee, National certification committee, AEFI causality assessment committee and the NHSCC committee.

The NHSCC/CCM HSS committee provides oversight and coordination on critical issues affecting the implementation of GAVI/GFATM HSS programmes. The committee met quarterly in 2014 and convenes extraordinary meetings when deemed necessary. During the annual meetings Annual Progress Reports and plans are reviewed and endorsed before submission to GAVI.

### Immunization service delivery:

Health services including immunization are provided by MOH supported by different partners including; police, military, health services, universities and National Health Insurance Fund (NHIF) and the private sector (both for profit and non-for-profit). In the areas affected by conflict Non-Governmental Organizations (NGOs) and Civil Society Organizations (CSOs) under the leadership of the government support the EPI program.

During the last 3 years -Knowing that mobile strategy for Immunization service delivery is costly and unsustainable- Ministry of Health started an intensified work to expand fixed immunization network as part of PHC package utilizing an appreciated support from the Government of Sudan and the HSS support (PHC expansion project). Outreach and mobile services continue to play a crucial role in expanding EPI services, particularly in areas where there are no fixed EPI services due to lack of infrastructure, geographic inaccessibility or humanitarian response situation as a result of conflict or natural disasters.

Figure 2: Trend of EPI service by strategy 2010-2014

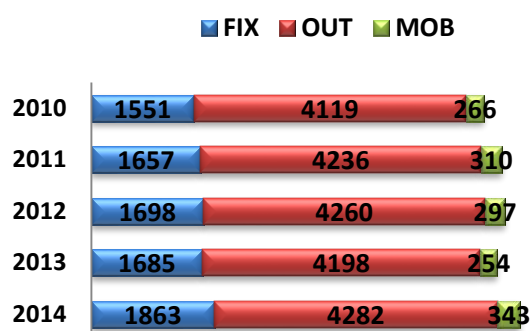
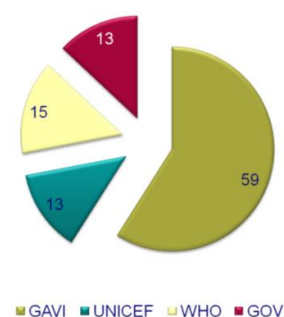


Figure 3: Distribution of financing



### Costing and financing:

In spite of insufficient governmental expenditure on health, a strong governmental commitment has been shown to increase the overall governmental expenditure on health on the PHC expansion project that is being implemented. In 2014 the GoS contribution for EPI has reached 13% from the overall expenditure on routine immunization and campaigns.

Other investments in the different components of the health system by the government and other health partners are complementing GAVI HSS grant. This contribution enabled achievement the grant objectives

in certain focus areas such as strengthen the HIS and HMIS and DHIS. The chart above shows the breakdown of total EPI expenditure including HSS (USD 68,013,469) by agencies in 2014.

#### **Human resources:**

Between 2002 and 2011; EPI programme structure has been operated by high qualified staff at federal, state and locality level that contributed to the high quality performance of Sudan EPI programme.

Recently; human resources had been the greatest challenge to EPI with the frequent turnover of staff at all level e.g. at the federal level the EPI manager was changed 3 times in the last 3years. At the same time the splitting of localities in the 2013-2014 add burden to the shortage of the required qualified staff at locality level. Moreover 27% of the current vaccinators at the health facility level are volunteers which jeopardize the sustainability of immunization services delivery. To mitigate this problem the government is focussing on production and development of multi-tasking health workers as a strategic move to address the shortage and access.

#### **Vaccine management and supply management :**

The cold chain infrastructure in Sudan has been improved over the last decade as part of introduction of new vaccines to the EPI programme. This investment is a result of the government contribution and partners such as UNICEF, WHO, GAVI, OFDA/USAID, Japan supplementary and CERF.

Due to the ongoing conflict looting and destruction of cold chain equipment was reported in conflict affected areas, further to this the current storage capacity is not sufficient to accommodate any additional vaccines required for preventive or outbreak response SIAs at central and state levels without special arrangements and measures The dry storage capacity at all level is a real challenge to the EPI programme as reported in the EVM assessment 2013. This issue is still lagging behind and needs to be addressed urgently.

The aging cold chain equipment and poor maintenance capacity and availability of spare parts in the local market due to the sanctions had also affected cold chain functionality at state, locality and health facility level.

#### **Data Quality And Surveillance**

##### Data quality

EPI information system was evaluated by WHO/EMRO in December 2013 and high level of data accuracy at all levels was found. Regular national EPI review meeting are organized bi-annually by the federal level for the states to review the EPI programme components.

In line with the PHC expansion project a reform is being implemented for the HIS to improve and strengthen the HIS. The support has three components: integrated HIS, DHIS2 and strengthening the community health information system. To achieve the objective of the reform a huge investment is being provided by the different HSS partners including support for the infrastructure including IT equipment and printings in addition to the trainings programmes. The EPI is a part of the integrated data collection tool and training programmes for the statisticians and data collectors. A support is also being provided for the regular supportive supervision at state and locality level. The MICS – 2014 has been completed and results are under discussion to be finalized.

##### Surveillance:

EPI Program has an integrated case based surveillance system for AFP, measles and neonatal tetanus in 2006. In 2011 AEFI was added to the integrated case based surveillance. For other VPDs data is collected on a monthly bases EPI runs weekly review meeting to discuss AFP, Measles AEFI and other vaccine preventable diseases (VPD) surveillance with high quality performance indicators up to the recommended WHO standard.

The National Polio and Measles Laboratory provide support for the diagnosis of suspected cases with high score of accreditation for many years. There are two national expert committees for Polio and measles that support the surveillance system in classification of inadequate cases.

Sudan polio free final certification document was accepted by the regional certification commission in April 2015.

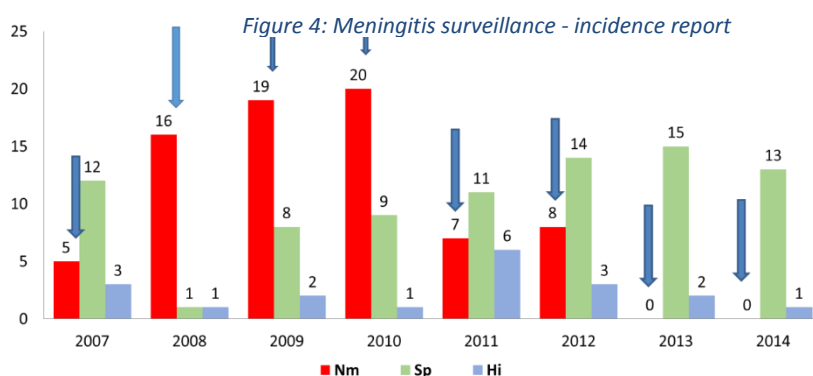
**Measles Surveillance:**

The measles surveillance was established as case-based surveillance since 2006 integrated with AFP and reached the target of the required performance indicators in 2014.

In 2012 – 2013 Sudan had faced a big measles outbreak that affected all states with total confirmed cases of 11,317 case. This was due to delayed implementation of the last follow up campaign in addition to accumulation of susceptible due to relatively low routine coverage of measles first and second doses. By the end of 2013 Sudan implemented follow -up campaign with extended age up to <15yrs which had an impact on the reduction of measles morbidity until November 2011. By the end of December 2014 there was 676 confirmed measles cases reported, attack rate was 15.6/1,000,000 population and CFR was 1.7.

**Bacterial meningitis surveillance system:**

Sudan is part of the global surveillance network for bacterial Meningitis; which was established as hospital-based surveillance in 2007. MenA campaign was conducted in 2012-2013 supported by Gavi, which had a huge impact on reducing the Neisseria Meningitis as reflected by the surveillance reports shown in Figure 4.



**Rotavirus and intussusceptions Surveillance system**

In 2006/2007 Sudan joined the regional and global network for surveillance of rotavirus among children less than 5 years of age; now it is functioning in 4 paediatric hospitals. The introduction of Rotavirus vaccine in the National EPI program was launched 17 July 2011. The surveillance provides baseline data for measuring the impact of Rota vaccine introduction.

**AEFI surveillance:**

2005 AEFI surveillance was established as pilot phase in 4 states during catch up measles campaigns with the same sentinel sites for AFP/Measles; 2011 AEFI reporting system expanded to include all the fixed vaccination sites and in 2012 both national AEFI Review Committee and states technical committee were formulated, the most challenge was low AEFI reporting rate.

**Demand Generation, Communication and Engagement with the CSO**

The EPI Social Mobilisation activities are active mainly during the accelerated disease control campaigns. At the federal, state and locality levels the social mobilization plays a crucial role in communication and demand creation for routine EPI services, reduction of drop-out rates. However the implementation of the planned social mobilization activities was suboptimal mainly due to lack of communication strategy for routine, unqualified staff at the lower level and insufficient fund.

EPI has established associations of Friends of Immunization in some states in an attempt to collectively engage CSOs (NGOs, religious leaders, and the private sector to support immunization services, academic institution), create community demand and to encourage community participation in planning and monitoring of these services.

**3.0 GRANT PERFORMANCE, CHALLENGES AND RENEWAL REQUESTS**

**3.1 New and underused vaccine support: Grant performance and challenges**



## CURRENT AND NEW VACCINE SUPPORT

Sudan is supported with Penta, PCV, and Rota as part of routine vaccination and Yellow Fever for preventive campaign. In 2014 Sudan achieved Penta3 coverage of 94% against 93% target. In addition the drop-out rate for Penta3 was less than expected (6% against 7%). Sudan exceeded the target of 93% for PCV3 to achieve 97% coverage. This achievement was due to the fact that children who received measles vaccination returned to receive PCV3. The target coverage of 95% for Rota 2 was not achieved due to the age restriction policy of Sudan and the coverage achieved was 86%. The MCV1 target was missed by 4% points and Sudan achieved 86% compared to the target of 90%.

### Performance of Routine Immunization

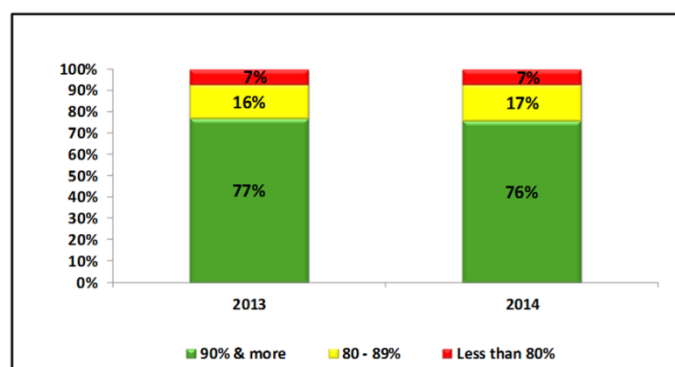
#### **New Vaccines**

During 2014 no new vaccine was introduced into routine immunization schedule. However IPV VIG was received in October 2014. Guidelines developed and reporting formats were updated and printed initiated to prepare for the introduction. The IPV VIG was borrowed to implement YF campaign in the agreed upon dates as there was delay in receiving the op-cost being channelled through WHO. Remaining preparation for IPV was implemented in 2015.

#### **Existing immunization coverage**

- 15 states out of 18 achieved Penta 3 coverage of 90% or more.
- The total number of localities was 174, five of them were not accessible; 129 localities out of the accessible localities achieved more than 90% Penta3 coverage rate
- Vaccine wastage rates were within the acceptable limits: 1.1% for pentavalent vaccine, 0.8% for PCV, 1.3% for Rota, and 20% for measles vaccine.

Figure 5: EPI coverage by accessible localities 2013-2014



#### **Major activities conducted in regard to strengthen routine immunization services include:**

##### Planning

- Update the micro planning guidelines to include all new emerging immunization e.g. introduction of IPV and integrated PHC services
- Micro planning meetings for 18 states and 184 localities with especial focus on hard to reach and disadvantages population have been organized and plans have been developed and updated.

##### Training and capacity building

- The following trainings were held in 2014: a) TOT for National and state Level AEFI focal points and EPI zonal coordinators; b) refresher training for 571 vaccinators (100%); c) basic training of 480 Multitask (immunization- Nutrition) staff (18%); d) workshop on Mid-Level Management (MLM) for the EPI manager at the state and locality levels (30 participants) and Geographical Information System (GIS) for the data managers (20 participants).
- In 2014 updated, printed and distribute national guidelines for AEFI surveillance.
- Supportive supervision with focus on post training assessment for trained MA.
- Training of HIS staff (2 staff\*10 localities\*6 states\*2 years+30 TOT) on the use of DHIS tool.
- Support 2 rounds of overseas short course training for 5 staff at DHIS Academy 6 staff have been trained.

- Production, equitable distribution and retention of multi tasked facility and community health workforce to meet immunization and PHC need

#### Supply and logistics

- Continuous rehabilitation and maintenance for cold chain equipment to maintain functionality of the cold chain at sub-national levels.
- At central level; storage capacity was increased in preparation for the upcoming new vaccines: cold storage capacity increased from 60 cubic meters in 2011 to 143.9 cubic meter in 2014 and from 9 cubic meters in 2011 to 14.7 cubic meter for the freezing storage.

#### Service delivery

- Increased accessibility to immunization services through the establishment of 178 new fixed sites and 84 outreach. The outreach site could be a health facility or any location e.g. community leader house, but without resources needed for immunization services (vaccinator or cold chain)and within a 5-10 Km in the catchment area surrounding a fixed site. It is linked and organized by the community (for the suitable date) and the fixed site ( the vaccinator, supplies and reporting)
- High implementation rate of EPI session 96% for fixed sites, 94% for outreach and 75% for mobile teams.
- Conduct integrated outreach services focusing on localities with low EPI coverage by 94%.
- Two acceleration campaigns of 3 rounds for routine immunization covering 53 localities were implemented in Darfur Conduct integrated EPI/PHC mobile sessions for disadvantaged populations and communities with low access to fixed facilities in rural and remote settings by 83%.

#### Monitoring and Evaluation and data quality

- Monthly monitoring review meetings at state level (states with localities & localities with service providers)
- Submission of state monthly performance reports whereby feedback was provided, c) bi-annual review and evaluation meetings with states to assess the implementation of the plans were conducted,
- Follow up of implementation of the supervision plan at state and locality level to verify their reports.
- The DQS tool was used as a supervision tool enabling immediate analysis of the findings and feedback at state, district and health facility levels. Studies done for evidence generation as immunization coverage survey; community acceptance for multiple injections (to generate evidence for Social mobilization plan for IPV introduction)

#### Link with community (social mobilisation)

- Implementation of social mobilization activities in high risk special population, with NIDs, and supplementary immunization activities such as measles SIA. Support conduction of home visits to trace the defaulters in the target states (25 facilities \* 10 localities \* 6 states ) by 89%
- Partially inaccessible: Almost 50% of the states have some areas which are partially inaccessible during the rainy season, this was well managed before the season start.

#### **Key Implementation Bottlenecks In Routine immunization**

- Frequent high staff turnover at federal, state and locality levels.
- Poor communication and social mobilization for demand creation at all level for routine EPI activities; as social mobilization activities are usually active during campaigns and with new vaccine introduction only, this manifested in the high dropout rate between first dose of pentavalent vaccine and first dose of measles and between the first and second doses of measles vaccine, and low coverage rate of MCV1, this is mainly due to lack of sufficient fund. During 2014 and utilizing the GAVI HSS fund; EPI started to implement home visits system for

defaulters tracing and retrieval and delivery of health education message about routine immunization and VPDs.

- Completely inaccessible areas due to armed conflict are five localities in South Kordofan state, partially in Blue Nile and West Kordofan around 163,522 under five child whom represent 2.5% of the total country target
- Delay in timely release of GAVI co-finance. As a corrective action for 2015 the process of requesting and release of GAVI co-finance the MoH/EPI initiated very early with the MoF. This resulted in receipt of 50% of the co-finance in June 2015 and the remaining 50% is expected to be released soon.

#### **Performance of supplementary immunization activities**

During December 2014, the Yellow Fever campaign was implemented. The first phase of yellow fever preventive campaign was implemented in 7 states as planned with no deviation in the agreed upon target. The campaign targeted population aged 9 months-60 years of age. Total number of target population was 7,599,597. The reported phase 1 coverage is 89%.

#### **Key lessons learnt:**

- Early advocacy with government and MoF that resulted in timely receipt of government contribution of campaign operational cost.
- Early planning and preparation of guidelines and reporting format is crucial for delivery of quality campaigns.

#### **Challenges**

- Reaching the completely inaccessible areas in Nuba Mountains and localities in west Kordofan and Blue Nile state and all targets in groups such as Nomads and other special groups. (IDPs & Ethnic groups).
- Delays in receiving 75% GAVI op-cost through WHO lead to postponement of the campaign by a month.
- Vaccine availability is a real challenges facing national implementation of the SIA and introduction in the routine. The overall target is approx. 30 million, 7, 6 million were covered in phase one and the vaccine for phase two with a target group of 6.8 million are available. However given the current uncertainty of the supply of vaccines it is difficult to plan the campaign for the remaining target group and for the introduction of YF into the national schedule.

#### **Equity and gender analysis**

- From the reported coverage 48% of vaccinated children were males and 52% were females.
- The latest data on socioeconomic equity were published in the SHHS where the coverage gap between lowest and highest wealth quintiles in penta3 coverage was -44%.The EPI target is distributed into 33% urban and 67% rural with population hard to reach either due to geographical or security reason.
- The total number of localities that fall below 80% coverage were 12, out of those 10 are affected by war (5 in North Darfur, 3 in West Darfur one in Northern, one in West Kordofan and one South Kordofan). EPI conducted a bottleneck analysis of the issues hindering these localities from reaching the target group, reasons include limited access due to security situation, unreliable denominator, withdrawal of NGOs from some conflict areas in North Darfur, destruction and looting of solar refrigerators, the lack of adequate staff and the rapid movement of pastoralist communities in Red Sea.
- In certain localities in Darfur health staff from rebel-controlled areas came into the government controlled areas to be trained, collected the necessary supplies and budget before they return to their areas and provide immunization services. In addition to this during the days of immunization campaign when access allowed for vaccinators was established routine immunization services also delivered.

- UNICEF, WHO and MOH are supporting Darfur states for acceleration phase out and establishing sustainable immunization services in Darfur Zone.

### 3.1.1 NVS renewal request / Future plans and priorities

#### **New and underused vaccine support**

- Request for renewal of DTP-HepB-Hib (Pentavalent), 1 dose(s) per vial, LIQUID vaccine in the existing presentation for the year 2016.
- Renewal of Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID vaccine in the existing presentation for the year 2016.
- Renewal of Rotavirus, mono tube of one dose vaccine for the year 2016
- Renewal of IPV, 10 dose(s) per vial, LIQUID with VVM on the vial to allow applying the open vial policy.

### 3.2 Health systems strengthening (HSS) support

#### **Key achievements**

In addition to the activities funded through the EPI program the HSS specific achievements include improved equitable access and utilization of quality immunization as part of an Integrated Primary Health Care focusing on underserved and disadvantaged populations.

- 90% of the civil work in 7 FHC and 13 FHU has been accomplished.
- CPD activities: Finalisation of "Medical Assistant, Basic PHC package training" AKA bridging course, 150 medical assistant trained. In-service midwifery training instead of the initially planned basic programme conducted. In addition nutritionists and vaccinators joint cadres training is underway.
- HRH Department- Conduct Workload Indicator for Staffing Needs Assessment (WISN) tool in 2 states to improve HRH management (50%).
- Support was provided to National Human Resource Observatory (NaHRO) to conduct annual inventory of posts.
- Provide top-up incentive for states and localities for EPI focal persons.
- To strengthening the management and leadership capacity of the decentralized health system at state and locality levels for an effective and efficient.
  - o Annual planning meetings have been conducted with participation of DGs and planning directors.
  - o Training on the planning manual in 11 states (states+ localities and their partners) 400 participants.
  - o 40 participants have been trained (20 from the FMOH and 20 from CSOs) on resources mobilization and programme management in collaboration with IHP+ network. A diploma certificate will be provided for the trainees after accomplishment of the other two modules
- CSOs Involvement.
  - o A national network for health has been established to strengthen the CSOs capacities and then different coordination meetings have been conducted at different levels.
  - o Joint field visits have been also conducted.
  - o 20 participants have been trained on project management and recourse mobilization.

#### **PBF HSS2 grant**

The country has achieved 94.3% coverage DTP3 and improved equity at sub-national level. Ninety percent (90%) of localities have achieved >90% DTP3 coverage. Regarding reporting against the performance based funding indicators out of 13 reported intermediate indicators they have not met targets for 1 indicator, however out of the 10 reported outcome indicators they have not met targets for 7 indicators.

While the target for Penta 3 was met, it is important to note that the denominators used by the administrative system are questionable hence the interpretation of the coverage level may require caution. The target coverage for measles was not achieved despite the fact that there have been several outbreaks in the country. While the country has set up VPD surveillance system, it is

important to note that desired level of detection and response was not achieved. Despite seemingly robust supervision systems, the data quality remains a challenge in the country both in terms of reporting as well as accuracy of reported numbers. A timely and complete integrated reporting by health facility was only achieved by 38% health facilities. It is important therefore that the country increases its effort towards achieving higher levels of adherence to the integrated reporting.

There are several indicators (both outcome and intermediate) that Sudan had proposed to report on an annual basis but they haven't. It is important that they only choose indicators on which they are able to report as planned. A list of such indicators is as follows:

Outcome indicators

- Socio-economic equity in immunisation coverage - DTP3 coverage in the lowest wealth quintile is +/- X % points of the coverage in the highest wealth quintile
- Proportion of children fully immunized - % of children aged 12-23 months who receive all basic vaccinations in a country's routine immunisation program
- Proportion of population within five kilometers of a service delivery point offering "Essential PHC Package"
- Proportion of population within five kilometers of a service delivery point offering "Essential PHC Package"

Intermediate indicators

- Percent of PHC facilities in target states with system quality index of 80% or above
- Percent of PHC facilities (disaggregated by urban/rural) with the required number and quality of staff according to standard at six target states ( this indicator needs to be divided into two separate indicators one for urban and one for rural)
- Annual dropout rate of health managers at target states and localities
- Number of localities with functional health management teams

**Major Health System strengthening challenges:**

- HR issues: despite the efforts to increase the production of qualified health cadres, 39 medical schools and AHSs programmes for CHWs and skilled midwives, the gap in the required numbers still remains (30% of health facilities is facing HR shortages). In addition, the challenge of absorbing the allied health care cadre in the system, especially in remote and hard to reach areas, is highlighted by the lack of adequate resources needed to absorb and retain the trained cadre. The brain drain and migration of skilled personal due to various financial and social reasons only add to the severity of the problem.
- Despite the growing expertise of FMOH –PMU in integrated project management, coordination of HSS activities across the various implementers still poses a challenge.
- Communication difficulties between FMOH and WHO had led to minimizing WHO essential technical support.

**Lessons learned on HSS 1:**

- Harmonization between GAVI and other HSS projects is assured through joined management of HSS support grants by one "Project Management Unit", one coordination structure (HSCC and CCM HSS sub-committee), one implementation strategy to link different HSS interventions with the NHSSP, and One assets management system.
- The commitment and vision to change course and priorities when necessary by the top management without compromising the results chains in achieving the outcome and impact targets of the program was one of the best practices in Sudan.
- Development of health sector plan by adopting a comprehensive planning approach (One plan one budget and one report), gives the holistic picture and facilitate the coordination.
- The complementary approach adopted in the implementation of the different grants that allows avoidance of overlapping.

- The modality of working through the government system has been critical to strengthen the health system. Consequently, other DPs like the Global Fund are also moving towards that direction

### **Financial performance and challenges**

#### **The actual implementation VS planned on HSS2:**

- The overall Implementation rate based on financial performance is 91.5%.
- The percentage is varying from 104% for objective 1 and 26.6% for objective 2. The lower absorption at objective 2 is attributed due to the fact that the activities are related should be implemented in a sequential manner. These activities complement GF support to enhance and strengthen the integrated health information system.
- **The challenges:**
  - o Using multiple currencies: Grant budget is USD, budget is received in EUR. The recommendation is to change grant currency (the budget) from USD to EUR to avoid discrepancies.
  - o Fluctuation in the exchange rate (EUR to SDG).
  - o Difficulties in aligning the fund with the country budgetary cycle. The grant cycle starts in May, while the national calendar year starts in January.

#### **The performance under the PBF:**

According to the PBF approach, Sudan is eligible for performance funding. Year one performance (2014) revealed that Sudan has sustained the DTP3 coverage above 90% (93%) and more than 90% of the localities achieved DTP3 coverage above 80%. A plan is being developed to utilize the additional 40% funding. This plan will address current gaps in health system bottlenecks to improve EPI outcomes.

#### **The financial managerial capacities:**

FMOH and UNDP has developed a capacity building plan that includes a component to strengthen the financial management. Financial manual has been developed and finance staff from PMU and implementing departments and states were trained. A new financial software to improve the accounting system is being developed as recommended by the National audit chamber 2014 report.

### **3.2.1 Strategic focus of HSS grant**

The strategic focus of the HSS grant is to achieve the UHC and strengthen the health system in the country in line with the national health sector strategic plan 2012-2016.

GAVI has contributed significantly in the area of equitable distribution of the health services by its contribution in the health mapping conduction and situation analysis to improve coverage of the health service including EPI. As a strategic direction of the country GAVI HSS grant is also supporting the PHC expansion project vertically and horizontally by providing support for the basic and supplementary training programmes of the medical assistants, community health workers, vaccinators, nutritionists and other health cadres and constructing and rehabilitating health facilities where needed based on the health mapping results.

The Integration that has been adopted is also one of the main areas that are being supported by GAVI to achieve the efficiency and sustainability of the health services by producing a multi-task health care providers.

A complementarity approach has been adopted in the planning and implementation of the different HSS grant (GF with total amount of 21 million USD and EU 11 million EUR) to avoid overlapping and to ensure the efficiency and effectiveness.

Equity is one of the major strategic directions considered during the design and implementation of the support program. This is reflected in the focus of reducing inequality and improving service



delivery in disadvantaged States on which contribution of GAVI HSS in the development of PHC Universal Health Coverage plan was a major strategic investment; it is clear in the production of HRH took into account the issues of equity in the implementation. Overall, there is an investment to rehabilitate and establish new health facilities in the targeted states, which will help to create access for those that do not have the chance to do so before.

### 3.2.2 Request for a new tranche, no-cost extension, re-allocation or reprogramming of HSS funding / Future HSS application plans

As per 2014 APR some activities will be reprogrammed to the second year for the purpose of achieving better results as the following:

- 1- Planned activity 1.12 (Provide essential equipment for existing PHC facilities that are not providing the full PHC package with focus on immunization: for (3) FHCs and (3) FHUs annually in the six target states) to be reprogrammed as (Rehabilitate and construct health facilities according to standards in the six targeted states) because of that the provision of the equipment for the HF is being tackled by the government under the PHC expansion project aiming at UHC.
- 2- *Second tranche of funding was approved by the IRC in 2014.*

### 3.3 Graduation plan implementation (if relevant)

**NOT APPLICABLE**

### 3.4 Financial management of all cash grants

The overall management of GAVI HSS funds is the responsibility of the Sudan Federal Ministry of Health (FMOH), which carried out in accordance with government guidelines and procedures, laid down by the Ministry of Finance and National Economy. Gavi secretariat conducted FMA in 2012. The FMA deemed the fiduciary arrangements put in place by the FMOH/Government of Sudan for the management of GAVI cash support programmes to be reasonably adequate.

Oversight of the GAVI HSS grant is the responsibility of the National Health Sector Coordination Committee/CCM Sub-Committee (NHSCC/ CCM Sub-Committee). This Committee is chaired by Undersecretary of the FMOH and includes representatives from the Federal Ministry of Health, Ministry of Finance, Ministry of Interior, development partners such as UNDP, UNICEF, WHO, Rotary and Non-Governmental Organizations (NGOs) working in health.

Annual planning and budgeting is the responsibility of the relevant FMOH directorates implementing activities. This process is aligned with national planning and budgeting processes. The plans are reviewed and endorsed by NHSCC/CCM Sub-Committee.

Regarding budget execution a bank account (Euro and SDG) was opened at Blue Nile El Meshreg Bank which is maintained by the International Health Directorate to receive GAVI payments as well as to pay for programme expenditures eligible for GAVI programme financing. Joint signatories to this bank account are GAVI/GFATM PMU Manager and the HSS Finance Manager.

Internal audit is performed for all transactions (pre and post) internal auditors report to FMOH undersecretary and MOF. Annual audit is conducted by National Audit Chamber. 2014 audit report has been submitted to GAVI.

Being a signatory for the IHP+, the country is planning to conduct a joint financial assessment of GAVI/GF using IHP+ tool and will be facilitated by the WB.

### 3.5 Recommended actions

	Actions	Responsibility	Timeline	Potential financial resources needed and source(s) of funding
<b>Programme Management, Service Delivery</b>				
1	Development of cMYP 2017-2020	WHO/UNICEF	Q1, 2016	PEF
2	Strengthening human resource capacity in RI at all levels (cascade MLM , vaccine management and basic and refresher training on EPI and communication skill)	WHO (RO&CO)	Q4, 2015 – Q4 2016	HSS2 & PEF
3	Increase fixed EPI centres for sustainable service delivery and upgrade those not yet providing immunization	MoH	2016	Government, HSS2 & Performance funding HSS2
4	Ensure that specific strategies for hard to reach and unsecured areas and other marginalized populations are updated and included in micro plans	WHO/UNICEF	2016	GoS/WHO/UNICEF/EPI
5	Strengthen NITAG & ICC	FMOH/WHO/UNICEF	2016	PEF
6	Quarterly EPI review and implementation of annual plan of action	FMOH/WHO RO/CO	2016	PEF
7	Comprehensive EPI review	FMOH/WHO/UNICEF	2016	PEF
<b>Vaccine and Supply Chain Management</b>				
1	Ensure implementation of 2013 EVM improvement plan recommendations.	FMOH/UNICEF/WHO	2016	WHO, UNICEF & HSS2 & HSS 2 PB
2	Conduct EVM assessment Q3 2016	FMOH/UNICEF/WHO	2016	HSS2
3	Conduct physical inspection for Cold Chain Equipment Management (CCEM).	UNICEF/FMOH	2016	BP/PEF
4	Upgrade the cold chain capacity at central, states and localities to accommodate SIAs (Measles, Yellow fever, Follow-up MenA,..) and NVI (MenA , MR YF)	UNICEF/FMOH	2016	PEF/UNICEF/Gavi VIG /Gavi HSS2
<b>New vaccines introduction:</b>				
1	Development of GAVI application (YF &MR)	WHO/UNICEF	2016	PEF
<b>Surveillance and Data Quality</b>				
1	Complete EPI coverage evaluation survey by localities using WHO methodology and addressing equity by the end of 2015 and at regular intervals thereafter.	FMOH/WHO	2015	HSS2/UNICEF/WHO/HS S2PB/op-cost grant
2	Conducting data quality assessment as part of Comprehensive EPI review	FMOH/WHO	2016	PEF

	<b>Actions</b>	<b>Responsibility</b>	<b>Timeline</b>	<b>Potential financial resources needed and source(s) of funding</b>
3	Review the population denominator data at operational level , making use of polio data and results of the coverage evaluation survey	FMOH/WHO	2016	PEF/SFA
4	Strengthening IBDs and rota virus case based surveillance and expand the sentinel sites.	FMOH/WHO	2016	PEF
5	Continue intussusception surveillance study	FMOH/WHO	2016	WHO
6	Continue Measles rubella surveillance	FMOH/WHO	2016	WHO
7	Continue CRS surveillance	FMOH/WHO	2016	PEF
<b>Demand Generation, Advocacy, Communication and Social Mobilization</b>				
1	Perform advocacy with political leadership/parliamentarians to increase government contribution to immunization and prepare for graduation and traditional vaccines Co-financing.	GoS/WHO/UNICEF/Gavi Secretariat	2016	GoS/UNICEF/WHO/Gavi Secretariat
2	Conduct barrier to immunization study in the different low coverage localities.	WHO/UNICEF	2016	UNICEF/WHO/PEF
3	Develop and finalize comprehensive context-specific state communication strategies and initiate implementation of communication plans	WHO/UNICEF	2016	UNICEF/PEF
<b>Health system strengthening</b>				
1	Enhance support for the sub-national level to strengthen the decentralized system (TAs and establishment of the zonal support units).	WHO	2016	HSS2 /PEF
2	Provide support and develop operational guidelines for the integrated approach at the state and locality levels.	WHO/UNICEF	2016	HSS2/PEF/HSS2 Performance funding
3	More focus to improve the coordination between HSS, EPI and other stakeholders (framework for regular bottleneck analysis).	FMOH/WHO/UNICEF	2015/2016	PEF
4	Implementation of the Health Financing Policy and development of the health financing strategy.	GoS/WB	2016	BP/PEF
5	Development of the HR retention strategy.	GoS/WHO	2016	HSS2/PEF
6	Strengthening financial management (joint financial management assessment WB other partners)	GoS/WB	2016	BP/PEF

#### 4.0 TECHNICAL ASSISTANCE

WHO and UNICEF being the technical partners, have been delivering the technical support during the implementation of GAVI grants across various areas of health systems. past focus of the technical support was across the areas of programme planning, capacity building, procurement of vaccines, surveillance; vaccine logistics and supply chain management; development of policies, SOPs; guidelines, Supplementary Immunization Activities (SIA), New Vaccine introductions, addressing inequities in immunization, evidence generation (surveys, evaluations, reviews) and advocacy, communication and social mobilization. USAID supported the immunization programme in the area of cold chain upgrading

Various areas of technical assistance were identified during the consultation process of the joint appraisal. The main areas identified for future technical support were ; trainings and capacity building of health workers o the different components of EPI in order to address the rapid turnover of the EPI staff, (including, mid-level managers training, trainings on surveillance and M&E, Trainings on data reporting, data analysis and use of data for action, monitoring and supportive supervision), updating the cMYP for the period 2017-2020, conducting EVM assessment, improving vaccine management and cold chain capacity, conducting barrier to immunization study, especially in the low coverage and hard to reach localities as well as development and implementation of communication and social mobilization strategy for boosting the strength of routine immunization system.

#### 4.1 Current areas of activities and agency responsibilities

Sudan received technical assistance across the immunization and Health system strengthening programme from the following technical partners WHO, UNICEF, USAID (through UNICEF)

##### **WHO:**

WHO on the whole provided technical support along with the operational supports for the implementation Yellow Fever and Meningococcal SIA, effective vaccine management and VPDs surveillance in the following areas:

- Supported introduction of new vaccines in routine and campaigns, including, IPV introduction in routine immunization, implementation of first phase of yellow fever campaign through,
  - Development of application.
  - Development and printing of SoPs, guidelines, training curriculums for health workers on new vaccines.
  - Revision, printing and distribution of EPI recording and reporting tools for inclusion of new vaccines.
  - Training of health workers and service providers for the new vaccines.
  - District readiness assessment for introduction of new vaccines.
  - Post introduction evaluation for new vaccines.
  - Post campaigns coverage surveys.
- Conducted EVM Assessment in late 2013 and developed of EVM Improvement plans and follow up on implementation of the improvement plan through 2015.
- Upgrading the cold chain, including; building of cold rooms at the central store and Kassala store, replacement of electricity distributor at the central store Provision of ice liner refrigerators, Installation and training on VSSM.
- Provided continuous technical support for strengthening case based measles/rubella surveillance
- Provided technical, HR, logistics and financial support for National Measles Laboratory, and sentinel surveillance for IBD and Rotavirus diseases surveillance in four sites and the national reference lab.
- Establishing CRS surveillance system, in collaboration with CDC.
- Provided operational and technical support for conducting Measles outbreak response SIAs, including advocacy for resource mobilization and application of MRI proposal.

- Supported activities related to objective 2 of Polio End Game Strategy.
- HR support to the Federal EPI through recruiting technical officers on Surveillance, M&E, Measles SIA, Cold chain and logistics, Communication and Social mobilization, Donor relations, Data, IT, Finance along with necessary support staff. Total 20 HR was recruited through WHO as SSA to provide support to Fed EPI.
- HR support at the Federal & state levels for strengthening EPI.

**UNICEF:**

UNICEF provided technical and operational support to the EPI programme, the main areas of provided support as follow:

1. Mobilize resources from OFDA, Japan Supplementary Funds, CHF, CEREF and UNICEF committees to support provision of equitable immunization services.
2. Financing and Procurement of traditional EPI vaccines (BCG, OPV, Measles and TT).
3. Upgrading the cold chain capacity at all levels through procurement of cold rooms, vaccine refrigerators, freezers, Ice pack freezers, cold boxes, vaccine carriers, temperature monitoring devices, pack-up generators, solar Batteries and spare parts.
4. Support the monitoring, evaluation and outreach delivery through provision of motorbikes and bicycles to all states.
5. Provide procurement services for the government to cold chain equipment from Gavi-HSS support and syringes for routine activity.
6. Supporting delivery of immunization services in security compromised areas in Darfur states through accelerated routine immunization activities and poor performing localities and cold chain rehabilitation
7. Supported government emergency response to South Sudanese refugees influx through provision vaccines, cold chain equipment and operational cost
8. Supported managerial capacity, monitoring and evaluations of routine and supplementary immunization services through support to review meetings and filed monitoring visits at different levels.
9. Supported implementation of routine social mobilization and demand creation in low performing localities
10. Supported capacity building of EPI staff at all levels through financial and technical support for cold chain technicians training and refresher training for of vaccinators
11. Provided financial and technical support for social mobilization activities during Polio SIAs.
12. Provided operational and technical support for conducting measles outbreak response including advocacy for fund raising, proposal development, procurement of vaccines, updating guidelines of standard measles case management, distribution of emergency drug and vitamin A stock to the states.
13. Supported introduction of new vaccines (IPV in routine immunization and Yellow fever preventive campaign) through:
  - Development of application
  - Development of SoPs, guidelines, training curriculums for health workers on new vaccines
  - Revision, of EPI recording and reporting tools for inclusion of new vaccines
  - Implementation of community acceptance of multiple injection study as baseline line social mobilization plan for IPV introduction.
  - Development of social mobilization plan
  - assessment of cold chain capacity and need identification
  - cold chain capacity upgrading
  - Monitoring of campaign implementation
14. Provision of technical support to the Ministry of Health for the development of Gavi-HSS cash support proposal
15. Active Participation in the development of Joint Appraisal  
Continued active involvement in the advocacy, development and updating gap-areas micro plan for polio vaccination and vitamin A supplementations

### 4.1 Future needs

	TA need	Justification	Intended outcome	Possible modalities i.e. staffing requirement, duration estimated cost etc.	Funding source leveraged	Possible provider
1	Technical assistance to conduct extensive functional analysis of existing planning system at all level (locality, state & federal) to identify gaps and develop planning system with clear roles, responsibilities, activities, timelines and level of stakeholders engagement.	The current planning system is fragmented. To address this issue, FMoH has adopted the 'one plan, one budget, one report' concept and has carried out a piloting in the Eastern States in 2015. In 2016, the FMoH intends to have one health sector plan that brings together all health partners.	Strengthen planning, management and accountability of the decentralized Health System through the development of one plan one budget one report.	Consultant \$35,000	HSS2	WHO
2	Technical assistance in strategic planning and operational planning for planning manager at federal and states level	Annual plans of states are collected and compiled at federal level yet each state has its own planning process.	Strengthen planning, management and accountability of the Decentralized Health System	Fellowship \$40,000	PEF	WHO/UNICEF
3	Direct technical assistance with a [program with recognized experience in health sector strategic and operational planning using One Plan, One Budget, One Report approach	Support study tour to get hands-on-experience in country with recognized experience in health sector strategic and operational planning using One Plan, One Budget, One Report approach	Increased understanding of the benefits of one plan, one budget and one report to support alignment and management of donor support	Study tour \$20,000	HSS 2	WHO
4	Technical assistance to conduct Joint Annual Review	Conduct Joint Assessment Review (JAR) to monitor progress and identify bottlenecks in health system at different levels.	Comprehensive JAR report	Consultant \$30,000	PEF	IHP+



5	Technical Assistance to conduct Joint Assessment of the National Health Sector Strategy 2017-2021 (JANS)	Alignment of partners' support with Sudan's NHSSP and related plans and M&E activities is enhanced. Harmonization of partners' arrangements and procedures is strengthened	To ensure national ownership, enhance and improve the quality of the National health strategy that will facilitate resource mobilization and reduce the transaction cost for the country in dealing with multiple partner's assessments, projects and funding streams.	\$50,000 High priority	<b>Align with other activities e.g. JA mission</b>	IHP+
6	Technical assistance to conduct Joint Financial Assess (World Bank)	Sudan health compact stated clearly that "External funding comes to Sudan through many modalities, including multiple forms of humanitarian aid and development projects.	Government of Sudan's Public Financial Management systems are strengthened. Development partners' financial arrangements are harmonized.	\$50,000 High Priority	<b>\$25,000 plus partners contribution</b>	IHP+ partners WHO/WB/UNI CEF
7	Technical assistance to conduct thorough analysis of the implementation of the Health Compact and develop aid effectiveness strategy that defines clear coordination mechanism between all stakeholders and suggest the most appropriate funding modality for the context of the country	The objectives of the Compact reflect the scope of the Paris Declaration and subsequent international agreements by focusing on ownership, alignment, harmonization, management for results and mutual accountability and focuses mainly on enhancing the alignment and harmonization among partners to improve health related outcomes. Evaluating the performance of this compact is crucial in identifying barriers and bottlenecks and will facilitate setting strategies and action plan to achieve its targets.	Evaluation of the health compact signed in 2014.	International/national consultant \$35,000	<b>PEF</b>	IHP+

8	Technical assistance to update guidelines for the planning supportive supervision	With the expansion of the PHC program updated guidelines to plan supportive supervision are required	Updated supportive supervision guidelines	International/National consultant Estimated cost \$35,000	PEF	WHO
9	Technical assistance to support the strengthening of the unified supply system (EPI dry stores)	Government and GF are investing in strengthening and improving the supply system, warehouses have been constructed in different localities to support the unified supply system. EPI is using its own vertical supply system with challenges in the cold chain storage capacities.	Update/revise the unified storages system to incorporate the EPI dry stores	National consultant  To link with SCM High priority \$35,000		UNICEF
10	Technical assistance to conduct capacity need assessment for CSOs using the mapping results and develop capacity building plan with clear targets and timelines.	The FMOH is considering working with CSOs and NGOs as part of its efforts to expand access to PHC services particularly, in hard to reach areas where these partners have comparative advantage of being present in the community	To ensure meaningful engagement of CSOs in the health sector in order to expand access to PHC services particularly in hard to reach areas.	National consultant  \$15,000	PEF	WHO
11	Technical assistance to develop community mobilization strategy for CSOs to address issues like demand creation and sustainability min hard to reach or security compromised areas	To strengthen the CSO's capacity in community mobilization in hard to reach and insecure areas	Community mobilization strategy for CSO's	Consultant \$15,000	PEF	UNICEF
12	Support the FMOH in planning and M&E	To enhance the M&E capacity at Federal and state level of the Health system strengthening program.	To proper monitoring and evaluation of Gavi's HSS support to Sudan (HSS2)	Staff recruitment WHO NOD \$110,000 High Priority	PEF	WHO

13	TA to conduct comprehensive EPI program review and development of cMYP 2017-2020	The last comprehensive EPI review was conducted in 2013, the next scheduled review planned for 2016. The exercise required external reviewers from RO and country level to complete the exercise. The EPI programme has suffered from continuous staff turnover. Hence the need for dedicated and qualified staff to lead the process of developing cMYP in 2016	strengthening the provision of equitable and sustainable immunization services	STC, RO/CO staff visit High priority \$55,000	PEF	WHO/UNICEF
14	Technical assistance to support the Federal and State EPI program surveillance, development of micro plans and ensuring quality EPI reviews	Supporting and strengthening measles/rubella case based laboratory surveillance Supporting CRS surveillance and using data for advocacy on Rubella vaccine introduction Development of Locality micro plans. Quarterly EPI reviews and implementation of annual plans of action	Strengthened surveillance system. Strengthened micro plans at locality level and ensure qualitative EPI review and follow up of annual plans	1 NOD EPI Program \$110,000 High Priority	PEF	WHO
15	TA to strengthening human resource capacity in RI at all levels (cascade MLM, vaccine management and basic and refresher training on EPI and communication skill)	During the last five years, the programme had lost most of its experienced staff at med-level management mainly at locality level, meanwhile the reference persons	Strengthened human resource capacity in RI at all levels (	WHO RO staff High priority \$5, 500	PEF	WHO
16	TA to conduct a barriers to immunization studies in the low coverage localities	No barriers study has been conducted to inform the planning for social mobilization and demand creation activities in the low performing localities, thus there is a critical needs to conduct immunization barriers study	Report on barriers to immunization	STC, RO/CO staff visit High priority \$40, 000	PEF	WHO/UNICEF

17	TA to ensure that specific strategies for hard to reach and unsecured areas and other marginalized populations are included in micro plans	Equity is one of the critical areas EPI should address, clear mapping for underserved and hard-to-reach population is critical for their inclusion in the routine immunization programme	Specific strategies for hard to reach and unsecured areas and other marginalized populations are included in micro plans	WHO/UNICEF CO		WHO/UNICEF
18	Technical assistance to support demand creation and social mobilization and partnership building with CSO's Follow up on EVM IP and conducting EVM assessment	Strengthen the existing Health Education and Promotion capacity at the federal and state level with the objective of improving immunization outcomes. Partnerships with new and existing CSOs in immunization, especially those that work in hard-to-reach areas Follow up on 2013 EVM IP With support of WHO EVMA to be held in 2016.	Development of a social mobilization strategy. Establishment of new partnership with CSOs'. Implementation of EVM IP 2013. EVM assessment 2016 to assess the improvement and inform future improvement plan	1 NOD \$110,000 High Priority	PEF	UNICEF
19	Conduct a survey for development/updating the cold chain inventory at all levels based on physical inspection	The last physical inventory has been conducted in 2008, there is frequent breakage of cold chain equipment and no availability of spare parts in the local market. EPI needs to implement the physical inventory to develop maintenance and replacement plan and to develop electronic monitoring system for cold chain management	Updated cold chain inventory	\$30,000 HSS2 Performance funding	PEF/BP 2015	UNICEF
20	Development of application for MR and MR campaign	EPI requested technical support from WHO and UNICEF to assist in the development of MR proposal.	MR proposal developed	\$15, 000 only travel	PEF	WHO

21	TA to improve population denominator data at operational level , making use of polio data and results of the coverage evaluation survey	The uncertainty about denominators affects all planning and implementation of EPI activities. EPI keep asking for TA	Agreement in the population denominator to locality level	\$ 40,000 High priority	PEF	WHO
22	TA to Strengthen Meningitis case based surveillance	This activity was funded under the BP in the past and requires continuation of support	Strengthened Meningitis case based surveillance	High priority \$7, 500	PEF	WHO
23	TA to continue supporting and strengthening case based sentinel surveillance of rotavirus gastroenteritis	This activity was funded under BP and requires continuation of support.	Continuation of support to strengthen case based sentinel surveillance of rotavirus gastroenteritis	\$ 7,500 High priority	PEF	WHO
24	TA to study the impact of PCV and Rota after introduction in routine	Rota coverage still not reached the targets, EPI wants to conduct study to detect underlying causes for the suboptimal coverage and to plan to improve Rota and PCV coverage.	Report on impact of PCV and Rota post introduction in routine	\$ 35, 000 High priority	PEF	WHO
25	TA to develop and finalize comprehensive context-specific state communication strategies and initiate implementation of communication plans	Demand creation is the weakest component of the EPI program, state specific communication strategies are required to strengthen demand creation	State specific communication strategies and initiate implementation of communication plans	\$ 40, 000 High priority	PEF	UNICEF

[Comment on all bolded areas listed in the table in this section of the guidance document]

**5.0 ENDORSEMENT BY ICC, HSCC OR EQUIVALENT & ADDITIONAL COMMENTS**

(MAX. 1 PAGE)

Brief description of how the joint appraisal was endorsed by the relevant national coordination mechanism:
Issues raised during debrief of joint appraisal findings to national coordination mechanism:
Any additional comments from <ul style="list-style-type: none"> <li>• Ministry of Health:</li> <li>• Partners:</li> <li>• Gavi Senior Country Manager:</li> </ul>

**6.0 ANNEXES**

[Please include the following Annexes when submitting the report, and any others as necessary]

- **Annex A. Key data** (this will be provided by the Gavi Secretariat)
- **Annex B. Status of implementation of the key actions from the last joint appraisal and any additional High Level Review Panel (HLRP) recommendations**

Key actions from the last appraisal or additional HLRP recommendations	Current status of implementation
To undertake final evaluation of HSS 1 and ensure the findings and recommendations are incorporated through reprogramming in the approved HSS2 grant.	The evaluation assignment has been undertaken and the first draft of the evaluation reports has been shared with all GAVI partners and stakeholders and also discussed in the HSCCM during the JA mission (28 <sup>th</sup> August 2015). The comments are being collected for the finalization and endorsement of the report.
The country to take action to finalize and implement the 2014 EVM improvement plan recommendations.	Ongoing
The country to ensure robust reporting systems and data quality.	To strengthen the reporting system and data quality the country has adopted a reform to strengthen the HIS in different aspects and components including integrated HMIS, strengthening community based HIS as well as adopting DHIS 2 that is being implemented with different support from GF, GAVI and EU.
The country to ensure more active involvement of CSOs at all levels.	A network for the CSOs has been formulated and established to ensure their participation as well as the different support that is being



	provided to build their capacities and strengthen the coordination at all level.
Adjustment of Rota targets for 2015 based on stock as of 31 <sup>st</sup> December 2013, 2014 achievement, and 2014 shipment plan (VIPA methodology).	Ongoing.
Country should allocating budget for traditional routine vaccine procurement and progressively increase same	Advocacy ongoing.
The following action points from the financial assessment are recommended to be undertaken in 2014 and 2015 <b>a)</b> update the cMYP reflecting results of the analysis of financial sustainability and consultations with key stakeholders:	Delayed until the development of the next cMYP in 2016.
Develop several scenarios based on pessimistic macroeconomic projections	Not undertaken.
Run consultations with a broad range of stakeholders and partners on the financial sustainability and <b>b)</b> in 2015: Advocate for having a line item in the national budget for traditional vaccines	National Health Finance Policy has been developed in collaboration with the World Bank and WHO. Health financing strategy is currently being developed.

- **Annex C. Description of joint appraisal process** (e.g. team composition, how information was gathered, how discussions were held)

- **Annex D. HSS grant overview**

General information on the HSS grant							
1.1 HSS grant approval date							
1.2 Date of reprogramming approved by IRC, if any							
1.3 Total grant amount (US\$)		<b>\$ 33,240,000 (33.2 million USD)</b>					
1.4 Grant duration		5 years					
1.5 Implementation year		May/2014 – April/2015					
(US\$ in million)	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
1.6 Grant approved as per Decision Letter		<b>3,144,806</b>	<b>3,228,143</b>	<b>3,313,689</b>	<b>3,401,503</b>	<b>3,106,974.70</b> <b>942,056.70</b>	<b>7,920,000.0</b>
1.7 Disbursement of tranches						<b>3,106,974.70</b>	<b>7,920,000.0</b>
1.8 Annual expenditure						<b>5,321,776</b>	<b>5,255,559.11</b>
1.9 Delays in implementation (yes/no), with reasons							
1.10 Previous HSS grants (duration and amount approved)		<i>2008-2012 with amount of .....</i>					

1.11 List HSS grant objectives

Objective 1. To improve sustainable and equitable access and utilization of quality Immunization as part of an Integrated Primary Health Care focusing on underserved and disadvantaged population.

Objective 2. To strengthen an integrated, comprehensive, efficient and sustainable Health Information System in support of an evidence-based policy and planning

Objective 3. To support production, equitable distribution and retention of a multi-tasked facility and community health workforce to meet immunization and PHC needs

Objective 4. To strengthen management and leadership capacity of the decentralized health system at state and locality levels for an effective and efficient implementation of an integrated PHC package including EPI services

1.12 Amount and scope of reprogramming (if relevant)

- **Annex E. Best practices (OPTIONAL)**