



**Government of Sierra Leone**  
**Ministry of Health and Sanitation**

**COMPREHENSIVE EPI MULTI-YEAR PLAN**  
**2012 – 2016**

**CHILD HEALTH/ EXPANDED PROGRAMME ON IMMUNIZATION**

**January 2014**

## EXECUTIVE SUMMARY

Sierra Leone is currently a developing country with relatively high infant and under fives morbidity and mortality rates (IMR and UFMR). The major causes of childhood morbidity and mortality include Malaria, Acute Respiratory Infections, Diarrhoea, newborn conditions and Malnutrition.

As the country continues to make relentless efforts to leap out of the era with the worst set of health indicators, available statistics reveals that Vaccine Preventable Diseases (VPDs) alone constitute over 30% of the causes of death among children under the age of five years (National Disease Surveillance Data 2008).

The present resolve of the health sector is to identify, adopt and implement high impact, evidence based and cost effective intervention to curb these ugly statistics. Immunisation has been identified as one of the best health investments relevant to the achievement of the MDGs 4 and 5 as well as the sustenance of socio-economic development of the country

The international community recognizes that immunization is a global public good in that it provides overarching health benefits and positive externalities. Immunisation services are essential for meaningful social and economic development. However, the benefits of immunisation can only be realised when high coverage is achieved and maintained. This in turn depends on the attainment of Sustainable Immunisation Financing (SIF) through synergy among the partnership of relevant stakeholders.

The Expanded Programme on immunisation (EPI) in Sierra Leone was initially started on a small scale in the 1960s with the goal of reducing the huge burden exerted by childhood killer diseases. Subsequently, the EPI has evolved over the years amidst the challenges of contemporary times.

The programme attained Universal Child Immunisation (UCI) in 1990, with coverage of 75% for measles. This accomplishment underpins the fact that Sierra Leone can achieve greater coverage for various antigens if the appropriate programmatic ingredients are available.

Unfortunately, the gains of the past were gruesomely reversed during the decade long civil war, which ruthlessly disrupted social services and occasioned the massive displacement of populations into unusual settlements.

Owing to its cost effectiveness, immunisation is becoming increasingly more attractive as a compelling strategic intervention for the prevention and control of Vaccine Preventable Diseases (VPDs) in general. Moreover, it is now apparent that the rational selection and introduction of new and underused vaccines offers an excellent opportunity for countries to achieve the Millennium Development Goals (MDG 4 and 5).

There are growing prospects for the introduction of additional new vaccines into the routine immunisation programme. Yellow Fever vaccine was first introduced in the country in 1975 as a nationwide response campaign against an established outbreak at the time. Nevertheless, the vaccine has now been officially introduced routinely into the national Expanded Programme on Immunisation (EPI) since 2003. Subsequently, Sierra Leone has also successfully introduced the Pentavalent and Pneumococcal Vaccines in 2007 and 2010 respectively. Currently, the programme has seven (7) vaccines, targeting a range of ten (10) childhood killer diseases. In addition, the country will be presenting an application to GAVI for the introduction of Rotavirus vaccine in 2012.

Sierra Leone has a relatively high immunisation coverage (Penta3 87% in 2010 administrative) mainly due to increasing access, service utilization and improved programme management.

The introduction of the Free Health Care Initiative (FHCI) has practically removed the principal barrier of cost to accessing health care delivery services, including immunisation. With the introduction of the Free Health Care Initiative, the volume of services delivered to children, pregnant women and lactating mothers has further increased.

EPI is the tracer programme of any successful Primary Health Care (PHC) delivery system. EPI also serves as a convenient vehicle for the effective integration of other relevant programmes into the mainstream of PHC. A robust EPI programme will further reinforce the gains of the Free Health Care Initiative.

The National Immunisation Programme (NIP) in Sierra Leone will only fulfil the current expectations if it continues to attract and retain priority focus and adequate funding on a firm foundation of strategic planning.

In a bid to further provide guidance for the course of programme expansion, improve programme performance and increase access to quality immunisation services in Sierra Leone, the Child Health/EPI programme in collaboration with partners has revised and updated the original version of the Comprehensive Multi Year Plan (cMYP). The current version covers the period 2012 – 2016.

The goal of the cMYP is to render the EPI programme more effective and efficient in contributing to the reduction of morbidity and mortality as well as the strengthening of the PHC delivery system.

The cMYP has been aligned with the National Health Sector Strategic Plan (NHSSP) of 2010-2015, which constitutes the overall road map to health service delivery in Sierra Leone. The document has been developed within the context of the Global Immunization Vision and Strategies (GIVS) and the premise of ensuring the constant availability of all ingredients relevant to the course of continuous immunisation service delivery. The plan aims to contribute towards the attainment of the Millennium Development Goals (MDG 4 & 5) and socio-economic development of Sierra Leone.

The process of updating the original cMYP has been guided by several assessment and observational reports, which include: A systematic situation analysis of various components of the programme, Effective Vaccine Management (EVM) assessment report, Cold chain assessment report, Data Quality Self-assessment (DQS) report and EPI coverage survey.

The above reports have documented several deficiencies in the areas of human resource for health, vaccine and cold chain management, waste management, communication and availability of EPI logistics. Waste management and communication have been particularly weak areas in immunisation service delivery over the years.

A comprehensive long term waste management plan has now been developed, in the light of an expanding EPI programme in Sierra Leone.

Sustainable Immunisation Financing (SIF) is a critical aspect of ensuring the constancy of immunisation service delivery. As the worldwide debate on increasing advocacy for SIF gains momentum, Sierra Leone is building on the foundation of the Financial Sustainability Plan (FSP) to launch an aggressive resource mobilisation advocacy.

It is worth mentioning that good infrastructural development and effective communication facilities will greatly enhance the delivery of immunisation services.

This updated version of the cMYP is expected to guide immunisation service delivery in Sierra Leone over the period 2012-2016. It has been formulated on the fundamental principles of human rights, equity, ownership and empowerment.

While the main hub of service delivery is through the fixed sites at the various PHUs, there is currently a high premium on strengthening outreach service delivery as a means of reaching every woman and every child with life saving interventions, irrespective of their socio-economic status or geographical location.

## **ACKNOWLEDGEMENTS**

The Ministry of Health and Sanitation recognizes the fact that a document of this nature would not have been completed without immense contribution from various stakeholders. We, therefore, wish to extend sincere gratitude to the following institutions for their support and participation in the development of this comprehensive multiyear plan (cMYP).

1. Global Alliance for Vaccines and Immunisation (GAVI)
2. World Health Organisation (WHO)
3. United Nations Children's Fund (UNICEF)
4. Inter Agency Coordinating Committee (ICC)

Several individuals have also made meaningful and painstaking contributions towards the accomplishment of this final product. They are unreservedly acknowledged.

This document will serve as reference for all stakeholders supporting EPI in Sierra Leone during the period 2012-2016.

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## ACRONYMS

AD	Auto Destruct
ADB	Africa Development Bank
AEFI	Adverse Effect Following Immunization
AFP	Acute Flaccid Paralysis
AIDS	Acquired Immunodeficiency Syndrome
BCG	Bacillus Calmette Guerine
CBO	Community Based Organization
CEDAW	Convention on the Elimination of Discrimination Against Women
CH	Child Health
CHC	Community Health Centre
CHP	Community Health Post
CMYP	Comprehensive Multi-Year Plan
CRC	Convention on the Right of the Child
DFID	Department for International Development, UK
DHMT	District Health Management Team
DHS	District Health Sister
DMO	District Medical Officer
DOO	District Operation Officer
DPT	Diphtheria Pertussis and Tetanus
DQS	Data Quality Self Assessment <sup>5</sup>
DVD-MT	District Vaccine Management Tool
EDCU	Endemic Disease Control Unit
EPI	Expanded Programme on Immunization
EU	European Union
EVM	Effective Vaccine Management
FBO	Faith Based Organization
FELTP	Field Epidemiology and laboratory Training Programme
FHCI	Free Health Care Initiative
FHCI	Free Health Care Initiative
FSP	Financial Sustainability Plan
GAVI	Global Alliance for Vaccines and Immunization
GDP	Growth Domestic Product
GIVS	Global Immunization Vision and Strategies
GNP	Gross National Product
HIPC	Heavily Indebted Poor Countries
HIV	Human Immunodeficiency Virus
HSS	Health System Strengthening
ICC	Inter-Agency Coordinating Committee
IDSR	Integrated Disease Surveillance and Response
IFMIS	Integrated Financial Management Information System
IGAP	Improved Governance and Accountability Pact
IMF	International Monetary Fund
IMNCI	Integrated Management of Newborn and Childhood Illnesses
LLIN	Long Lasting Insecticide Nets
MCHA	Maternal and Child Health Aides

MCHP	Maternal and Child Health Post
MCHW	Maternal and Child Health Week
MDG	Millennium Development Goal
MDRI	Multilateral Debt Relief Initiative
MICS	Multi-Indicator Cluster Survey
MLM	Mid Level Management
MNT	Maternal and Neonatal Tetanus
MRU	Mano River Union
MTEF	Medium Term Expenditure Framework
NCC	National Certification Committee
NEPAD	New Economic Partnership for African Development
NGO	Non- Governmental Organization
NPEC	National Polio Expert Committee
NUV	New and Underutilized Vaccines
NVS	New Vaccine Strategies
OPV	Oral Polio Vaccine
PCV	Pneumococcal Conjugate Vaccine
PEI	Polio Eradication Initiative
PETS	Public Expenditure Tracking Survey
PHC	Primary Health Care
PHL	Public Health Laboratory
PHU	Peripheral Health Unit
PIE	Post Introduction Evaluation
PRGF	Poverty Reduction Growth Facility
PRSP	Poverty Reduction Strategy Paper
RCH	Reproductive and Child Health
RED	Reach Every District
RI	Routine Immunization
SECHN	State Enrolled Community Health Nurse
SIA	Supplementary Immunization Activities
SMT	Stock Management Training
SWOT	Strengths, Weaknesses, Opportunities, Threats
TBA	Traditional Birth Attendants
TT	Tetanus Toxoid
UCI	Universal Child Immunization
UNICEF	United Nations International Children Educational Fund
VPD	Vaccine Preventable Diseases
WCBA	Women of Child Bearing Age
WHO	World Health Organization
YF	Yellow Fever

## **Rationale for Updating of the Comprehensive Multiyear Plan (cMYP)**

The first edition of the cMYP was written in 2006 to guide immunisation service delivery from 2007-2011. This period coincides with the immediate post war era in Sierra Leone.

The original version of the cMYP for Sierra Leone is a programmatic perspective that is reflective of contextual realities and priorities of the period 2007-2011. Since then several changes have occurred such as: introduction of new vaccines, technological advancement, political and socio-economic development.

The health care delivery system in Sierra Leone has continued to evolve in response to contemporary demands of its growing population. The country has introduced the Free Health Care Initiative for pregnant women, lactating mothers and children under the age of five years.

All of these changes have come with implicit demands for the EPI programme. With these demands are the challenges of achieving the MDGs 4 and 5 as well as contributing to the long term socio-economic development of the country.

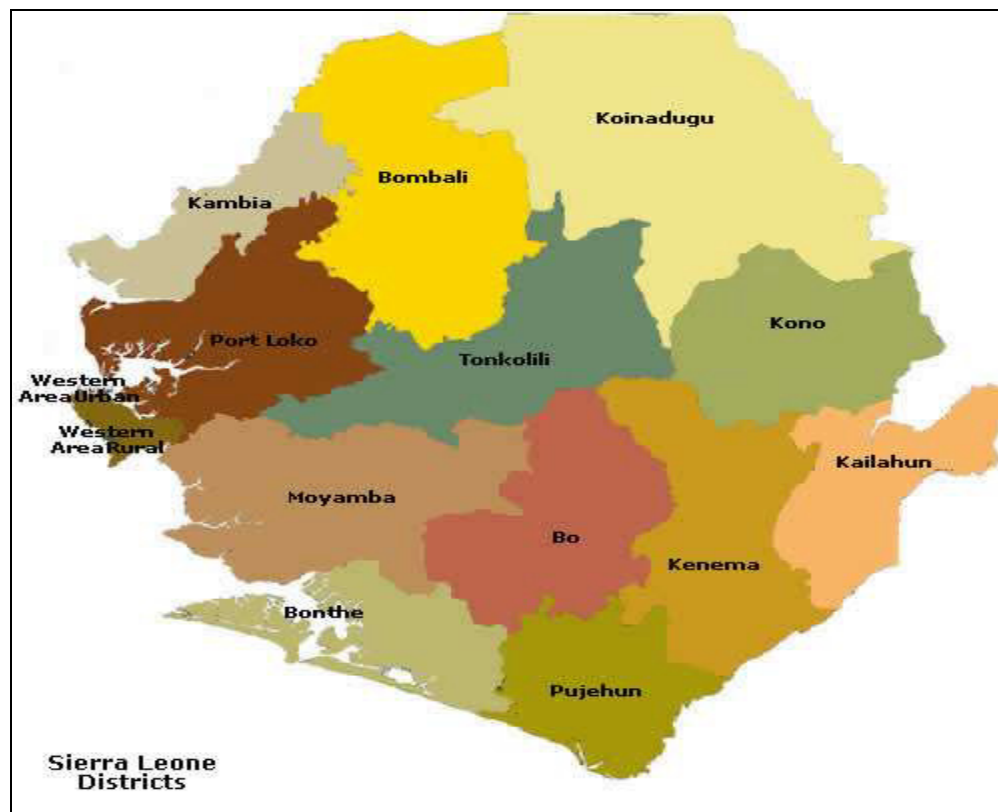
The rationale of the Comprehensive Multi Year Plan (cMYP) is to render the EPI programme more effective and efficient in contributing to the reduction of morbidity and mortality as well as the strengthening of the Primary Health Care (PHC) delivery system

## 1 BACKGROUND

### 1.1 Country Profile

Sierra Leone is located on the West Coast of Africa, between latitude 7-10° North and longitude 10 – 13° West. It is bounded by Guinea on the North and East, and Liberia on the South-East. The Atlantic Ocean forms a beautiful coastline to the South and West of the country. The country covers a land area of approximately 71,740 km<sup>2</sup>. It has a tropical climate with two distinct seasons: dry season which runs from November to April and a rainy season which runs from May to October.

Fig 1: Sierra Leone Districts



The country is administratively divided into four regions – three provinces (Eastern, Northern and Southern) and the Western Area. These are sub-divided into 13 districts, which are further divided into chiefdoms and wards.

With the recent devolution of services to local communities, the country has been divided into 19 local councils that have been further sub-divided into 392 wards. Each ward is headed by an elected councillor.

The country has a diverse range of topographical features. The landscape consists of coastal and regional mountainous areas, overlooking the explicit expanse of lowland areas, which are

punctuated by swamps. The country has seven (7) major rivers, which traverse its domain and flow into the Atlantic Ocean. In addition, there are numerous streams and ponds in all regions of the country. The waterways constitute important routes of transportation to and from *riverine* settlements and neighbouring countries.

The vegetation is mixed with belts of forest and grassland zones exchanging turns in an intricate fashion. There is extensive mangrove vegetation along *riverine* and costal areas.

## **1.2 Demography**

Sierra Leone has a total population of 6,348,350 inhabitants projected from the national census for 2014 with a growth rate of 2% (Statistics Sierra Leone census data 2004).

This population consists of predominantly young children under the age of 15 years, who constitute approximately 44.5% of the total population. Children under the age of 5 years account for 17.7% of the population, while the proportions attributable to Women of Childbearing Age (15-49) and children less than one year of age are estimated at 22.2% and 4% respectively.

There are about 18 distinct language groups, which is reflective of its diversity of cultural traditions.

**Settlement pattern:** The population of Sierra Leone resides predominantly in rural settlements (63% - census 2004). The surge of rapid urbanization in the post war era has been greeted by socio-cultural and socio-economic challenges. The capital city, Freetown, is very cosmopolitan. In general, settlement patterns vary from district to district based on topographical features and ethnic characteristics. For instance, fishing communities are normally located along coastal areas where as pastoralists are located in grassland vegetation belts.

## **1.3 Macro-economic Situation**

According to the African Economic Outlook report in 2012, the Sierra Leone economy driven by the mining sector (particularly iron ore), real gross domestic product (GDP) growth accelerated from 6% in 2011 to 16.7% in 2012 as a consequence of iron ore production. It has also been supported by agriculture, services and an expansion in construction. GDP growth is projected to stabilise around 7.2% in 2013 before reaching 12.1% in 2014 as iron ore projects become fully operational.

This robust economic growth has been accompanied by a tight monetary policy that has reduced inflationary pressures. As a result, inflation has dropped from 18.5% in 2011 to 11.6 % in 2012 and is projected to return to a single-digit 7.1% in 2013 and 6.9% in 2014 as agricultural production recovers and international food prices fall, aided of course, by the tight monetary policy. Indeed, the government implemented several reforms to contain inflation and has taken appropriate monetary policy measures. Policies to strengthen fiscal discipline in 2012 have helped to reduce the fiscal deficit from 4.5% of GDP in 2011 to 1.8% in 2012, and is projected around 2.3% in 2013, and 2% in 2014. The current account deficit as a percentage of GDP has also been reduced from 52.3% in 2011 to 44.0 % in 2012 as a consequence of an expansion in the minerals and cash crop exports. It is projected to shrink to 11.6% in 2013 but to slightly increase to 12 % in 2014.

The restrictive fiscal and monetary policies contributed to a reduction in the government expenditure and thus the domestic debt burden. This has been supported by strong reforms aiming at fighting corruption, improving the ease of doing business in Sierra Leone and reducing poverty. The Poverty Reduction Strategy Paper (PRSP) II is being succeeded by a new strategy called Agenda for Prosperity 2013-17, which aims to scale up inclusive green economic growth, employment and value addition in various sectors and to accelerating progress towards the Millennium Development Goals (MDGs).

Recent discoveries of iron ore mines and the expansion of the extractive sector in Sierra Leone have initiated a structural transformation of the economy with a shift of productivity from agriculture to mining and construction activities that are now the main driver of GDP. However, labour transfer to these sectors is still low due to the fact that extractive activities and construction are capital intensive. Under its new development strategy, Agenda for Prosperity 2013-17, the government plans to improve its management of natural resources and to enhance revenue collection.

#### ***1.4 Health Sector Status***

***Demographic and Health information:*** The country has poor health status due to high disease burden from mainly environmental related communicable diseases aggravated by poor nutrition. Malaria, Acute Respiratory Infection (ARI) and Diarrhoea are the top most causes of outpatient attendance. The nutritional status of the population is equally poor. The basic demographic health data, including vital statistics, are shown in Table 1 below. Remarkable improvement is expected in the years ahead as the country has moved into a development phase.

The Sierra Leone DHS (2008) estimates under-five and infant mortality rates at 140 and 89 per 1000 live births respectively. The immediate causes of childhood deaths are malaria, ARI, diarrhoea and conditions of the newborn such as asphyxia, prematurity and sepsis. Underlying these deaths is the problem of malnutrition. Malaria tops the disease burden chart (25%), closely followed by acute respiratory infections (20%) and diarrhoea (19%), while malnutrition is an underlying cause for 46% of childhood deaths (Child Health Policy 2007).

Evidently, a heavy burden of disease is still exerted by Vaccine Preventable Diseases (VPDs), thus making a significant contribution to the overall infant and child mortality rates.

Fortunately, potent and effective vaccines to avert these diseases are currently available. Sierra Leone has already introduced the Pneumococcal Conjugate Vaccine (PCV-13) in 2011 and will be introducing Rotavirus Vaccine in 2014, as an accelerated strategy to achieve the Millennium Development Goal 4.

**Table 1: Main demographic features and Health indices of Sierra Leone:**

<b>Indicator</b>	<b>Latest Estimated Value (See sources*)</b>
<b>Population: Total</b>	<b>6,348,350 (2014 projection)*</b>
<b>Population: under one</b>	<b>253,934 (4%)*</b>
<b>Population: under five years</b>	<b>1,123,658 (17.7%)*</b>
<b>Population: pregnant women</b>	<b>279,327 (4.4%)*</b>
<b>Population: Non-pregnant women</b>	<b>1,130,006 (17.8%)*</b>
<b>Average annual growth rate</b>	<b>2.0%*</b>
<b>Total fertility rate</b>	<b>6.2 birth/woman*</b>
<b>Infant mortality rate</b>	<b>89 /1,000 live births**</b>
<b>Under five mortality</b>	<b>140/1,000 live births**</b>
<b>Maternal mortality rate</b>	<b>857/100,000 live births**</b>
<b>Underweight prevalence in U5 children</b>	<b>31%***</b>
<b>Stunting prevalence U5 children</b>	<b>40%***</b>
<b>Wasting prevalence in U5 children</b>	<b>9%***</b>
<b>Vitamin A supplementation under five years</b>	<b>49%***</b>
<b>Malaria treatment in U5 children</b>	<b>83.5%****</b>
<b>LLINs usage by U5 children</b>	<b>69.2%****</b>
<b>LLINs usage by pregnant women</b>	<b>75.9%****</b>

Sources: \*Statistics Sierra Leone 2004, \*\*Demographic Health Survey 2008 \*\*\*Multi Indicator Cluster Survey 4 (2010) \*\*\*\*Malaria Indicator Survey (2010)

### 1.5 Health Sector Organization

Health sector administration is primarily the responsibility of the Ministry of Health and Sanitation at the Central level and supported by the District Health Management Teams in the districts.

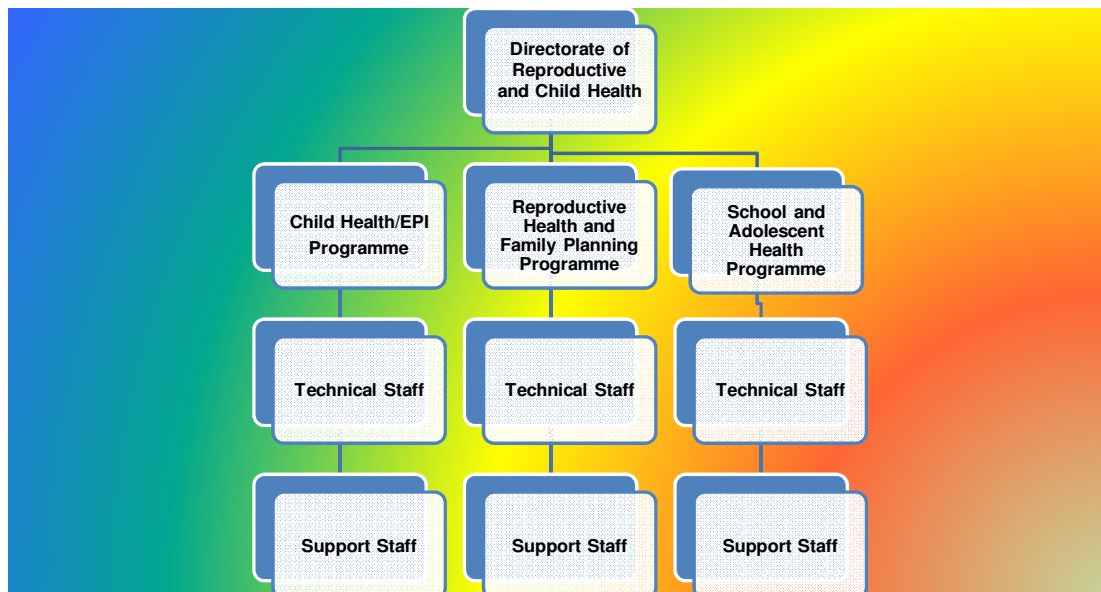
At central level, the Hon. Minister of Health and Sanitation is the overall political head of the Ministry, assisted by the Deputy Ministers.

At the national level, the Ministry of Health and Sanitation is divided into the Administrative and Technical wings. The Administrative wing is headed by the Permanent Secretary, whereas the Technical wing is headed by the Chief Medical Officer.

The Administrative wing deals essentially with national administrative matters in consultation with the Technical wing.

Under the Chief Medical Officer, there are 9 directorates, namely: Reproductive and Child Health (RCH), Primary Health Care, Planning, Policy and Information, Hospitals and Laboratory Services, Drugs and Medical Supplies, Disease Prevention and Control, Post Graduate and Research, Nursing Services and Nutrition are each headed by a Director. The Child Health/EPI programme is headed by a manager and is one of the three technical programmes constituting the RCH directorate as illustrated by the organogram below.

**Fig 2: Organogram for the Directorate of the Reproductive and Child Health Programme**





The Management Services which is the Administrative wing of the ministry has four units: Financial Resources, Internal Audit, Human Resources and Support Services. These are further sub-divided into smaller units overseen by managers.

The Directors and Managers under the Chief Medical Officer are responsible for the preparation and implementation of the central level technical and support programme activities.

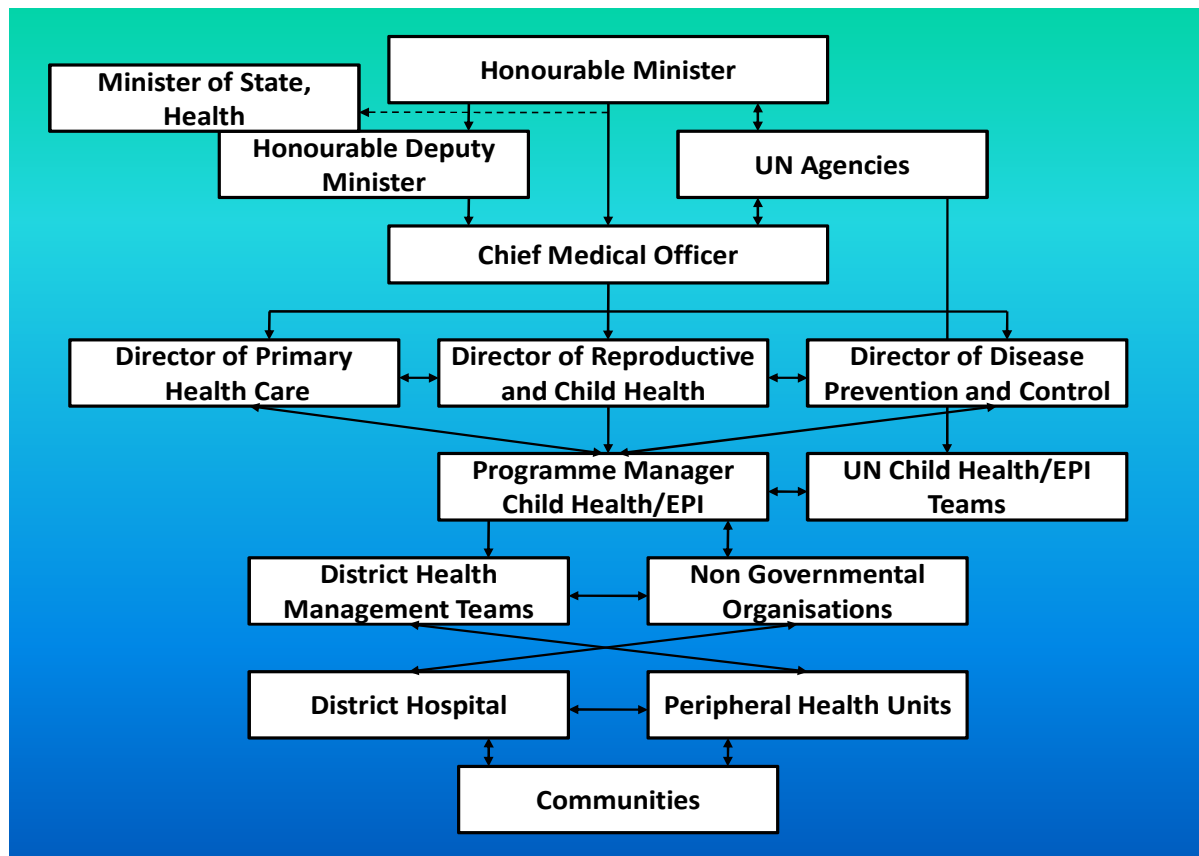
At the District Level the District Health Management Team (DHMT) coordinates, oversees and supervises all Public Health Care activities delivered through the Health Care Delivery system. The team is headed by the District Medical Officer (DMO) who reports to the Director of PHC and to the Programme Manager for Child Health/EPI activities at central level. Within each district, there are Peripheral Health Unit (PHU) and a Government District Hospital. The DHMT is responsible for managing the implementation of District Health Plans. With the decentralization of health service delivery, the Local Councils now provide funding and other forms of support for Public Health activities at district level.

There are three types of PHUs based on the size of catchment population they serve and location. The highest of them is the Community Health Centre (CHC). The Head of the CHC is the Community Health Officer, supported by Community Health Assistant, State Enrolled Community Health Nurses (SECHN), Maternal and Child Health Aides (MCHA), Vaccinators, Porters, Cleaners and Watchmen. PHUs are directly responsible to the District Health Management Teams. PHUs provide child health/EPI Services at community level. They are the outlets at which vaccines and other child health/EPI supplies are utilized.

### ***1.6 Programme Coordination***

Programme coordination occurs at all levels of the entire health care delivery system. With the high intensity of activities and level of resources (human and financial) required to undertake the Polio Eradication Initiative (PEI), and other EPI activities, coordination of partners became essential. It was against this background that the Government through MoHS and partners established the Inter-Agency Coordinating Committee (ICC) for EPI.

**Fig 3: Illustrative Diagram on Programme Coordination**



- The single arrows represent line management control.
- The double arrows indicate collaboration among partners and stakeholders as applicable.
- The dotted lines express doubt as to whether this will continue permanently.

In 2008, considering the importance of Maternal and Child survival in the achievement of MDGs 4&5, the government of Sierra Leone has expanded the ICC into an all encompassing ICC for RCH.

At the central level, there are well established mechanisms for programme coordination. These include:

**Health Sector Coordination Committee (HSCC):** The ICC is constituted by all major donor partners. This is the highest level of coordination for the Health Sector. The ultimate decision of health interventions are endorsed at this level. It is normally convened on a quarterly basis and is chaired by the Hon Minister of Health and Sanitation. This is also the level for serious resource mobilisation.

**Interagency Coordination Committee (ICC):** The ICC is constituted by all major stakeholders in health care delivery. At this level, technical and advisory discussions normally take place between the Minister, UN Agencies and Chief Medical Officer on a regular and ad hoc basis.

**Technical Coordination Committee for RCH:** RCH programme managers, counterparts from the UN agencies and NGOs active in RCH service delivery constitute the TCC/RCH.

**Technical Coordination Committee for CH/EPI:** The TCC-CH/EPI is constituted by the programme manager, technical programme staff and UN Child Health/EPI teams

The organogram above shows the level of line management control, coordination, collaboration and chain of communication involved in programme coordination. At national level the CH/ EPI Manager mainly reports to the Director of RCH. However, it is worth mentioning that the issues of Child Health/EPI transcend the borders of one Directorate. In the current set up of the MOHS, outbreak response is spear headed by the Directorate of Disease Prevention and Control. In the event of an outbreak due to VPDs, then the CH/EPI programme Manager collaborates with the Director of DPC to coordinate an appropriate outbreak response. Similarly, the programme manager may on occasions of district level interventions collaborate with the PHC Director.

At programme level, the programme Manager coordinates activities in collaboration with focal persons responsible for the three main components within the programme. The National MCH/Aide Training Coordinator, the IMNCI and EPI focal points implement all technical programmes. Furthermore, there are other staff members such the Monitoring and Evaluation officer, Finance/Administrator officers and support staff.

Also technical assistance is been provided by focal persons for CH/EPI from UNICEF and WHO which led to the formation of a Technical Coordinating Committee at programme level in collaboration with the Directorate of Disease Prevention and Control .

At the district level, health care delivery in generally coordinated by the DHMT headed by the DMO. The DHMT practically supervises all health facilities delivering immunization services within the jurisdiction of their geographical domains as well as existing non-governmental organizations providing CH/EPI services within the district.

At the health facility level, the in-charge coordinates the delivery of health care services. The in-charge at that level coordinates inputs and activities of all stakeholders towards the effective delivery of immunization services.

### ***1.7 Health Sector Reform***

The national health policy is based on the Primary Health Care concept. Following the implementation of several pilot primary health care initiatives, including the Bamako Initiative, a broad based health sector policy was developed in 1993 and revised in 2002. The policy has Primary Health Care as the main thrust, five (5) objectives, nine (9) key components and ten (10) priority areas.

The implementation of the policy is facilitated by technical policies, ten (10) of which, including immunization policy, have been completed and are in use.

These policies reflect adequately on the government's PRSP document, and international and regional initiatives such as the Millennium Development Goals, Roll Back Malaria, CRC, CEDAW, Cairo Declaration, the Beijing Platform of Action, and NEPAD health objectives.

Sierra Leone has now decentralised the health care delivery system to local councils in the respective districts. The main objective of decentralization was to improve efficiency, effectiveness and accessibility to quality health care delivery services,

This reform process aims at enhancing local control and utilization of health care services. Already all PHU services have been decentralized and hospital services were decentralized in 2008.

The introduction of the Free Health Care Initiative (FHCI) has practically removed the principal barrier of cost to accessing health care delivery services, including immunisation. With the introduction of the Free Health Care Initiative the volume of services delivered to children, pregnant women and lactating mothers has further increased.

### ***1.8 Health Sector Financing***

Financial support for public health services comes from four principal sources:

- Funds allocated from the general revenue in government recurrent and development budget.
- Cost-recovery on drugs
- External/Donor assistance
- Heavily Indebted Poor Countries (HIPC) funds

In the early 1980's, Sierra Leone health expenditure was 2.5% of GNP, compared to other developing countries where spending was 7% of GNP. In 1991/92 the budgetary allocation was 4.3% of the overall national budget and only 0.4% of GNP. In 1995, total recurrent expenditure in the health sector went up to 9.8%. In 1999 the total government recurrent expenditure in health increased to 10.8%. At the Abuja meeting of Africa Heads of government in 2002, it was agreed that health budget should be at least 15% of the total government annual budget.

Total Government expenditure on EPI for the year 2002 was Le 1,535,380,000, which is equivalent to 0.24% of the annual total government budget expenditure for the health sector. Subsequently, the health expenditure has been 8.3% for 2003, 4.8% and 6.12% for 2004 and 2005 respectively.

Expenditure trends for the period 2006 – 2011 is summarized in table 3 below

Table 2: Annual Government Expenditure on EPI

<b>Year</b>	<b>Amount</b>	<b>Comments</b>
2006	1,848,692,524	Excluding salaries and infrastructure
2007	2,128,900,000	Excluding salaries and infrastructure
2008	2,043,800,000	Excluding salaries and infrastructure
2009	2,440,857,970	Excluding salaries and infrastructure
2010	3,496,219,617	Excluding salaries and infrastructure
2011	3,369,800,000	Excluding salaries and infrastructure

### ***1.9 Health Financing Reforms***

Ministry of Health and Sanitation appreciates the importance and need for a stringent financial reform within the health sector, to ensure that what is allocated is accessed, and spent in an efficient, timely and cost-effective manner. Steps have also been taken at the central level to develop proper financial management, accounting and procurement systems. The creation of the Financial Management Team at the Ministry to monitor all resource allocation and expenditure is proof of the Ministry's commitment to managing its financial resources properly.

Funds are accessed from the Ministry through a budgetary work plan submitted by programmes and the districts. For the purpose of decentralization, funds are directly remitted to district accounts so as to decentralize programme decision-making and operations at district and

peripheral levels. Funds remitted to each programme or district should be liquidated fully and accompanied by a written financial and technical report on all activities conducted using the allocated funds.

The Sierra Leone Poverty Reduction Strategy is clear that redressing the inequities between Freetown and the rest of the country are central to the maintenance of peace. This perspective drives Government policy in many respects, notably through an increased focus on decentralization. Following election of local councils in 2004, the Government designed and implemented formula-based grants to local councils based on the principle of equity.

Local councils finance recurrent expenditures related to primary health, schools, solid waste management, and capital expenditures according to objective indicators of needs for services. Funds are directly disbursed to local council accounts, thus eliminating leakages that had been occurring between the central government and district levels. The transition to equalization grants and the direct transfer mechanism favour rural districts and hence improve the pro-poor orientation of public spending. Sierra Leone is also a Highly Indebted Poor Country Initiative beneficiary and is therefore obligated to use interim debt relief for increased spending on poverty reduction programs, including those in the health sector.

The Ministry of Finance allocates funds for the day-to-day functioning of the government. At the end of every fiscal year, Ministry of Finance and Economic Development (MOFED) requests budget estimates from all Ministries of Government for the following fiscal year. The estimates are tailored based on the ceiling available for each Ministry. After the annual allocation of funds to all Ministries, funds are then disbursed to programmes on a quarterly basis using the Medium Term Expenditure Framework (MTEF) forms designed by the Ministry of Finance. All funds remitted to programmes must be utilised and accounted for (liquidated) before any other allocation is made.

Funding for EPI specifically is borne mainly by donor agencies particularly GAVI, UNICEF and WHO which provides 80% of the total EPI operations budget in the form of procurement of vaccines, cold chain equipment, logistics, capacity building and technical support, Immunization Services Strengthening (ISS), Health Systems Strengthening (HSS) and other operations. GAVI has now closed the ISS window but there are in built mechanisms for continuing support.

The Ministry of Health and Sanitation provides the staff, structures and salaries for all child health/EPI workers; procures injection safety materials for immunization through UNICEF and co-finances new vaccines. At the district level, the Non-Governmental Organizations (MSF Belgium, Sierra Leone Red Cross, Christian Children's Fund, Save the Children, and World Vision) provide some assistance.

Through high level advocacy orchestrated by the good collaboration between the Child Health/EPI programme, Sabin Vaccine Institute and Parliamentary Committee on Health, there is presently an increasing government ownership and leadership of the immunisation programme. A budget line has been created for EPI and the Government of Sierra Leone remains committed to co-funding for new vaccines.

Sustainable Immunisation Financing (SIF) is a critical aspect of ensuring the constancy of immunisation service delivery. As the worldwide debate on increasing advocacy for SIF gains momentum, Sierra Leone is building on the foundation of the Financial Sustainability Plan (FSP) to launch an aggressive resource mobilisation advocacy.

### ***1.10 Poverty Reduction Strategy Paper and Mid Term Expenditure Framework (PRSP/MTEF)***

In response to the socio-economic and socio-cultural challenges mentioned above, the government of Sierra Leone has developed two strategic documents:

1. The Sierra Leone Poverty Reduction Strategy (PRS), which guides the government's efforts toward improving the current socio-economic situation. PRSP I reflected a move away from immediate post-conflict concerns and was constructed around three pillars: the first pillar focused on good governance, peace and security; the second on food security and job creation; and the third on growth and human development for the period 2005-2007. PRSP II reflects the agenda for infrastructural and sector wide improvements that could foster sustainable growth and development for the period 2008-2012. The document highlights the drivers of poverty and Identifies possible strategies in key sectors to enable and drive economic growth and development.
2. The Sierra Leone Vision 2025 is a long-term sustainable development plan. Sierra Leone Vision 2025 was published in 2003, and it provides a long-term framework for development planning and management.

The PRSP I (2005-2007) targeted an ambitious growth rate of 8-9 percent per annum (6-7 percent per-capita). This would be promoted by actions to be undertaken under the three pillars of the PRS: (i) Good Governance, Security and Peace Building; (ii) Pro-poor Sustainable Growth for Food Security and Job Creation; and (iii) Human Development. The PRSP indicates that the choice of pillars derived from number of factors, including the emergence of the country from civil conflict, the status of governance in the country, and the need to reinvest in the productive sectors to promote growth in support of the overarching commitment to reduce the high level of poverty in the country. Special attention was given to the topics of food security and employment.

#### **Progress and Achievements of PRSP I**

PRSP I was prepared through extensive consultations involving open dialogue between key stakeholders including Ministers, Parliamentarians, local authorities, non-state actors and development partners. Over the past few years, progress and achievements have been registered with respect to the objectives of PRSP I. An assessment of the achievements of each pillar follows below.

#### **Pillar 1: Promoting Good Governance, Peace and Stability**

***Public sector governance*** - Efforts to reform the public sector have not been very successful and the lack of a comprehensive civil service reform programme continues to pose a serious challenge to government, as the required capacity to implement, monitor and evaluate programmes is still lacking in line ministries. Management and functional reviews were undertaken for several Ministries, Departments and Agencies (MDAs), but the recommendations were not implemented. A Senior Executive Service Programme (SES) was also developed, but Government and development partners could not agree on an implementation strategy and therefore the funds required for implementation were not provided. On a more positive note, a 90-day review of the architecture of the Civil Service was conducted and preliminary efforts started to convert the Establishment Secretary Office (ESO) into a Human Resource Management Office (HRMO).

**Public financial management** - Public financial management has improved significantly over the years as the Medium Term Expenditure Framework (MTEF) budget process has been strengthened. All MDAs now prepare strategic plans that are aligned to the PRSP objectives. An Integrated Financial Management Information System (IFMIS) has been installed and implemented in key MDAs. Internal Audit

Units have been established in 14 MDAs. In the area of procurement, the National Public Procurement Authority (NPPA) secretariat is now fully operational with an Independent Review Panel and Procurement Units have been established in all procuring entities. The Public Expenditure Tracking Survey (PETS) and related public perception surveys are conducted regularly and plans of actions developed and recommendations implemented.

**Decentralisation** - In the area of decentralisation, implementation of the devolution plan is ongoing. 19 out of the 34 functions have been devolved to local councils and 14 out of the 19 elected councils have met the transparency and financial management accountability requirements. A Chiefdom Governance Act has been developed and approved by Parliament.

**The Anti-Corruption Agenda** - The fight against corruption also continues to be a key component in promoting transparency and accountability. Anti-corruption cases were fast-tracked through a fiat mechanism but the arrangement has been repealed. The National Anti Corruption Strategy (NACS) has been revised and is now being implemented.

**Peace and Security** - Consolidating peace is critical for Sierra Leone, and the Truth and Reconciliation Commission's (TRC) recommendations have been gradually implemented along with the Government's White Paper on the recommendations, while a Human Rights Commission has been established. Peace education programmes were implemented by the National Commission for Democracy (NCD). The National Election Commission (NEC) was strengthened and as a result was able to conduct peaceful and credible general and parliamentary elections in 2007. To facilitate the judicial reform process, a comprehensive and integrated Justice Sector Strategy (JSS) was developed and implemented. This strategy promotes capacity building initiatives that ensure that justice is delivered to the less fortunate and the vulnerable. In promoting security, the Police and Military were restructured and retrained to improve their efficiency. Security intelligence was also strengthened through the Office of National Security (ONS) which is mandated to coordinate all security related issues.

## **Pillar 2: Promoting Pro-poor Sustainable Growth**

**Macroeconomic stability** - With support from the development partners, Sierra Leone has made significant progress in the pursuit of macroeconomic stability in recent years. Following the successful implementation of the first Poverty Reduction and Growth Facility (PRGF I) arrangement (2001-2005), the Government entered into negotiations for a successor PRGF arrangement with the IMF. Based on the track record of economic performance, the Executive Board of the IMF approved the PRGF II in May 2006. With continued donor support, during the implementation of the PRSP I, Sierra Leone achieved a relatively stable macroeconomic environment with strong economic growth, moderate inflation, declining current and fiscal account balances, increased level of foreign reserves, a broadly stable exchange rate, positive real interest rates and a lower external debt burden. Sierra Leone reached the completion point under the Heavily Indebted Poor Countries (HIPC) initiative in December 2006, and qualified for debt relief under the Multilateral Debt Relief Initiative (MDRI).

***Promoting food security and job creation*** - This is centered on increasing domestic food production, in particular the production of rice and other food crops like cassava and potato. Cash crops like coffee, cocoa and livestock (cattle, goats and sheep) increased in all cases, although in some instances not significantly. Similarly domestic fish production also increased during the period.

***Investment in Supportive Infrastructure*** - Attempts to improve electricity supply were not successful as the Bumbuna Hydroelectric Project did not come online as expected, and arrangements to provide a short term electricity supply for Freetown were only implemented in late 2007. The road network was improved slightly with approximately 500 km of gravel roads rehabilitated and over 1,200km of trunk roads constructed and maintained. Access to ICT products improved significantly after the liberalisation of the telecommunications industry, which also led to the establishment of five mobile communications companies. The mobile network was extended to 80% of the country with investments estimated at over US\$125 million.

***Private Sector Development (PSD)*** - Improving the climate for PSD is the corner stone of growth and job creation. To facilitate PSD, a Diagnostic Trade Integrated Study (DTIS) was conducted and an action matrix developed to implement the recommendations. To simplify administrative procedures, and reduce the cost of doing business in Sierra Leone, legislation on business registration was enacted. Public Private Partnership (PPP) schemes were also promoted and agro-businesses were supported through the establishment of skills and food processing centres. Youth employment and empowerment was promoted through the establishment of agricultural farms for youth, Youth Enterprise Development Schemes and employment in public works.

### **Pillar 3: Promoting Human Development**

***Education and Training*** - Access to education increased over the period as the Net Enrolment Rate (NER) increased, although the ratio of girls to boys remained constant. Due to the focus on girls in education, the number of girls accessing secondary schools increased significantly. The pupil-teacher ratio target was not achieved largely due to the ceiling placed on recruitment of teachers. Sierra Leone Poverty Reduction Strategy 2008-2012 20

***Health and Nutrition Services:*** Similarly, access to health facilities increased, as a total of 867 public health units were made fully operational. Infant and child mortality ratios reduced slightly but still remain amongst the worst in the world. Malaria treatment and prevention was intensified with the supply of over 300,000 treated bed nets and the provision of affordable treatment drugs. The HIV/AIDS pandemic continued to be addressed through the continuous provision of condoms, establishment of Voluntary Counselling and Confidential Testing (VCCT) sites and provision of anti-retroviral drugs (ARVs) and other support to people living with HIV/AIDS (PLWHA). Access to safe drinking water and sanitation improved slightly at 49 % and 35 % respectively.

### **Financing the PRSP I**

The cost of implementing the PRSP I was originally estimated at US\$1.62 billion while the total government funds available were estimated to be US\$683 million. Thus the additional amount required to fully implement the PRSP was estimated at US\$941 million. Development partners



requested that the Government re-prioritise activities in the PRSP to reduce the funding requirement by US\$368 million, creating an actual funding gap of US\$573 million.

**Table3: Donor Disbursement for PRSP**

Year	2005	2006	2007	Total
Amount (US\$ millions)	336.6	361.3	277.2	975.1

Source: Development Assistance Report; DACO

### **The PRSP II (2008-2012)**

The document is organised into four parts. Part One (Chapters 2-3) provides an overview of the growth diagnostics and poverty profile which has been used to develop the poverty reduction strategy and identifying key themes. Part Two (Chapters 4-7) focuses on the four strategic priorities identified for PRSP II, namely energy, transport, agriculture and human development. Part Three (Chapters 8-12) lays out strategies in key sectors to enable and drive growth, which includes good governance, macroeconomic stability, private sector development, financial sector reform and natural resource management. Part Four (Chapters 13-15) completes the PRSP by presenting the financial requirements, implementation modalities, and the monitoring and evaluation architecture.

The PRSP heralds inherent prospects for the delivery of immunisation services in Sierra Leone. Not only does it provide guidance to the process of budgeting for the immunisation programme through the MTEF system but it is also a tool for mobilizing resources for health service delivery, including immunisation.

The Government approved the Medium Term Expenditure Framework (MTEF) process in the 2000 Budget speech. The Public Expenditure Tracking Survey (PETS) is the main flagship activity within the MTEF process. A second PET to track expenditures for the second half of 2001 was conducted in August 2002. The most current PETS to track expenditure of the first half of 2006 were done in September 2006. The objective of the PETS is to track expenditures from Ministerial Headquarters to Regions, Districts and Facilities, as well as to assess the quality of service delivery in the communities.

To address the unacceptable high child and maternal mortality and morbidity in Sierra Leone, the current strategy under the PRSP 2, is designed to address both reproductive and child health issues taking into account an integrated approach and continuum of care. The programme will include a holistic approach to service delivery that includes family planning to address problems of teenage pregnancies and child marriage, essential and emergency obstetric care including prenatal, delivery and post natal services, integrated management of neonatal and childhood illnesses, preventive services including immunization and school health.

### 1.11 Routine Immunization

The Expanded Programme on Immunisation aims at reducing infant and child death and disability by preventing children from being infected with the ten major childhood vaccine preventable diseases - Tuberculosis, Pertussis, Tetanus, Diphtheria, Poliomyelitis, Measles, Yellow Fever, Hepatitis B, Haemophilus influenza and Pneumococcal pneumonia. The Programme also forms a solid base for the delivery of other high impact, evidence based and cost effective interventions such as de-worming, LLINS, vitamin A and the promotion of Health Education messages.

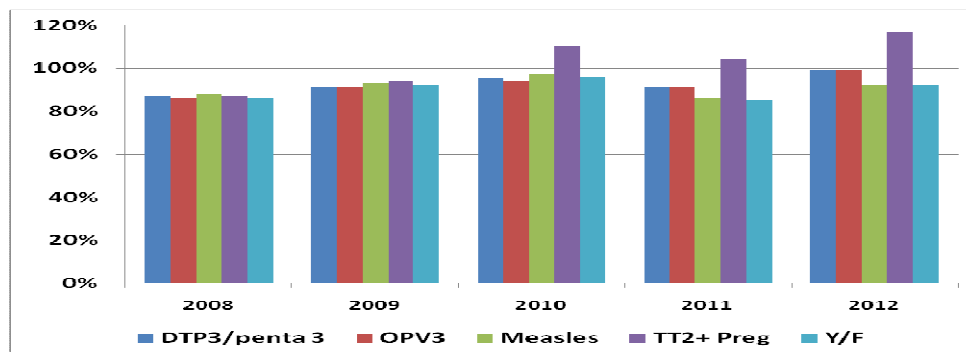
The current target population for the EPI services in Sierra Leone includes all children under the age of one year and women of childbearing age (15-49 years).

The delivery of immunisation services and other interventions through the static strategy alone has not been effective in achieving the required coverage. The present resolve of the Ministry of Health and Sanitation is to take services to the doorstep of individuals and families in the community by implementing the Reaching Every District (RED) Strategy.

In 2002 The EPI Programme received support from the Global Alliance for Vaccine and Immunisation (GAVI) for strengthening of immunisation services. Thereafter support has been received for introduction of Yellow Fever vaccine (2002), Pentavalent vaccine (2007) and Pneumococcal Vaccine (2011). The GAVI support has facilitated an increase in immunisation coverage rate through strengthening of the cold chain system and payment of outreach allowances. Solar powered cold chain equipments are presently functional in about 75% of health facilities countrywide (EVM 2013).

In 2004, Sierra Leone re-launched the immunization programme and in 2006 a National EPI comprehensive Multi Year Plan (cMYP) was developed for the period 2007-2011, within the framework of the Global Immunization Vision and Strategy GIVS. Over the past few years, there has been an improvement in routine immunization from 87% in 2008 for Penta3 to 99 % for the same antigen in 2012. (See fig 4 below).

**Fig 4: Trends of EPI Coverage 2008-2012**



The national immunization cluster coverage conducted in October 2010 revealed the following for card and history: BCG 96.5%, Polio 3 85.1%, Pentavalent 3 86% Measles 78%, Yellow fever 77.8% and Tetanus Toxoid (TT2) for pregnant women 86.4% The drop-out-rate between penta 1 and penta 3 is 8.9% and between penta 1 and measles is 18.5%

Although routine immunization for Sierra Leone was not up to 100 percent coverage in all the vaccines administered further strategies to close the gap was addressed during Mass campaigns targeting all the children 0 to 5 years of age. However, the main providers for routine immunization were the government health centres and hospitals.

### ***1.12 Accelerated Child Survival and Development***

The goal of the health sector is to identify, adopt and implement high impact, evidence based and cost effective interventions is to reduce high morbidity and mortality indicators. Immunisation has been identified as one of the best health investments relevant to the achievement of the MDGs 4 and 5 as well as the socio-economic development of the country

There are various opportunities to improve the immunisation coverage through strategic initiatives. These initiatives include:

- Free Health Care
- Maternal and Child Health Week
- National Immunisation Days

**Table 4: Summary of Strategies/Initiatives for improving Immunisation Coverage**

No	Strategy/Initiative	Period	Geographic Range	Comments
1.	Free Health Care	Routine ongoing	Nationwide	Removes most important barrier of cost
2.	Maternal and Child Health Week	Twice yearly May and November	Nationwide	A vehicle for integrated packages
3.	National Immunisation Days	Periodic	Nationwide	Part of the global Polio Eradication Initiative.

Information on the immunisation schedule for Sierra Leone, vaccines and routes of administration are presented in the annexes.

### **1.13 Supplemental Immunisation Activities (SIAs)**

Sierra Leone has conducted several Supplemental Immunisation Activities (SIAs) as a responsive and preventive strategy. Sierra Leone has conducted several sessions of SIAs over the past few years:

- As a means of scaling up of High impact, evidenced based and cost effective interventions relevant to the achievement of MDGs 4 and 5.
- As a strategy to prevent disease outbreaks in low coverage areas
- As a follow up mopping up exercise in post campaign periods in poorly covered areas.
- As a responsive campaign in cases of confirmed outbreaks.

Fortunately, it has also been feasible to deliver integrated packages during SIAs or during the course of Maternal and Child Health Weeks (MCHWs).

### ***1.14 Maternal and Child Health Weeks***

Maternal and Child Health Weeks (MCHW) have been highly effective in Sierra Leone in the delivery of integrated packages of maternal and child health interventions.

The campaigns have retained several commendable aspects, including good political will, good planning and resource mobilisation in a well coordinated partnership forum, active community participation and effective social mobilisation.

It is worth noting that mass immunization activities are supplemental to routine activities which are necessary to reach children who, for one reason or the other, have been missed. The focus of MCHW is to reach as many children as possible and provide another opportunity for tracking missed children, as an effort aimed at complementing the facility based health service delivery. Nevertheless, it must be emphasized that present day focus is on reaching every child with the interventions. Mothers may also be reached with relevant interventions.

### ***1.15 Integrated Management of Newborn and Childhood Illness***

The Integrated Management of Newborn and Childhood Illness (IMNCI) is a strategy that addresses all the main causes of childhood illnesses and death. It recognizes that a child may actually be sick with more than one problem at the same time, and ensures that the occasion of a sickness consultation is not a missed opportunity to immunize the child or address a nutrition problem.

The strategy requires the delivery of Child Survival interventions to all communities irrespective of their circumstance, through static and outreach activities on a weekly basis. Sierra Leone developed and launched the Basic Package of Essential Health Services in 2010, which defines the minimum services delivered at each level of the health care delivery system.

However, the process still requires major support for ongoing capacity building, logistics availability and the conduct of supportive supervision.

IMNCI has now been introduced into all districts and there is gradual scaling up to all health facilities and communities.

### ***1.16 Surveillance System in Sierra Leone***

Over the past years, there had been many vertical surveillance systems implemented by different health partners and organizations (Disease Control Programs, NGOs, Agencies and the private sectors). All of these programs and organizations maintained their own data collection and reporting instruments. Many of these forms had been introduced into the districts for staff to fill in regularly at the end of each month. Consequently staff were overburdened with the task of filling in numerous forms and it has been difficult to receive quality data that is complete, consistent and timely.

In 2008, the Ministry of Health and Sanitation decided to adopt the Integrated Disease Surveillance and Response (IDSR) as a strategy to improve the data collection, reporting and analysis. The IDSR documents have been adapted according to the country scenario and staff have been trained on the process and tools.

The district level is the focus for integrating surveillance functions. This is because the district is the first level in the health system with full-time staff dedicated to all aspects of public health such as monitoring health events in the community, mobilizing community action, encouraging national assistance and accessing national resources to protect the district's health.

All surveillance activities are coordinated and streamlined. Rather than using scarce resources to maintain separate vertical activities, resources are combined to collect information from a single focal point at each level.

Several activities are combined into one integrated activity to take advantage of similar surveillance functions, skills, resources and target populations. For example, surveillance activities for Acute Flaccid Paralysis (AFP) can address surveillance needs for Neonatal Tetanus, Measles and other diseases. Thus, health workers who routinely monitor AFP cases can also review district and health facility records for information about other priority diseases.

Surveillance focal points at the district and national levels collaborate with epidemic response committees (e.g. National Epidemic Response Committee, District Epidemic Management Committee, Village Development Committee) at each level to plan relevant public health response actions and actively seek opportunities for combining resources.

The goal of IDSR is to improve the ability of districts to detect and respond to diseases and conditions that cause high levels of death, illness and disability in the district's catchment area. An improved health and well-being of the communities in the district can be achieved by strengthening skills and resources for integrated disease surveillance and response,

The general overall objective of the IDSR strategy is to provide a rational basis for decision-making and implementing public health interventions that are efficacious in responding to priority communicable and non-communicable diseases (IDSR Technical guideline 2008).

In 2010 Sierra Leone included Rotavirus and Paediatric Bacterial Meningitis (PBM) into the routine surveillance system.

### ***1.17 Waste Management***

Sierra Leone is still struggling with the challenge of maintaining a good mechanism for effective waste management.

Routine immunization generates medical waste that should be managed well in accordance with the principles of injection safety and environmental friendliness.

Increase in waste is expected during campaigns and after the introduction of new vaccines.

The MoHS has established a medical waste unit within the MoHS headed by manager. Medical waste management focal points has also been identified in each district.

Auto disable needles and syringes are used to administer vaccines. The Technical Committee ensures adherence to injection safety at all levels through trainings, close monitoring and supervision. Used needles and syringes are collected in safety boxes and disposed by incineration or burning and burring. There are currently 14 macro burn incinerators installed across the country as a pilot project to support the waste management. This is closely monitored and a performance assessment will be conducted to determine their effectiveness as a means of guiding the scaling up process in each district.

A comprehensive long term waste management plan has been developed, in the light of the EPI in Sierra Leone.

### ***1.18 Advocacy and Communication***

Available evidence from analysis of supervision reports is suggestive of the fact that the prospects of relatively high missed opportunities, dropout rate and defaulting have been due to

the apparent lack of knowledge about immunisation service delivery and its benefits among segments of the population.

There is an existing structure established to ensure effective advocacy and communication across the country.

The presence of functional District Social Mobilization Committees serves to bridge the existing gap in information dissemination.

The Sierra Leone District Health Services Baseline Survey conducted in 2008 revealed the radio as the most popular media. 59% of women and 79% of men aged 15 – 49 years listen to the radio. Presently, over 35 radio stations are distributed in all districts to guarantee wider transmission coverage to communities.

The existence of the Communication and Social Mobilization Committee at national level has brought on board crucial partners in communication including Sierra Leone Association of Journalists (SLAJ), the Inter Religious Council of Sierra Leone (IRCSL) Health for All coalition and Women's Forum to name a few.

District and national level committees operate based on annual plans, which address advocacy, social mobilization and programme communication.

## **2. EXPANDED PROGRAMME ON IMMUNIZATION**

### ***2.1 EPI Programme Mission Statement***

Provide equitable access for all target groups, especially children and women of childbearing age (WCBA) to existing and new vaccines, and other interventions that lead to reduction of morbidity and mortality in Sierra Leone.

### ***2.2 EPI Programme Goal***

To achieve at least 95% coverage for fully immunized child and 90% coverage for TT2+ in pregnant women in order to reduce maternal and child ill-health, disability and deaths attributable to vaccine preventable diseases by 2015.

### ***2.3 EPI Programme Objectives:***

- To reduce measles mortality by 95% and morbidity by 90% by 2015
- To stop the transmission of wild poliovirus by the end of 2012.
- To attain and maintain a level of immunization coverage of at least 90% for children under one year for all vaccines given, by the year 2015.
- To immunize 75% of pregnant women with Tetanus Toxoid, as an effort towards reaching elimination of Maternal and Neonatal Tetanus by the year 2015
- To maintain and expand EPI cold chain

### ***2.4 EPI within the Health Sector***

The Expanded Programme on immunisation (EPI) in Sierra Leone was initially started on a small scale in the 1960s with the goal of reducing the huge burden exerted by childhood killer diseases. Subsequently, the EPI has evolved over the years amidst the challenges of contemporary times. Between 1967 and 1970 Sierra Leone became part of the West African smallpox Eradication/Measles Control Programme. During this period the Endemic Disease Control Unit

(EDCU) located in Bo district was responsible for giving vaccination in mobile teams. Subsequently, the teams added immunization against Cholera (1972) and Yellow Fever (1975). In 1976 within the framework of technical co-operation following the resolution adopted by the World Health Assembly, the global EPI was launched. The Sierra Leone government joined the Expanded Programme on Immunization (EPI) through WHO.

The aim was to create a forum for co-operating with governments in expanding and establishing national immunization programmes to address the childhood diseases namely; Tuberculosis, Diphtheria, Pertussis, Tetanus, Hepatitis B, Haemophilus Influenza Type b, Poliomyelitis, Measles, Yellow fever, Pneumonia, Bacterial Meningitis, Sinusitis through immunization activities.

The Expanded Programme on immunization was formally launched in Bo district in 1978, and included all four antigens for children and Tetanus Toxoid for Women of Child Bearing Age (WCBA). The following vaccines are currently used in the Routine Immunization Programme of Sierra Leone: BCG, OPV, Pentavalent, PCV 13, Measles, Yellow Fever and Tetanus Toxoid.

The Ministry of Health and Sanitation (MoHS) has the responsibility for immunization services in Sierra Leone. The Expanded Programme on Immunization of the MoHS aimed at reducing burden of diseases attributable to vaccine preventable diseases. The coverage for key antigens remained very low for many years until the programme was restructured and re-launched to achieve better coverage. This resulted in the attainment of coverage of 75% for Measles vaccination by 1990, the Universal Child Immunization (UCI) year. The services are delivered through a network of Primary Health Care (PHC) facilities generally referred to as Peripheral Health Units (PHUs).

EPI is one of the frontline public health programmes under the Directorate of Reproductive and Child Health (RCH) within the Ministry of Health and Sanitation. In a bid to address the high under fives and infant mortality rates in the country, a programmatic restructuring was done. Currently, the EPI Programme is part of the Child Health Programme and is linked with other public health programmes such as Reproductive Health/Family Planning Programme, Nutrition Programme and School and Adolescent Health Programme. Functionally, the child health programme implements integrated maternal and child health programmes in collaboration with other technical programmes of the MoHS (Malaria, Health Education etc)

In addition to the above childhood programmes, the Ministry's effort is complemented by a host of international agencies and Non-Governmental Organisations (NGOs) that are specifically health-oriented.

The NGOs play a crucial role in EPI Operations. Since most have means of transportation, they sometimes collect EPI materials and supplies from central level and deliver to the various EPI facilities. These NGOs also assist in collecting and forwarding EPI returns to the DHMT on monthly basis. They further provide assistance for capacity building in the form of basic and refresher EPI training.

These Organizations meet regularly, on a monthly basis, to discuss maternal and child health problems encountered in their various districts of operation.

## **2.5. Vaccines**

The following vaccines are currently used in the National Immunization Programme of Sierra Leone: BCG, OPV, Measles, Yellow Fever, pentavalent (DPT-HepB-Hib), PCV 13 and Tetanus Toxoid. A New vaccine, the Rota Virus vaccine will be introduced in 2012 and other vaccines will follow accordingly in a bid to reduce child mortality rates leading to the attainment of the MDG goals and contributing to sustainable socio-economic development.

Rotaviruses are the most common cause of severe gastroenteritis and dehydration among children in both industrialized and developing countries. A WHO sponsored review of rotavirus studies found that 20–70% of all hospitalizations and 20% of deaths from diarrhoea were attributable to rotavirus. Recent studies have estimated that 500,000 to 600,000 children die each year because from rotavirus gastroenteritis. In response to this disease burden, several vaccines against rotavirus have been or are being developed. In many countries, however, the disease burden and epidemiology of rotavirus are unknown because of a lack of adequate data or because no studies have been conducted recently. The lack of data is particularly notable in developing countries (WHO,2002).

The targeted population for the period 2012 to 2016 is estimated based on a growth rate of 2% annual increase over the population as reported in the last census in 2004.

## **2.6 Procurement of Vaccines, Other Supplies and waste disposal units**

All vaccines and other supplies purchased by UNICEF, GAVI and the Government which are intended for EPI are procured through the UNICEF Procurement system on a yearly basis; and are supplied to the programme in tranches. Health Care Waste management policy as well as Injection safety policy and plan of action are already available to reinforce appropriate waste management. The following steps will be taken to ensure appropriate immunization waste disposal: Review of the existing waste management facilities available in the country, procurement and construction of waste disposal units in selected sites within the districts. To this effect, already about 14 Waste disposal units are being procured through UNICEF with funds mobilized by the joint UNICEF and WHO from donors and other local partners.

## **2.7 Service Delivery**

There are three main designated EPI service delivery strategies:

- **Static:** Immunization services are provided in both public and private health facilities and temporary vaccination points where mothers and children are vaccinated on a daily basis.
- **Outreach:** These services are held periodically in communities that are within the catchment area (5 km) of the health facility. At least, five outreach sessions should be conducted per month per PHU at four different locations to cover their target population.
- **Mobile Services:** Planning for mobile team visits takes place at District level to places that are more than 5 kilometres from the nearest PHU and hard to reach communities. These visits are done in collaboration with NGOs in their operational areas who provide transport. Mobile teams often stay out in the field for at least one day at a time moving from community to community providing immunization and other



health care services. This strategy has however not been sustained due to resource constraints.

### **Organisation of Delivery System at PHU Level**

There are three levels of PHUs, according to catchment population, location, accessibility and range of services delivered. The three levels of PHUs are as follows:

- Maternal and Child Health Post (MCHP): lowest PHU and is typically manned by a Maternal and Child Health Aide.
- Community Health Post (CHP): higher than the MCHP but lower than the CHC and normally manned by a Community Health Assistant.
- Community Health Centre (CHC): The highest PHU, usually located in the Chiefdom headquarter town and manned by a Community Health Officer.

The present policy on the location of PHUs is within the range of every 3-5 five mile radius. Presently, there are 1,071 functional PHU nationwide but there are still underserved communities. In certain areas, communities may be as far as 8 km from the health facility.

All technical programmes of the Ministry of Health and Sanitation converge at the PHU, which is the lowest level of service delivery. There is a referral network between the PHUs and the Government Hospital in the district headquarter town. The degree of effectiveness varies from one location to another.

## ***2.8 Cold Chain***

### **2.8.1 SWOT Analysis of Cold Chain in Sierra Leone**

A detailed SWOT analysis of the current cold chain situation in Sierra Leone is presented in table5 below.

Table 5: SWOT Analysis of Cold Chain in Sierra Leone-2010

<b>Strengths</b>	<b>Weaknesses</b>	<b>Opportunities</b>	<b>Threats</b>
<ul style="list-style-type: none"> <li>• Existence of guidelines on Vaccine and equipment management</li> <li>• Injection safety/safe disposal and destruction of EPI injection waste materials</li> <li>• Expansion of national cold room to accommodate PCV 13</li> <li>• Use of fridge tag in all districts to monitor vaccine storage</li> <li>• Recruitment and training of new DOOs on vaccine and cold chain management</li> <li>• Availability of 13 new incinerators</li> <li>• Presence of an up to date cold chain equipment distribution list.</li> </ul>	<ul style="list-style-type: none"> <li>• Weak implementation of transport guidelines</li> <li>• Inadequate number and poor quality of incinerators</li> <li>• Weak ability to maintain and monitor cold chain</li> <li>• Inadequate storage space at national and district level for the introduction of new vaccine</li> </ul>	<ul style="list-style-type: none"> <li>• WHO/UNICEF support</li> <li>• GAVI support</li> <li>• Presence of in-country technical hands and NGOs familiar with solar technology.</li> <li>• Decentralization, with potential to ensure regular funding support for maintenance</li> <li>• Donor support for the expansion of cold rooms and replacement of current solar</li> </ul>	<ul style="list-style-type: none"> <li>• Theft of solar panels</li> <li>• Problems Associated with introduction of new technology</li> <li>• Frequent breakdown of cold chain equipment at all levels</li> <li>• Lack of spare parts for solar refrigerator</li> </ul>

<ul style="list-style-type: none"> <li>• Availability of adequate supplies, equipment and consumables at district and health facility levels</li> <li>• Existence of a monitoring mechanism for supplies, equipment and consumables during</li> <li>• Solarization of health facilities in all 13 districts</li> <li>• Availability of trained solar technicians in all districts</li> <li>• EVM and VMA conducted</li> </ul>	<ul style="list-style-type: none"> <li>• Weak implementation of vaccine management and cold chain plan</li> <li>• Inadequate cold chain capacity at national and district levels for the introduction of new vaccines</li> <li>• Inadequate supportive supervision at all levels</li> </ul>	<ul style="list-style-type: none"> <li>• refrigerators at all levels</li> </ul>	
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### **2.8.2 Cold Chain Management**

Cold chain quality is vital in ensuring that safe and potent vaccines are given to children. The potency of vaccines should be maintained and this requires vaccines to be stored in and distributed through a functioning and effective cold chain system.

Sierra Leone undertook a strategic change in relation to cold chain logistics, which resulted in the extensive introduction of solar refrigerators replacing the use of Liquefied Natural Gas (LNG) dating back to 2003. Two sets of Effective Vaccine Management (EVM) assessments which is a requirement to ensuring adherence to an acceptable standard of vaccine management practices at all levels has been conducted 2010 and 2013. The result of the 2013 EVM assessment indicates an appreciable improvement in vaccine management system compared with that of 2010. Despite these improvements, there were recommendations made to better improve on the system. Currently there are 776 solar refrigerators installed at PHUs across the country. As part of the implementation of the 2010 EVM improvement plan, the cold chain capacity at national and district level were expanded to accommodate the introduction of new vaccines. However, the ministry with support from partners will continuously expand the cold chain capacity at all levels.

The country has a national store in Freetown and District cold chain stores in all of the Districts and the Western Area. The last level of storage are the Health Facilities with storage facilities. The national store is manned by a national logistics Officer, with an assistant. The District stores are managed by District cold room officers, supported by a cold chain maintenance officer and supervised by a trained District Operation Officer (DOOs). These officers are mostly graduates of the school of hygiene with general public health background. The Peripheral Health Units are managed by in-charges who are trained Nurses, Community Health Officers, Community Health Assistants or Maternal and Child Health Aides (MCHA).

Vaccines are issued from national to district level on quarterly basis and from district to PHU level on monthly basis, based on the set coverage target population and consumption.

In 2003, a policy of solarisation at District and PHU levels was implemented and currently 776 solar units are installed in selected PHUs in all districts across the country. In addition the National Cold Store has been expanded to accommodate the Pneumococcal vaccine into the routine EPI and vaccines for supplemental immunization activities. A cold chain assessment was conducted in 2010 with the following key findings summarized in table 5 below:

**Table6: Cold Chain Storage Capacity and Vaccine Volumes**

Location/Level	Cold chain capacity 2010 (Time of assessment)	Total Cold Chain Requirement (Litres)			2012 Gap (Litres)
		2010 with Penta	2011 with Pneumo	2012 with Rota	
Central store freeze capacity (Litres)	6820	6820	6820	6820	0
Central store +2-8 <sup>0</sup> C capacity (Litres)	15853	9912	15770	20947	5094
<b>Total District Store Capacity (Litres)</b>	3578	4956	7885	10474	6896
PHU Storage Capacity (Litres)	18450	1906	3033	4028	14422 (excess)

Based on the above findings, further expansion is recommended to increase capacity for new vaccines at the national and district store levels, for which one additional 40m<sup>3</sup> walk-in-cold room has been procured and installed at the national level. Twenty-six (26) Surechill 100 ltr capacity batteryless solar refrigerators have been procured and installed at district level. . Quite a number of these are becoming obsolete and old which requires a systematic replacement. Subsequently, the obsolete cold chain equipment will be replaced as indicated in the 2013 EVM improvement plan.

A monthly preventive maintenance plan has been incorporated in the revised EPI policy and district cold chain technicians will receive refresher training on cold chain maintenance in December 2011. Accordingly, assorted spare parts have been procured for timely cold chain maintenance as factored in the costing tool and cold chain plan.

With all the above in place, it is expected that an effectively functional cold chain will be in place to accommodate all the vaccines, including measles second dose and rotavirus vaccine.

### **3. COMPREHENSIVE MULTI-YEAR PLAN -2012 – 2016**

In updating this document, the Ministry of Health and Sanitation (MOHS) reviewed and revised existing policies and strategies. In the same vein, the Child Health/EPI Programme renewed its commitment to deliver quality child survival initiatives and contribute to maternal health care services in Sierra Leone. This five-year comprehensive multi-year plan which is in line with the Global Immunization Vision and Strategies (GIVS), Global Immunization Vaccine Action Plan (GIVAP), Millennium Development Goals (MDGs) and the country's Poverty Reduction Strategy Paper (PRSP III) is developed for these purpose. The plan covers the period 2012 – 2016.

#### ***3.1 Situational Analysis***

The process of developing the first cMYP began with a number of assessments of various components of the Programme by national staff with external technical support. A national meeting was held in which each representative had data, roles and responsibilities to contribute. A national workshop meant to increase the scope of participation and input into the final draft of the plan was held. Emphasis was laid on analysis of accelerated disease control initiatives, and on immunization system components. The findings and recommendations of the recent Programme review, as well as other assessment/evaluation exercises such as the Data Quality Self Assessment Survey (DQS), National EPI Coverage Survey, Effective Vaccine Management and Cold Chain Assessment, Sector Wide Barrier to Immunization, national census 2004 results, MICS 3, Stop Transmission of Polio (STOP) and UNICEF mid-term review 2010, DHS 2008 formed the basis of the updated plan.

**Table 7 SWOT Analysis by System Components**

Components	Strengths	Weaknesses	Opportunities	Threats
1. Service delivery	<ul style="list-style-type: none"> <li>• Nationwide implementation of Free Health Care Initiative</li> <li>• Dedicated health staff at national, district and health facility levels.</li> <li>• Very strong collaboration between MOHS, WHO, UNICEF and NGOs</li> <li>• Contribution by communities towards the provision of clinic structures/buildings for CH/EPI services</li> <li>• Availability of continuous supply of vaccine</li> <li>• Steady progress in administrative immunization coverage figures from 2006 - 2010. (The coverage has continued to improve i.e 96% for Penta3-2010)</li> <li>• Attained high coverage rates for SIAs (preventive and response).</li> <li>• Integration of child survival interventions into routine immunization.</li> <li>• Increase in staff salary.</li> <li>• Increase in the number of service delivery point.</li> </ul>	<ul style="list-style-type: none"> <li>• Problems with determining denominator population</li> <li>• High Dropout rates observed with some antigens.</li> <li>• Difficulty in determining wastage rates.</li> <li>• Inadequate number of trained staff particularly at service delivery level</li> <li>• Weak defaulter tracing.</li> <li>• Insufficient community involvement in the planning and implementation of routine immunization services.</li> <li>• High staff attrition rates.</li> <li>• Irregular outreach</li> </ul>	<ul style="list-style-type: none"> <li>• There is high political commitment</li> <li>• Support from GAVI, WHO, UNICEF and other partners</li> <li>• Active participation of some of the NGOs in routine and supplemental immunization service delivery</li> <li>• PRSP and debt relief freeing up more public funds.</li> <li>• Donor commitment</li> </ul>	<ul style="list-style-type: none"> <li>• Existence of competing attractive job markets both within and abroad</li> <li>• Physical barriers in the form of Riverine and Mountainous areas (approximately 40% of the population inaccessible).</li> </ul>

		<p>and mobile services</p> <ul style="list-style-type: none"> <li>• Weak supportive supervision at all levels</li> <li>• Inadequate logistics for waste management</li> <li>• Inadequate transport for immunization services.</li> </ul>		
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SWOT Analysis by System Components (Contd.)

<b>Components</b>	<b>Strengths</b>	<b>Weaknesses</b>	<b>Opportunities</b>	<b>Threats</b>
Surveillance	<ul style="list-style-type: none"> <li>• Existence of a National Surveillance programme</li> <li>• Existence of surveillance structure at district and health facility levels.</li> <li>• Case-based surveillance established for some of the priority diseases(list available in national IDSR technical guidelines)</li> <li>• Achievement of Polio and other case based surveillance indicators</li> <li>• Availability of two vehicles and 28 motors bikes (since 2010) to enhance active</li> </ul>	<ul style="list-style-type: none"> <li>• Laboratory for the diagnosis of Measles and Yellow Fever in country not yet accredited</li> </ul>	<ul style="list-style-type: none"> <li>• Existence of the WHO Country Epidemiologist/EPI focal person and 3 WHO Surveillance Officers</li> <li>• Involvement of some NGOs in surveillance in their respective areas of operation</li> <li>• -Planned training on IDSR</li> <li>• Establishment of FELTP</li> </ul>	<ul style="list-style-type: none"> <li>• Risk of importation of communicable diseases from neighbouring countries</li> <li>• - Spread of Lassa fever in non endemic areas within the country</li> </ul>

	<p>surveillance activity</p> <ul style="list-style-type: none"> <li>• Improve reporting of IDSR priority disease mechanism</li> <li>• Improvement in the laboratory networking</li> <li>• Establishment of National Public Health Laboratory</li> <li>• Commencement of implementation of IDSR with strong commitment from MoHS and partners.</li> <li>• Provision of financial and technical support from partner agencies</li> </ul>			
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SWOT Analysis by System Components (Contd.)

<b>Components</b>	<b>Strengths</b>	<b>Weaknesses</b>	<b>Opportunities</b>	<b>Threats</b>
Vaccine supply and quality	<ul style="list-style-type: none"> <li>• Existing capacity to forecast vaccine needs at National, District and Health facility levels</li> <li>• Improved capacity for vaccine storage facilities at National level</li> <li>• Observance of the principles of stock monitoring and/or rotation at National, district and health facility levels</li> <li>• Provision of immunization monitoring chart at health facility level</li> <li>• Existence of assessment</li> </ul>	<ul style="list-style-type: none"> <li>• Limited monitoring of vaccine wastage at National, district and health facilities</li> <li>• Inadequate capacity at district and health facility levels to calculate wastage rates</li> </ul>	<ul style="list-style-type: none"> <li>• There is a National Regulatory Authority (NRA)</li> <li>• GAVI support through NVS and HSS windows</li> <li>• NGO contribution to vaccine supply and quality</li> </ul>	<ul style="list-style-type: none"> <li>• Unstable/increasing Global Vaccine demands and prices</li> <li>• Global financial crisis</li> <li>• No immediate funding source to replace GAVI at end term of support.</li> </ul>

	<p>authorities such as WHO/UNICEF at country level</p> <ul style="list-style-type: none"> <li>• Introduction of DVD-MT and SMT into the routine reporting system</li> <li>• All vaccines utilized by the National EPI Programme comes from WHO/UNICEF approved sources</li> <li>• - Provision of computers and accessories to District Operations Offers in all districts</li> </ul>			
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SWOT Analysis by System Components (Contd.)

<b>Components</b>	<b>Strengths</b>	<b>Weaknesses</b>	<b>Opportunities</b>	<b>Threats</b>
Cold chain and logistics	<ul style="list-style-type: none"> <li>• Existence of guidelines on:</li> <li>• . Vaccine and equipment management</li> <li>• Injection safety/safe disposal and destruction of EPI injection waste materials</li> <li>• Expansion of national cold room to accommodate PCV 13</li> <li>• Use of fridge tag in all districts to monitor vaccine storage</li> </ul>	<ul style="list-style-type: none"> <li>• Weak implementation of transport guidelines</li> <li>• Weak ability to maintain and monitor cold chain</li> <li>• Inadequate number and poor quality of incinerators</li> <li>• -Inadequate storage space at national and district level for the introduction of new vaccine</li> <li>• Weak implementation of</li> </ul>	<ul style="list-style-type: none"> <li>• WHO/UNICEF support</li> <li>• GAVI support</li> <li>• Presence of in-country technical hands and NGOs familiar with solar technology.</li> <li>• -Decentralization, with potential to ensure regular funding support for maintenance</li> </ul>	<ul style="list-style-type: none"> <li>• Theft of solar panels</li> </ul>



	<ul style="list-style-type: none"> <li>• Recruitment and training of new DOOs on vaccine and cold chain management</li> <li>• Availability of 13 new incinerators</li> <li>• Presence of an up to date cold chain equipment distribution list.</li> <li>• Availability of adequate supplies, equipment and consumables at district and health facility levels</li> <li>• Existence of a monitoring mechanism for supplies, equipment and consumables during</li> </ul>	<p>vaccine management and cold chain plan</p> <ul style="list-style-type: none"> <li>• Inadequate functional cold chain equipment (about 75% functional)</li> </ul>		
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SWOT Analysis by System Components (Contd.)

<b>Components</b>	<b>Strengths</b>	<b>Weaknesses</b>	<b>Opportunities</b>	<b>Threats</b>
Cold chain and logistics	<ul style="list-style-type: none"> <li>• Solarization of health facilities in all 13 districts</li> <li>• Availability of trained solar technicians in all districts</li> <li>• EVM and VMA conducted</li> </ul>	<ul style="list-style-type: none"> <li>• Inadequate supportive supervision at all levels</li> <li>• Inadequate cold chain capacity at national and district levels for the introduction of new vaccines</li> </ul>	<ul style="list-style-type: none"> <li>• Donor support for the expansion of cold rooms and replacement of current solar refrigerators at all levels</li> </ul>	<ul style="list-style-type: none"> <li>• Problems Associated with introduction of new technology</li> <li>• Frequent breakdown of cold chain equipment at all levels</li> <li>• Lack of spare parts for solar refrigerator</li> </ul>
Advocacy and	<ul style="list-style-type: none"> <li>• Existence of community</li> </ul>	<ul style="list-style-type: none"> <li>• Limited community</li> </ul>	<ul style="list-style-type: none"> <li>• partners support</li> </ul>	<ul style="list-style-type: none"> <li>• Limited</li> </ul>

communication	<p>Structures for Social Mobilization activities in all districts</p> <ul style="list-style-type: none"> <li>• Existence of district Social Mobilization committees in all districts</li> <li>• Availability of advocacy communication plan</li> <li>• Strong political commitment</li> <li>• Quarterly ICC Meetings are held</li> <li>• Active community involvement and participation in SIAs</li> <li>• Existence of communication structures at National and district levels</li> <li>• - Providing feedback to communities through periodic meetings organized by health staff</li> </ul>	<p>involvement in the planning, implementation and monitoring of routine immunization activities</p> <ul style="list-style-type: none"> <li>• Limited utilization of the Mass and electronic Media in routine EPI activities</li> <li>• Limited</li> <li>• Government funding for Advocacy and Communication in routine EPI</li> <li>• Faulty VHF radio units.</li> </ul>	<p>for social mobilization activities</p> <ul style="list-style-type: none"> <li>• Existence of both Mass and electronic Media facilities in the country</li> <li>• Availability of mobile phone network in all districts</li> <li>• Involvement of private sector in EPI activities</li> <li>• - Existence of private business outfits as potential partners in EPI</li> </ul>	<p>Donor/Partner support for Advocacy and communication in routine EPI.</p>
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SWOT Analysis by System Components (Contd.)

<b>Components</b>	<b>Strengths</b>	<b>Weaknesses</b>	<b>Opportunities</b>	<b>Threats</b>
Programme Management	<ul style="list-style-type: none"> <li>• Existence of a National Health Sector Strategic Plan that addresses the needs of the un-served and the underserved populations as well as issues of equity</li> </ul>	<ul style="list-style-type: none"> <li>• No annual operational plans at health facility level</li> <li>• Inadequate funding to support approved planned activities at all</li> </ul>	<ul style="list-style-type: none"> <li>• Commitment of support by Donor /multi/bi-lateral organizations.</li> <li>• Existence of Health</li> </ul>	<ul style="list-style-type: none"> <li>• Existence of competing job markets both within and without the country.</li> <li>• Difficulty in</li> </ul>

	<ul style="list-style-type: none"> <li>• Existence of a national policy on Free Health Care services for all children under five, pregnant women and lactating mothers</li> <li>• Existence of an RCH strategic Plan</li> <li>• Decentralization of PHC services including EPI</li> <li>• National level coordinates the planning, implementation and monitoring of service provision in the Public sector</li> <li>• National level conducts periodic evaluation to assess progress towards the attainment of goals and objectives</li> <li>• Clear roles and responsibilities of EPI staff at all levels.</li> </ul>	<p>levels.</p> <ul style="list-style-type: none"> <li>• Inadequate facilities for capacity building internally and externally.</li> <li>• Inadequate supportive supervisory visits at all levels.</li> <li>• Weak reporting and feedback mechanism at national and district levels.</li> </ul>	Developmental Partners	integration and coordination of private sector in routine immunization activities.
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SWOT Analysis by System Components (Contd.)

<b>Components</b>	<b>Strengths</b>	<b>Weaknesses</b>	<b>Opportunities</b>	<b>Threats</b>
Financial sustainability	<ul style="list-style-type: none"> <li>• Existence of financial Sustainability Plan</li> <li>• Existence of a budget line for the EPI programme</li> </ul>	<ul style="list-style-type: none"> <li>• No community based financing mechanism in place</li> <li>• Limited or lack of</li> </ul>	<ul style="list-style-type: none"> <li>• Worldwide advocacy for sustainable immunization</li> </ul>	<ul style="list-style-type: none"> <li>• Global Economic downturn.</li> </ul>

		sustainable financing mechanism for EPI	financing (SIF) <ul style="list-style-type: none"> <li>• GAVI Funding available</li> <li>• Existence of Performance based financing</li> </ul>	
Human resource and Institutional strengthening	<ul style="list-style-type: none"> <li>• Availability of trained and dedicated health staff at all levels.</li> <li>• Existence of health training institutions in all districts.</li> <li>• Existence of a supervisory checklist used by national and district staff</li> <li>• National and district supervisors provide technical and administrative support to health facility staff</li> </ul>	<ul style="list-style-type: none"> <li>• Inadequate trained manpower at all levels.</li> <li>• Inadequate number of operating or functional health facilities</li> <li>• -No effective staff appraisal system</li> <li>• Difficulty in posting staff to rural/remote areas.</li> </ul>	<ul style="list-style-type: none"> <li>• Technical and financial support from WHO/UNICEF and other partners</li> <li>• Availability of GAVI support</li> </ul>	<ul style="list-style-type: none"> <li>• Relatively high brain drain due to poor job satisfaction and low motivation.</li> </ul>

Table 8 Key recommendations from previous evaluations and assessments

Name and Year	Main recommendations	Objectives required for the new plan
National assessment of system wide barriers to immunization (2004)	<ul style="list-style-type: none"> <li>• Expand Public-Private Partnership for immunization services</li> </ul>	By 2016, at least 95% of target populations would have access to immunization services.
Financial Sustainability Plan (FSP) (2004)	<ul style="list-style-type: none"> <li>• Reduce wastage</li> </ul>	<ul style="list-style-type: none"> <li>• By 2016, vaccine wastage rates would have been reduced to <math>\leq 30\%</math> for lyophilized and <math>\leq 10\%</math> for liquid vaccines</li> </ul>
	<ul style="list-style-type: none"> <li>• Reduce drop out</li> </ul>	<ul style="list-style-type: none"> <li>• By 2016, dropout rate from all antigens would have been reduced to <math>&lt; 10\%</math>.</li> </ul>
	<ul style="list-style-type: none"> <li>• Increase coverage</li> </ul>	<ul style="list-style-type: none"> <li>• By 2016, national Pentavalent 3 coverage would have increased from current 64% (EPI coverage survey 2010) to 90%, and at least 80% coverage in every district.</li> </ul>
UNICEF Mid-Term review 2005	<ul style="list-style-type: none"> <li>-Increase out-reach/mobile activities to hard to reach areas country wide</li> <li>- Provision of transportation (motorbikes/bicycles)</li> <li>- Integrated Soc. Mob around EPI/ interpersonal communication for completion of immunization doses</li> </ul>	<ul style="list-style-type: none"> <li>• By 2016 all functional PHUs with adequate capacity to conduct at least four sessions per week.</li> <li>• By 2016 at least 80% of mothers/child minders are motivated enough to access immunizations on schedule.</li> </ul>

Key recommendations from previous evaluations and assessments

Name and Year	Main recommendations	Objectives required for the new plan
Post Introduction Evaluation (PIE) 2008	<p><b>Planning and Introduction</b> Assure planning process which incorporates microplanning input from the lower levels and results in guidelines which are widely distributed to districts, health facilities and their partners.</p>	By 2012 all planning process will be done based on the bottom up approach.
	<p><b>Cold Chain Capacity, Vaccine and Logistics Management</b> Recommendations of the 2007 Vaccine Management Assessment should be fully implemented, Cold chain capacity should be expanded: National level: second positive cold store to be constructed as soon as possible, District level: additional refrigerator for vaccine storage needed in all districts. Internal thermometers to be provided for all refrigerators. Freeze watch monitors to be used during vaccine transportation. Bundling of vaccine, AD syringes and safety boxes needs to be applied at all levels.</p>	<p>By 2012 second positive cold store constructed at national level.</p> <p>By 2012 at least 80% of PHUs have functional refrigerator with enough space to store vaccines adequately.</p>
	<p><b>Waste Management and Injection Safety:</b> Waste management practices need urgent attention: provision of guidelines, sensitization of issues, practical training.</p>	<p>By 2012 at least 20 waste management units installed across the country and staff trained on waste management practices. By 2012 massive community sensitization on waste management practices have started and are ongoing.</p>
	<p><b>Coverage and Reporting:</b> Harmonize population estimates: Apply consistently DPI estimates at all levels Analyze and use data for action: Vaccine coverage, drop-out and wastage rates should be calculated at all levels and should trigger appropriate actions.</p>	<p>By end of 2011 harmonized population estimates available and widely disseminated. By end of 2011 capacity of health staff built on data management and use of data for action.</p>
	<p><b>Adverse Events Following Immunization:</b> Establish and implement nation-wide AEFI monitoring system</p>	By 2012 effective monitoring system established for routine AEFI surveillance at

	through training and sensitization at all levels.	all levels.
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Key recommendations from previous evaluations and assessments

Name and Year	Main recommendations	Objectives required for the new plan
National EPI Coverage survey (2010)	<ul style="list-style-type: none"> <li>➤ Ensure that all districts implementing RED have sufficient funding, training, and technical support.</li> <li>➤ Address the issue of card retention during social mobilization sessions</li> <li>➤ Disseminate the result of the survey and facilitate the use of the findings to improve EPI at all levels</li> <li>➤ Address the problem of invalid doses during supportive supervision.</li> </ul>	<ul style="list-style-type: none"> <li>➤ By 2013, all districts would have sufficient funding, training and technical support to implement the RED strategy.</li> </ul>
Cold chain assessment (2009)	<ul style="list-style-type: none"> <li>➤ The country needs an EPI dry store at National level.</li> <li>➤ Establishing a District Cold chain Store for Western Area rural district.</li> <li>➤ Staff responsible for managing child health program supplies trained on the use of DVD MT, SMT, Inventory Replacement and Rehabilitation plan Tool (IRRP) tools and EVM.</li> </ul>	<ul style="list-style-type: none"> <li>➤ By 2013, an EPI dry store would have been constructed for the national level.</li> <li>➤ By 2014, a district cold chain store would have been constructed for Western Area rural district.</li> <li>➤ By the end of 2012, staff responsible for managing child health program supplies would have been trained on the use of DVD MT, SMT, IRRP and EVM</li> </ul>
Effective Vaccine Management (2013)	<ul style="list-style-type: none"> <li>➤ Prepare preventive maintenance plans (SOP's) for facilities and cold chain equipment.</li> <li>➤ Ensure that vaccine wastage data is included in the HIMS/LMIS and compiled wastage data is used both for forecasting needs and evaluation of program performance .</li> <li>➤ Procure 20 SDD refrigerators are to meet the present capacity deficit at District stores</li> </ul> <p>Procure a buffer stock of 100 lightweight vaccine carriers to replace the kick polio vaccine carriers in use.</p>	<ul style="list-style-type: none"> <li>➤ By the end of 2014, preventive maintenance plans (SOP's) for facilities and cold chain equipment would have been prepared</li> <li>➤ By 2014, vaccine wastage data would have been included in the HIMS/LMIS and compiled wastage data is used both for forecasting needs and evaluation of program performance .</li> <li>➤ By 2014, 20 SDD refrigerators would have been procured to meet the present capacity deficit at District stores</li> <li>➤ By 2014, 100 lightweight vaccine carriers would have been procured to</li> </ul>

		replace the kick polio vaccine carriers in use.
Data Quality Self-Assessment (2013)	<ul style="list-style-type: none"> <li>➤ Organize review meeting(s) and share the finding with the DMOs and DOOs</li> <li>➤ Conduct supportive supervision, mentoring and peer review with good performing district to improve the performance of weak districts</li> <li>➤ Motivate DHMT to assess the performance of the PHUs and share with the PHUs in charge during monthly review meeting</li> <li>➤ CH/EPI programme to support the districts to conduct DQS regularly and use the results to improve the immunisation programme</li> <li>➤ Data harmonisation should be done regularly between the district office and the PHU.</li> </ul>	<ul style="list-style-type: none"> <li>➤ By 2014, review meetings would have been held</li> <li>➤ By 2014, DHMTs would have been motivated to assess the performance of the PHUs and share with the PHUs in charge during monthly review meeting</li> <li>➤ By 2014, CH/EPI programme would have supported the districts to conduct DQS regularly and use the results to improve the immunisation programme</li> <li>➤ By 2014, data harmonisation would have been done regularly between the district office and the PHU</li> </ul>

Table 9 National priorities, objectives and milestones; regional and global goals, and order of priority

Description of problems and other national priorities	National objectives	Milestones	Regional and global goals (until 2016)	Order of Priority
1. High Drop-out rate	By 2016, dropout rate would have been reduced from 17% to 10% and below.	<b>2012:</b> Reduced to 15% <b>2013:</b> Reduced to 13% <b>2014:</b> Reduced to 12% <b>2015:</b> Reduced to <=10% <b>2016:</b> Reduced to <=10%	By 2016 or sooner , the GAVI goal of 90% immunization coverage at national level and 80% coverage in all districts would have been achieved and improved.	High



2. High wastage rate	By 2016 wastage rate of BCG would have been reduced to 30% and below, other re-constituted antigens to 10% and below, pentavalent and Pneumococcal to 5% and below	<b>2012:</b> 45% ; 20% ; 5% <b>2013:</b> 40% ; 15% ; <5% <b>2014:</b> 35% ; 10% ; “ <b>2015:</b> 30% ; <10% ; “ <b>2016</b> <30% ; <10% ; “		High
3. maintain high immunization coverage	By 2016, all 13 districts would have achieved Penta3 and Pneumo3 coverage of at least 80%.	<b>2012:</b> 86%, PCV 80% <b>2013:</b> 91% <b>2014:</b> 93% <b>2015:</b> 94% <b>2016:</b> 95%		High
4. Introduce Rota vaccine	By 2014, Rota Vaccine would have been introduced in all 13 districts	2014; 1 <sup>st</sup> Qrt: Training/Soc. Mob & distribution, Review/adaptation of materials, Initiate vaccine procurement, Nationwide Introduction of Rota vaccine		High
Introduce Measles Second Dose immunization	By 2015, introduce Measles Second Dose immunization into routine immunization services	201; 1 <sup>st</sup> Qrt 2014: Prepare implementation plan 2 <sup>nd</sup> Qrt 2014: Advocacy and stakeholders meeting 3 <sup>rd</sup> Qrt 2014: Development of communication plan 4 <sup>th</sup> Qrt 2014: Initiate vaccine procurement, Review/adaptation of materials, Training/Soc. Mob & distribution, 1 <sup>st</sup> Qrt 2015: Nationwide Introduction of measles		High

		second dose vaccine		
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National priorities, objectives and milestones; regional and global goals, and order of priority

<b>Description of problems and other national priorities</b>	<b>National objectives</b>	<b>Milestones</b>	<b>Regional and global goals (until 2016)</b>	<b>Order of Priority</b>
5. Achieve Polio free certification status	By 2016, Sierra Leone would maintain it polio free Status.	2012-2016: Conduct several rounds of polio NIDs as required. Intensify AFP surveillance at all levels. Intensify clinician and community sensitization on polio.	By 2016, the world will be certified polio-free	High
6. Maintain high measles immunization coverage	By 2016 at least 93% , measles immunization coverage would have been maintained to at least 80% in all 13 districts	<b>2012:</b> 80% <b>2013:</b> 85% <b>2014:</b> 90% <b>2015:</b> 92% <b>2016:</b> 93%	Measles elimination in all countries of the region by 2020.(WHO/Africa region) - 90% reduction in infant mortality by 2016 compared to 2008	High
7. Yellow fever coverage not always the same with Measles	By 2013, YF coverage would have been the same for Measles	<b>2012:</b> 11districts maintain at least 80% coverage <b>2013:</b> 13 districts would have achieved 80% coverage	By end 2013, at least 80% countries already giving YF vaccine will have YF coverage same as Measles.	Medium

Table 9 National priorities, objectives and milestones; regional and global goals, and order of priority

Description of problems and other national priorities	National objectives	Milestones	Regional and global goals (until 2016)	Order of Priority
9. Enhance national immunization advocacy and communications	By 2016, % of advocacy and communication activities funded would have increased from 15% to 80%	<b>2012:</b> 30% <b>2013:</b> 45% <b>2014:</b> 60% <b>2015:</b> 70% <b>2016:</b> 80%		High
	By 2013 all 13 districts would have developed and implemented advocacy and communication's plans on EPI	<b>2012:</b> EPI communication plan developed <b>2013:</b> 13 districts implementing communication plan		High
10. Strengthen disease surveillance	By 2013, IDSR would have been implemented in all 13 districts	<b>2012:</b> Train health care staff of remaining Districts on IDSR <b>2013:</b> IDSR implemented in 13 districts		High
11. Ensure availability of potent Vaccines and other supplies	By the end of 2016, all health facilities conducting EPI services will be reporting no stock-out of potent vaccines and other supplies	<b>2016:</b> No stock-out of vaccines at all levels		High
12. Financial sustainability	By 2011, national funding for Immunisation	<b>2012:</b> 15% <b>2013:</b> 30%		

	activities would have increased by 15% per year to at least 75%	<b>2014:</b> 45% <b>2015:</b> 60% <b>2016:</b> 75%		High
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National priorities, objectives and milestones; regional and global goals, and order of priority

<b>Description of problems and other national priorities</b>	<b>National objectives</b>	<b>Milestones</b>	<b>Regional and global goals (until 2016)</b>	<b>Order of Priority</b>
13. Inadequate Health workforce especially at PHU level	By 2016, 35% of vacant PHU posts would have been filled and sustained with MOHS employees	<b>2012:</b> 5% vacant post filled <b>2013:</b> 20% vacant post filled <b>2014:</b> 25% vacant post filled <b>2015:</b> 30% vacant post filled <b>2016:</b> 35% vacant post filled		High
14. Injection Safety	By 2016, all health facilities providing EPI services will maintain good injection safety practice according to national guidelines	<b>2016:</b> All health facilities would have maintained good injection safety practice	By the end of 2016, all countries would use only auto-disable syringes for Immunization	High

Table 10: Strategies and key activities

A: Service delivery

<b>Objectives</b>	<b>Strategies</b>	<b>Key Activities</b>
1. By 2016, all 13 districts would have maintained Penta3 and Pneumo 3 coverage of at least 80% and 90% at National	Strengthening of outreach and defaulter tracing	Develop Micro-plans for outreach and defaulter tracing
		Conduct regular outreach services
	Establishment of service-community link	Conduct Stakeholders meeting for participation
	Public-Private Partnership	Involve (Train) more Private health facilities staff and provide them with supplies and tools for reporting
	Reaching hard-to- reach areas	Conduct monthly integrated supervisory visits to hard to reach areas (Programmes, NGOs and CBOs)
		Innovative strategies(e.g. use of mobile phones, community radios) to reach the inner cities and high socio economic population
	Supportive supervision	Conduct monthly/quarterly monitoring and supervision of integrated Programme implementation
	Monitoring and use of data for action	Conduct regular data analysis for action at all levels
	Integrate Maternal and Child Health Services with routine immunization	Conduct National bi-annual programme reviews/ assessments, and monthly district meetings
		Develop joint plan with other programmes
2. By 2016, Sierra Leone would have maintained its polio free certification State.	Ensuring functionality of Polio Eradication Committees	Distribute other services (LLIN, Vitamin A ,Albendazole) with routine immunization
		Support Polio Eradication committees
	Maintenance of standard AFP surveillance	Monitor AFP surveillance database and district

	documentation	reporting
	Apply all strategies as in objective 1	

A: Service delivery (contd)

<b>Objectives</b>	<b>Strategies</b>	<b>Key Activities</b>
3. By 2016, maintain measles immunization coverage at 95% at national level	Conduction of SIAs	Conduct measles follow up campaign for <5 in 2012 and 2015
	Integration with other interventions	Include Vit. A and de-worming in measles SIA
	Apply all strategies as in objective 1	
4. By 2016, TT2+ coverage among WCBA would have increased from 38.4% in 2013 to at least 80%	Conduction of SIAs in high risk areas	Conduct TT SIAs in high risk districts for WCBA
		Conduct TT immunization in schools every year
	Apply all strategies as in objective 1	
5. By 2016, Pentavalent (DPT/HepB/Hib) coverage of 90% would have been achieved in all 13 districts	Capacity building	Refresher training of health staff on Pentavalent vaccine
	Social mobilisation and Programme communication	Strengthen social mobilization activities
6. By 2016, Pneumococcal 3 coverage of 90% would have been achieved in all 13 districts	Capacity building	Refresher training of health staff on Pneumococcal vaccine
	Evaluate introduction	Conduct Post Introduction Evaluation (PIE)
	Social mobilisation and Programme communication	Strengthen social mobilization activities
7. By 2014 Rota Virus vaccine introduced into the routine EPI.	Capacity building	Training of health staff on Rota virus vaccine
	Advocacy with decision makers	Sensitize politicians and opinion leaders
	Review of policy	Review EPI policy to include use of Rota vaccine
	Social mobilisation and Programme communication	Introduce key messages on Rota into routine immunization
8. By 2015, Measles Second Dose vaccination introduced into routine immunization services	Capacity building	Training of health staff on MSD vaccination
	Advocacy with decision makers	Sensitize politicians and opinion leaders
	Review of policy	Review EPI policy to include use of MSD
	Social mobilisation and Programme communication	Introduce key messages on MSD into routine

	communication	immunization
9. By 2016 YF coverage would have been the same with Measles coverage in all districts	Maintain the RED for RCH strategy	Monitor YF coverage in every district
10. By 2016, dropout rate would have been reduced from 17.7% to 10% and below.	Strengthening of defaulters tracing	Trace defaulters through home visits and outreach
	Strengthening of outreach services as in objective 1	Train community volunteers and TBAs to trace defaulters

#### B: Advocacy and communications

<b>Objectives</b>	<b>Strategies</b>	<b>Key Activities</b>
10. By 2016, % of advocacy and communication activities funded would have increased from 15% to 50%	Advocacy with decision makers and the community to ensure involvement in all child survival activities	Continue sensitizing politicians, opinion leaders, and community representatives, TBAs and the entire community using every available Media
	Strengthening of ICC for RCH	Expand ICC membership to include other partners for better integration
	Greater NGO and private sector involvement	Conduct yearly resource mobilization functions with the private sector, NGOs and other health partners
11. By 2016, all 13 districts would have been developed and implemented advocacy and communication plans on EPI	Development and implementation of communication plans	Districts develop communication plan to include key messages on RI, SIAs, outreach, dropout and vaccine wastage
		Districts implement communication plans

#### C: Surveillance

<b>Objectives</b>	<b>Strategies</b>	<b>Key Activities</b>
12. By 2016 IDSR completely implemented in all 13 districts resulting in the improvement of monitoring indicators	Continue support of IDSR implementation	Active surveillance in every district
		Monitoring of PHU reports for timeliness and completeness
		Monitor active sites
	Maintain community-based surveillance	Continue sensitisation and orientation of community health agents including traditional healers

		Community involvement in surveillance and all RCH activities
	Strengthen AEFI monitoring system	Orientation of health workers on AEFI
		Include AEFI in national database for district monitoring
		Monitor reporting on AEFI
	Strengthen Public Health Laboratory (PHL)	Maintain laboratory Equipment of PHL
		Conduct orientation for Laboratory staff
	Strengthen the system of preparedness against importation	Update importation plan as necessary

#### D: Vaccine supply, quality and Logistics

<b>Objectives</b>	<b>Strategies</b>	<b>Key Activities</b>
13. By 2016 wastage rate of BCG would have been reduced to 30% and below, other re-constituted antigens to 10% and below and Pentavalent to 5% and below.	Strengthen vaccine management system	Maintain vaccine management information system
		Refresher training for staff on the use of vaccine management system
14. By the end of 2013, all health facilities conducting EPI services will be reporting no stock-out of potent vaccines and other supplies	Availability of vaccines at all levels at all times	Estimate vaccines and injection supplies need and procure taking note of lead time
		Continue quarterly (National), monthly (District) and weekly (PHU) distribution of vaccines and other logistics to districts and PHUs
	Strengthening of distribution network	Procure vehicles, motor bikes, bicycles, boats office equipment and other capital equipment for EPI activities
	Maintenance of vehicles, motorbikes and boats	Regular maintenance and running of vehicles, motorbikes and boats to be used for distribution and motor bikes
	Replacement of Solar refrigerators	Replace Dulas solar refrigerators in all PHUs



		Conduct training for the new solar system
	Maintenance of cold chain equipment	Procure spare parts and repair faulty cold chain equipment
15. By 2016, all health facilities providing EPI services will maintain good injection safety practices according to national guidelines	Availability of injection safety materials in every district	Sustain vaccine bundling policy in every district. Report on district use of injection supplies
	Establishment of network of incinerators and waste management system	Construct 170 additional incinerators at CHCs and hospitals.
		Establish immunization waste collection/management systems
		Ensure availability and safety of burning pits for CHPs and MCHPs

#### E: Programme Management

<b>Objectives</b>	<b>Strategies</b>	<b>Key Activities</b>
16. By 2016, national funding for Immunization activities would have increased by 20%	EPI plan integrated into national budgeting processes to ensure financial sustainability.	Ensure a budget line in the MOHS for vaccines procurement (co-financing) and injection materials.
	Resource mobilization	Embark on resource mobilization
17. By 2016, at least 35% of PHU posts would have been filled and sustained with health employees	Update recruitment plan and budget	Support health care training institutions
		Employ staff to fill vacant posts
	Institutional strengthening and capacity building	Support international training for at least 2 EPI staff
		Conduct more MLM/Immunization Practice training
		Support study tours and conferences of EPI staff
		Pay overheads cost
Conduct operational research and coverage survey		

## **4. COST, BUDGET AND FINANCING FOR EPI CMYP**

Although the cMYP covers the period 2012-2016, this section presents the updated budget, financing and financing gap analysis for the EPI programme, based on the expected activities for the period 2012-2016. It will also present different scenarios and identifies strategies that will improve the financial sustainability of the programme.

### **4.1. Costing the cMYP**

#### **4.1.1. Methodology**

The methodology used is based on deriving costs of different programme inputs (such as vaccines, personnel, or vehicles needed), and activities to be carried out (such as trainings, etc). The cMYP guidelines developed by WHO and UNICEF as well as the pre-designed costing, financing and gap analysis tool for MYP, supplied by WHO were used.

The programme's costs are derived using variety of costing methodologies, depending on the interventions planned. These include:

- The ingredient approach: based on the product's unit price and quantity needed each year adjusted for by the proportion of time used for immunization. This is used for costing inputs such as personnel, vehicles, etc;
- Rules of thumbs: based on immunization practices, such as a percentage of fuel costs as representative of maintenance costs for vehicles;
- Past spending where lump sum past expenditure is used to estimate future expenditure. For example past cost per child immunized for specific campaigns, training activities, etc.

#### **4.1.2. Inputs into programme costing**

The following is a brief summary of the information incorporated.

##### **4.1.2.1. Macro-economic indicators:**

Regarding key demographic indicators, the last population census was carried out in 2004 and the current population for 2014 is estimated to be around 6,348,350 . The population growth rate is 2% and the births represent 4% of the population (data from the 2004 Sierra Leone Population census). Women of child bearing age represent 22.2% of the population and the infant mortality rate at 89/1000 (2008 DHS).

##### **4.1.2.2. Vaccines & Injection Supplies:**

The country uses surviving infants for forecasting for all antigens, apart from BCG where live births is used. Costs are a function of the unit price for individual vaccines, with quantities determined by the target population adjusted for by coverage and wastage objectives.

Key cost related highlights include:

- The country has introduced Pentavalent vaccine in 2007, Pneumococcal vaccine in 2011 and intends to introduce Rotavirus vaccine by the year 2014,
- The country carried out YF and Polio campaigns in 2011 and measles in 2012.
- Costs for respective doses of antigens and supplies are based on UNICEF prices as supplied by UNICEF Supply Division.

#### **4.1.2.3. Personnel Costs (EPI specific and shared):**

About 70% of the personnel for CH/EPI at the national level spend 90% of their time on EPI related activities, while the remaining staff (30%) spends 40% of their time on EPI. On average 6 days per month is spent on integrated supervision.

On the average a total of US\$ 2.8 million will be required annually for personnel (including support staff) salaries and allowances for the period 2012 – 2016.

#### **4.1.2.4. Vehicles and Transport Costs:**

A total of US\$797,211 will be required for the procurement/replacement of vehicles, trucks, motorized boats and motorcycles and their maintenance.

Additional maintenance costs were estimated as represented by 15% of fuel expenditure. GAVI Immunization Services Strengthening (ISS) funds for logistics were used to reinforce programme activities in the past, which are no longer available in the new dispensation.

#### **4.1.2.5. Cold Chain Equipment, Maintenance and Overheads:**

Costs were derived as with personnel and vaccines. In 2005 and 2006 UNICEF funded a considerable number of cold chain equipment (solar refrigerators). The average running cost per unit of cold chain equipment correspond to the average monthly overheads costs (electricity or fuel depending on the type of equipment) and the average maintenance cost corresponds to the average yearly cost of maintenance and repairs of each unit of cold chain equipment.

#### **4.1.2.6. Operational Costs for Campaigns:**

The operational costs for campaigns were based on operational costs for past campaigns and include all non-vaccine and injections supplies cost. These include the cost of personnel (per-diems) and other operational costs such as training, transport and social mobilization. The average operational cost per child used for future campaign operational costs were estimated at US\$0.5 for polio and US\$1.1 for measles.

#### 4.1.2.7. Programme Activities, Other Recurrent Costs

The table below illustrates the estimated costs of the different programme activities to be carried out during the period of the updated multi-year plan from 2012-2016.

**Table 11 Programme Activities and other Recurrent Cost**

cMYP Component		Costs	Future Cost Projections					Total 2012 - 2016
		2011	2012	2013	2014	2015	2016	
		US\$	US\$	US\$	US\$	US\$	US\$	US\$
	Vaccine Supply and Logistics	\$6,674,374	\$8,406,476	\$10,848,529	\$12,685,748	\$15,392,741	\$16,020,126	\$63,353,619
	Service Delivery	\$1,046,028	\$1,066,949	\$1,261,694	\$1,292,968	\$1,354,795	\$1,381,891	\$6,358,296
	Advocacy and Communication	\$51,000	\$53,040	\$54,101	\$55,183	\$56,286	\$57,412	\$276,022
	Monitoring and Disease Surveillance	\$45,000	\$46,716	\$47,650	\$48,603	\$49,575	\$50,567	\$243,112
	Programme Management	\$163,004	\$168,304	\$174,479	\$177,969	\$184,451	\$188,140	\$893,343
	Supplemental Immunization Activities	\$6,614,754	\$3,909,804	\$3,460,978	\$2,323,897	\$3,188,786	\$3,776,626	\$16,660,091
	Shared Health Systems Costs	\$2,497,171	\$2,547,114	\$3,047,824	\$3,108,781	\$3,289,057	\$3,354,838	\$15,347,613
<b>GRAND TOTAL</b>		<b>\$17,091,331</b>	<b>\$16,198,402</b>	<b>\$18,895,255</b>	<b>\$19,693,149</b>	<b>\$23,515,691</b>	<b>\$24,829,600</b>	<b>\$103,132,097</b>

#### **4.1.2.8. Surveillance Costs:**

Costs for surveillance and monitoring activities are based on the 2011 expenditure. Previously, only support to active surveillance by WHO was used to support the disease surveillance programme. This current plan focus will be on Integrated Disease Surveillance and Response (IDSR), case based surveillance for priority diseases as well as quality data management.

#### **4.1.2.9. Other Equipment Needs and Capital Costs:**

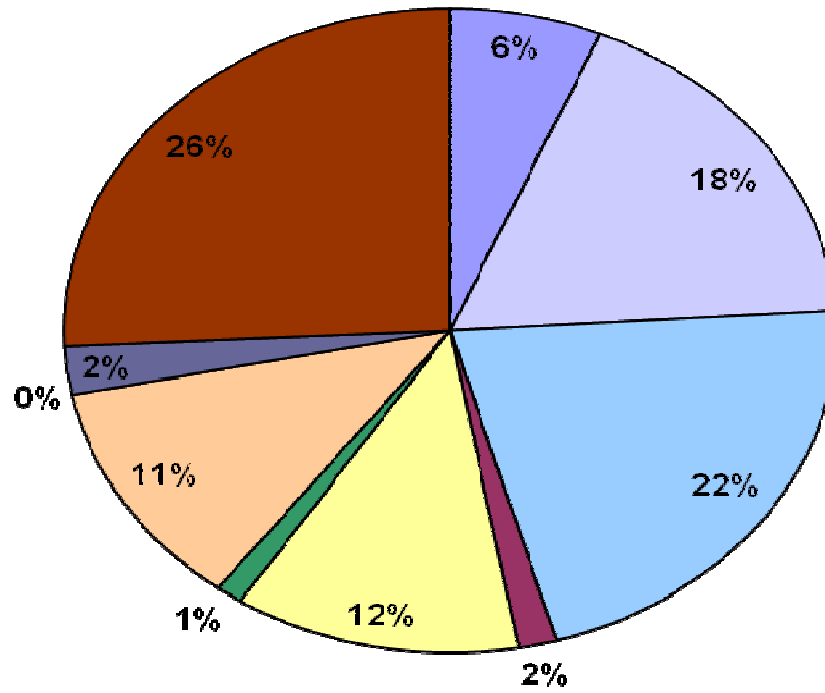
Additional costs for capital equipments (incinerators, computers, printers, generators, telecommunication equipments, etc.) were included and costed using the same methodology as with other equipment needs.

#### **4.1.2.10. Building and building overheads:**

The average running cost for buildings correspond to the average monthly overheads costs (electricity, water, telephone, etc ...).

Fig 5: Baseline Cost Profit (Routine Only)

Baseline Cost Profile (Routine Only)\*



- |                               |                         |
|-------------------------------|-------------------------|
| Traditional Vaccines          | Underused Vaccines      |
| New Vaccines                  | Injection supplies      |
| Personnel                     | Transportation          |
| Other routine recurrent costs | Vehicles                |
| Cold chain equipment          | Other capital equipment |

## 4.2. Future Programme Costs

The total expenditure for the EPI programme during the period 2012 - 2016 is illustrated in the table (costing summary) and graph (projection of future resource requirement) below:

**Table 12: Future Programme Costs**

		Costs	Future Cost Projections					
Cost Category		2011	2012	2013	2014	2015	2016	Total 2012 - 2016
Routine Recurrent Costs		US\$	US\$	US\$	US\$	US\$	US\$	US\$
	Vaccines (routine vaccines only)	\$3,634,964	\$4,210,180	\$6,856,431	\$8,006,862	\$9,111,496	\$10,555,248	\$38,740,216
	Traditional	\$507,835	\$561,658	\$597,836	\$638,574	\$677,143	\$717,668	\$3,192,879
	Underused	\$1,407,869	\$1,362,437	\$1,394,401	\$1,453,601	\$1,496,189	\$1,542,401	\$7,249,029
	New	\$1,719,260	\$2,286,085	\$4,864,194	\$5,914,687	\$6,938,164	\$8,295,178	\$28,298,308
	Injection supplies	\$128,561	\$168,836	\$229,820	\$324,415	\$355,334	\$437,000	\$1,515,405
	Personnel	\$956,028	\$975,149	\$1,162,135	\$1,185,378	\$1,245,052	\$1,269,953	\$5,837,667
	Salaries of full-time NIP health workers (immunization specific)	\$313,620	\$319,892	\$383,521	\$391,191	\$413,368	\$421,635	\$1,929,607
	Per-diems for outreach vaccinators/mobile teams	\$393,216	\$401,080	\$491,002	\$500,822	\$532,453	\$543,102	\$2,468,459
	Per-diems for	\$249,192	\$254,176	\$287,612	\$293,365	\$299,232	\$305,217	\$1,439,60

	supervision and monitoring							1	
	Transportation		\$90,000	\$91,800	\$99,558	\$107,591	\$109,742	\$111,937	\$520,629
	Fix site strategy (incl. vaccine distribution)		\$50,000	\$51,000	\$55,310	\$59,773	\$60,968	\$62,187	\$289,238
	Outreach strategy		\$30,000	\$30,600	\$33,186	\$35,864	\$36,581	\$37,312	\$173,543
	Mobile strategy		\$10,000	\$10,200	\$11,062	\$11,955	\$12,194	\$12,437	\$57,848
	Maintenance and overhead		\$693,936	\$692,536	\$1,186,389	\$1,587,201	\$2,059,851	\$2,310,717	\$7,836,693
	Cold chain maintenance and overheads		\$140,452	\$127,982	\$184,630	\$256,330	\$278,970	\$257,558	\$1,105,470
	Maintenance of other capital equipment		\$521,480	\$531,910	\$965,652	\$1,294,042	\$1,740,394	\$2,011,862	\$6,543,860
	Building overheads (electricity, water...)		\$32,004	\$32,644	\$36,106	\$36,828	\$40,487	\$41,297	\$187,363
	Short-term training		\$101,000	\$104,040	\$106,121	\$108,243	\$110,408	\$112,616	\$541,428
	IEC/social mobilization		\$51,000	\$53,040	\$54,101	\$55,183	\$56,286	\$57,412	\$276,022
	Disease surveillance		\$45,000	\$46,716	\$47,650	\$48,603	\$49,575	\$50,567	\$243,112
	Programme management		\$30,000	\$31,620	\$32,252	\$32,897	\$33,555	\$34,227	\$164,552
	Other routine recurrent costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0
	<b>Subtotal</b>		<b>\$5,730,489</b>	<b>\$6,373,916</b>	<b>\$9,774,457</b>	<b>\$11,456,373</b>	<b>\$13,131,301</b>	<b>\$14,939,677</b>	<b>\$55,675,724</b>
<b>Routine Capital Costs</b>									<b>\$0</b>
	Vehicles		\$0	\$0	\$24,970	\$50,938	\$51,957	\$52,996	\$180,860
	Cold chain equipment		\$191,797	\$1,269,306	\$488,763	\$654,898	\$1,756,328	\$607,201	\$4,776,496



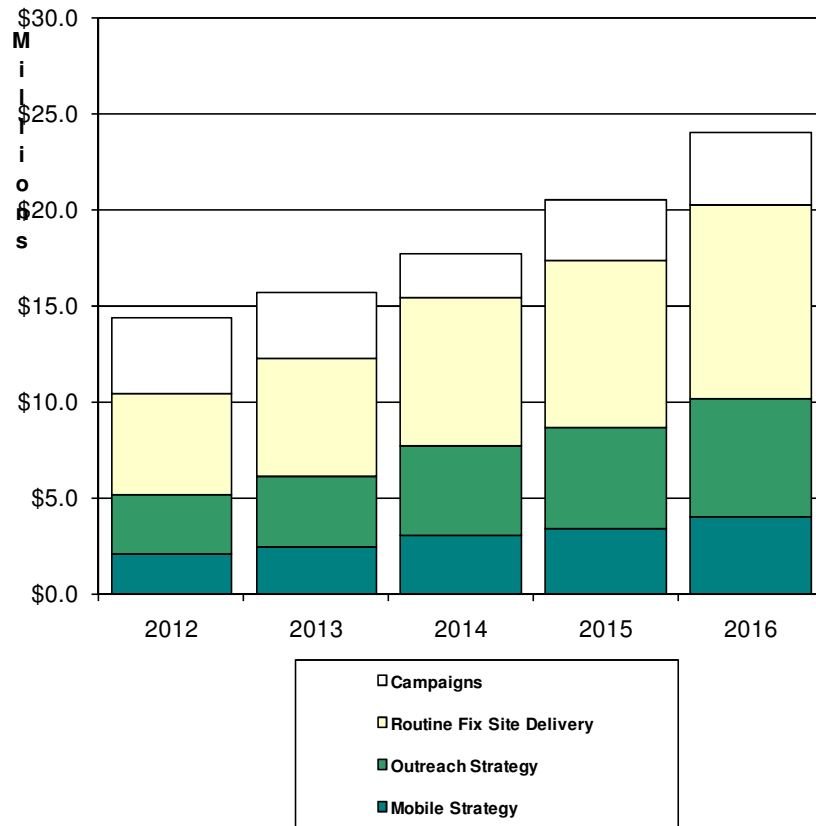
	Other capital equipment	\$2,057,120	\$2,098,262	\$2,098,262	\$2,098,262	\$2,098,262	\$2,098,262	\$10,491,312
	<b>Subtotal</b>	<b>\$2,248,917</b>	<b>\$3,367,568</b>	<b>\$2,611,995</b>	<b>\$2,804,098</b>	<b>\$3,906,547</b>	<b>\$2,758,459</b>	<b>\$15,448,668</b>
<b>Campaign Costs</b>								<b>\$0</b>
	Polio	\$6,614,754	\$2,161,362	\$2,235,807	\$2,323,897	\$2,428,129	\$2,551,455	\$11,700,650
	Vaccines and Injection Supplies	\$1,350,000	\$406,444	\$480,889	\$568,979	\$673,211	\$796,537	\$2,926,060
	Operational costs	\$5,264,754	\$1,754,918	\$1,754,918	\$1,754,918	\$1,754,918	\$1,754,918	\$8,774,590
	Measles	\$0	\$1,748,442	\$0	\$0	\$760,657	\$0	\$2,509,099
	Vaccines and Injection Supplies	\$0	\$523,271	\$0	\$0	\$760,657	\$0	\$1,283,928
	Operational costs	\$0	\$1,225,171	\$0	\$0	\$0	\$0	\$1,225,171
	Specify Campaign in Table 0.0	\$0	\$0	\$1,225,171	\$0	\$0	\$1,225,171	\$2,450,342
	Vaccines and Injection Supplies	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Operational costs	\$0	\$0	\$1,225,171	\$0	\$0	\$1,225,171	\$2,450,342
	<b>Subtotal</b>	<b>\$6,614,754</b>	<b>\$3,909,804</b>	<b>\$3,460,978</b>	<b>\$2,323,897</b>	<b>\$3,188,786</b>	<b>\$3,776,626</b>	<b>\$16,660,091</b>
<b>Shared Health Systems Costs</b>								<b>\$0</b>
	Shared personnel costs	\$2,260,847	\$2,306,064	\$2,798,208	\$2,854,172	\$3,025,459	\$3,085,969	\$14,069,873
	Shared transportation	\$150,187	\$153,191	\$156,255	\$159,380	\$162,567	\$165,819	\$797,211

	costs								
	Construction of new buildings	\$86,136	\$87,859	\$93,361	\$95,229	\$101,030	\$103,050	\$480,529	
	<b>Subtotal</b>	<b>\$2,497,171</b>	<b>\$2,547,114</b>	<b>\$3,047,824</b>	<b>\$3,108,781</b>	<b>\$3,289,057</b>	<b>\$3,354,838</b>	<b>\$15,347,613</b>	
<b>GRAND TOTAL</b>		<b>\$17,091,331</b>	<b>\$16,198,402</b>	<b>\$18,895,255</b>	<b>\$19,693,149</b>	<b>\$23,515,691</b>	<b>\$24,829,600</b>	<b>\$103,132,097</b>	
	<b>Routine Immunization</b>	<b>\$10,476,577</b>	<b>\$12,288,598</b>	<b>\$15,434,277</b>	<b>\$17,369,252</b>	<b>\$20,326,905</b>	<b>\$21,052,974</b>	<b>\$86,472,006</b>	
	<b>Supplemental Immunization Activities</b>	<b>\$6,614,754</b>	<b>\$3,909,804</b>	<b>\$3,460,978</b>	<b>\$2,323,897</b>	<b>\$3,188,786</b>	<b>\$3,776,626</b>	<b>\$16,660,091</b>	

The determinants of the projected cost 2012-2016 are the three main strategies: the routine fixed and outreach strategies as well as campaigns (see graph cost by strategy)

**Fig 6: Cost by Strategy**

**Costs by Strategy\*\***



The costs of the programme increase with time.

#### **4.3. Financing for the programme**

This section outlines the programme financing trends. The major source of financing for the routine programme during the lifetime of the updated cMYP (2012-2016) is from donor agencies (GAVI, UNICEF and WHO), The bulk of the funding is for new vaccines, traditional vaccines and SIAs (Polio & measles) during the period as well as some operational costs. The government will mostly involve in the financing of personnel and over head costs, some maintenance and co-funding for vaccines. Regarding the cMYP activities, the status of financing is presented in the table below

**Table 13: Status of Financing**

<b>Macroeconomic and Sustainability Indicators</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
<b>Per capita GDP (\$)</b>	<b>\$486</b>	<b>\$621</b>	<b>\$656</b>	<b>\$733</b>	<b>\$756</b>	<b>\$784</b>
<b>Total health expenditures per capita (THE per capita \$)</b>	<b>\$43.0</b>	<b>\$43.0</b>	<b>\$43.0</b>	<b>\$43.0</b>	<b>\$43.0</b>	<b>\$43.0</b>
<b>Population</b>	<b>5,716,860</b>	<b>5,831,198</b>	<b>5,947,822</b>	<b>6,066,778</b>	<b>6,188,114</b>	<b>6,311,876</b>
<b>GDP (\$)</b>	<b>\$2,777,090,704</b>	<b>\$3,622,427,414</b>	<b>\$3,902,502,517</b>	<b>\$4,448,919,961</b>	<b>\$4,679,643,289</b>	<b>\$4,949,085,014</b>

<b>Total Health Expenditures (THE \$)</b>	<b>\$245,824,997</b>	<b>\$250,741,497</b>	<b>\$255,756,327</b>	<b>\$260,871,453</b>	<b>\$266,088,882</b>	<b>\$271,410,660</b>
<b>Government Health Expenditures (GHE \$)</b>	<b>\$27,040,750</b>	<b>\$27,581,565</b>	<b>\$28,133,196</b>	<b>\$28,695,860</b>	<b>\$29,269,777</b>	<b>\$29,855,173</b>
<b>Routine and Campaigns (\$)</b>	<b>\$18,014,358</b>	<b>\$12,793,975</b>	<b>\$24,754,991</b>	<b>\$22,981,726</b>	<b>\$27,945,673</b>	<b>\$26,608,542</b>
<b>Routine Only (\$)</b>	<b>\$11,399,604</b>	<b>\$8,884,171</b>	<b>\$21,294,013</b>	<b>\$20,657,829</b>	<b>\$24,756,887</b>	<b>\$22,831,916</b>
<b>per DTP3 child (\$)</b>	<b>\$60.1</b>	<b>\$45.9</b>	<b>\$108.0</b>	<b>\$100.5</b>	<b>\$116.8</b>	<b>\$104.5</b>
<b>Routine and Campaigns</b>	<b>7.3%</b>	<b>5.1%</b>	<b>9.7%</b>	<b>8.8%</b>	<b>10.5%</b>	<b>9.8%</b>
<b>Routine Only</b>	<b>4.6%</b>	<b>3.5%</b>	<b>8.3%</b>	<b>7.9%</b>	<b>9.3%</b>	<b>8.4%</b>
<b>With Secure Funds Only</b>		<b>-1.4%</b>	<b>3.3%</b>	<b>2.6%</b>	<b>4.5%</b>	<b>3.2%</b>
<b>With Secure and Probable Funds</b>		<b>-1.4%</b>	<b>1.8%</b>	<b>0.9%</b>	<b>1.2%</b>	<b>-0.6%</b>

<b>Routine and Campaigns</b>	<b>66.6%</b>	<b>46.4%</b>	<b>88.0%</b>	<b>80.1%</b>	<b>95.5%</b>	<b>89.1%</b>
<b>Routine Only</b>	<b>42.2%</b>	<b>32.2%</b>	<b>75.7%</b>	<b>72.0%</b>	<b>84.6%</b>	<b>76.5%</b>
<b>With Secure Funds Only</b>		<b>-12.9%</b>	<b>30.4%</b>	<b>23.5%</b>	<b>40.8%</b>	<b>29.3%</b>
<b>With Secure and Probable Funds</b>		<b>-12.9%</b>	<b>16.7%</b>	<b>8.2%</b>	<b>10.5%</b>	<b>-5.5%</b>
<b>Routine and Campaigns</b>	<b>0.65%</b>	<b>0.35%</b>	<b>0.63%</b>	<b>0.52%</b>	<b>0.60%</b>	<b>0.54%</b>
<b>Routine Only</b>	<b>0.41%</b>	<b>0.25%</b>	<b>0.55%</b>	<b>0.46%</b>	<b>0.53%</b>	<b>0.46%</b>
<b>Routine and Campaigns</b>	<b>\$3.15</b>	<b>\$2.19</b>	<b>\$4.16</b>	<b>\$3.79</b>	<b>\$4.52</b>	<b>\$4.22</b>
<b>Routine Only</b>	<b>\$1.99</b>	<b>\$1.52</b>	<b>\$3.58</b>	<b>\$3.41</b>	<b>\$4.00</b>	<b>\$3.62</b>
<b>Total Secured Financing</b>	<b>\$16,339,810</b>	<b>\$16,215,750</b>	<b>\$16,226,652</b>	<b>\$15,991,794</b>	<b>\$17,864,907</b>	<b>\$82,638,913</b>
Government	\$6,499,453	\$5,147,801	\$4,499,747	\$4,232,109	\$5,464,833	\$25,843,943
Sub-national Government						
GAVI	\$4,971,172	\$7,317,057	\$9,087,859	\$10,688,160	\$11,717,742	\$43,781,990

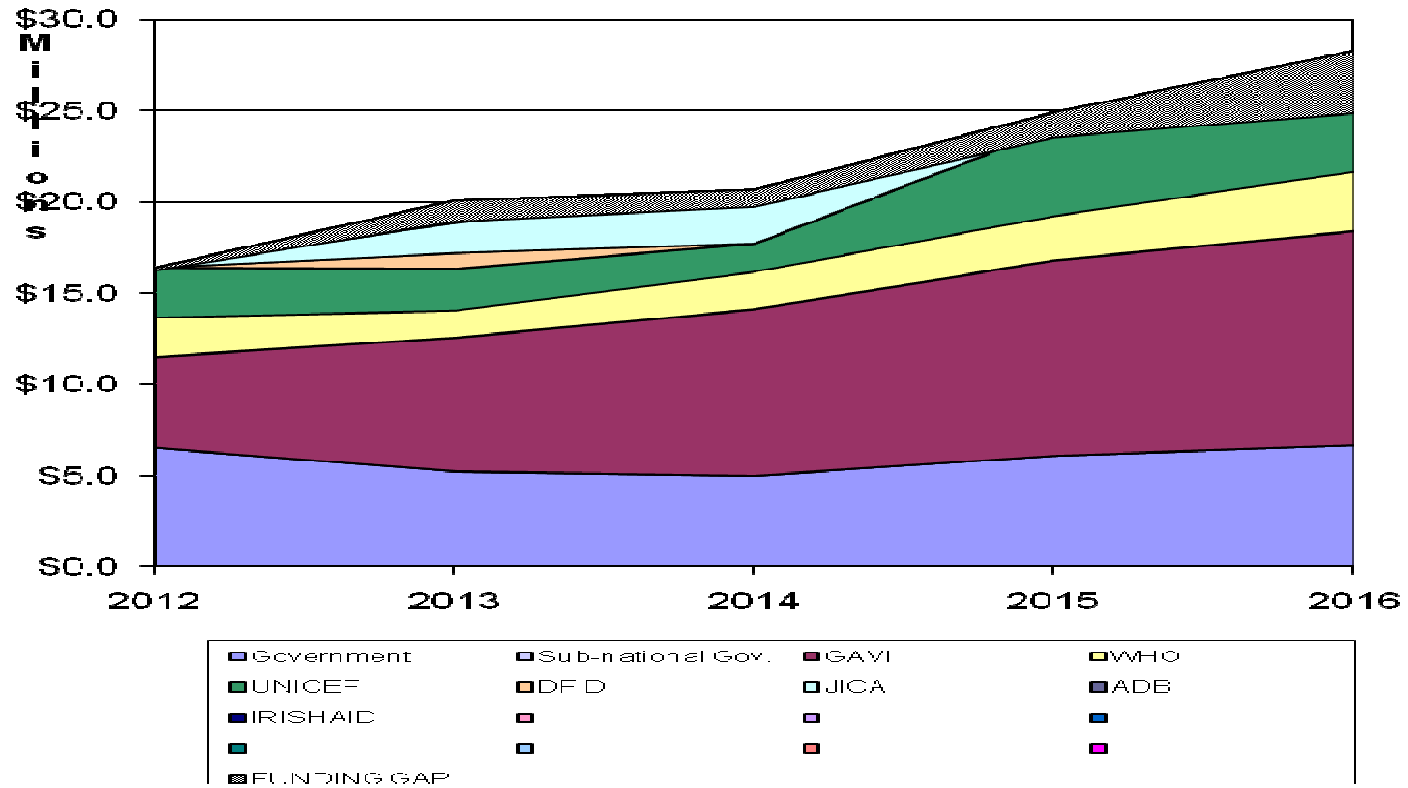
WHO	\$2,181,104	\$1,477,223	\$1,833,646			\$5,491,973
UNICEF	\$2,688,081	\$2,273,669	\$805,400	\$1,071,525	\$682,332	\$7,521,007
<b>Funding Gap</b> (with secured funds only)	<b>-\$141,408</b>	<b>\$2,679,505</b>	<b>\$3,466,497</b>	<b>\$7,523,897</b>	<b>\$6,964,693</b>	<b>\$20,493,184</b>
% of Total Needs	-1%	14%	18%	32%	28%	20%
% of Total Needs	-1%	-6%	-5%	-6%	-14%	-7%

As shown in the above table and graph, the funding gap with secured funds only for the programme costs is 59% in 2012 and will increase to 76% in 2016. The overall funding gap from 2012-2016 is about 69%. This gap is largely due to the difficulty by partners in knowing source of funding for future activities upfront.

With inclusion of probable funds from GAVI, WHO and UNICEF, the overall funding gap is almost reduced by over 45% and stands at 14% and funding gaps after the end of the cMYP in 2016 is around 19% due to the probable funding mainly from GAVI (See Graph below). The overall funding gap from 2012-2016 is US\$82,931,251 (see table for the composition of the funding gap).

**Fig7: Future Secure and Probable Financing and Gaps**

**Future Secure + Probable Financing and Gaps\***





**Table 14: Composition of the Funding Gaps**

Composition of the funding gap	2012	2013	2014	2015	2016	Avg. 2012 - 2016
Vaccines and injection equipment	-\$141,408	-\$439,805	-\$947,221	-\$1,358,550	-\$1,954,080	-\$4,841,065
Personnel	\$1	\$237,612	\$634,187	\$672,904	\$848,318	\$2,393,022
Transport		\$44,248	\$47,818	\$48,774	\$111,937	\$252,778
Activities and other recurrent costs		\$1,001,759	\$1,065,513	\$2,117,392	\$2,372,511	\$6,557,175
Logistics (Vehicles, cold chain and other equipment)	\$0	\$1,950,000	\$2,666,200	\$2,854,590	\$2,758,459	\$10,229,250
Campaigns				\$3,188,786	\$2,827,547	\$5,652,407
<b>Total Funding Gap*</b>	<b>-\$141,408</b>	<b>\$2,429,888</b>	<b>\$3,466,497</b>	<b>\$7,523,896</b>	<b>\$6,964,693</b>	<b>\$20,243,567</b>
* Immunization specific resource requirements, financing and gaps. Shared costs are not included.						

As additional funding becomes available from other partners, the funding gap will continue to reduce.

#### **4.4. Financial Sustainability Strategies**

Based on the above programme financing situation, the financial sustainability strategies will be focusing on the following key objectives:

- Strengthen the Government contribution to EPI,
- Secure the probable financing for the programme,
- Mobilize additional resources for the programme,
- Improve the programme management.
- Improve public private partnership for immunization services
- Advocate with the local government to increase funding for immunization

The respective strategies to be followed up are illustrated in the table below.

**Table 15: Objectives, Strategies and Actions on Financial Sustainability**

OBJECTIVES	STRATEGIES	ACTIONS
<p><b><u>Objective 1:</u></b> Strengthen Government contribution to EPI</p>	<p>• <b><u>Strategy 1.1:</u></b> Increase government commitment in funding EPI activities</p>	<p>- Maintain a specific budget line for vaccines and supplies in the national budget</p>
		<p>- Increase the contribution of the government for vaccines provision</p>
		<p>- Annually update costing and financing information for EPI activities</p>
	<p>• <b><u>Strategy 1.2:</u></b> Build the awareness of the Government, line Ministries and Countries authorities on the advantages of the EPI</p>	<p>- Include health focal persons from Ministry of Finance and Planning in ICC for RCH</p>
<p><b><u>Objective 2:</u></b> Secure the probable financing for the</p>	<p>• <b><u>Strategy 2.1:</u></b> Secure probable funds</p>	<p>- Include discussions on immunization financing in ICC for RCH meetings</p>
		<p>- Provide information on immunization financing in EPI bulletin at least twice/year.</p>
		<p>- Discussions on the EPI cMYP to ensure all partners are aware of planned strategies, and financing situation for the programme</p>

		- Discuss with traditional EPI partners during the development of their respective programme of work for the coming years
<b><u>Objective 3:</u></b> Mobilize additional resource for the programme	<ul style="list-style-type: none"> <li>• <b><u>Strategy 3.1:</u></b> Seek additional funds from EPI partners</li> </ul>	<ul style="list-style-type: none"> <li>- Use the opportunity of existing GAVI funding window eg Health Systems Strengthening (HSS) funding</li> <li>- Mobilize funds from other I partners, such as DFID and Irish Aid, EU, World Bank and National committees etc to fund planned programme activities and inputs</li> </ul>
<b><u>Objective 4:</u></b> Improve the	<ul style="list-style-type: none"> <li>• <b><u>Strategy 4.1:</u></b> Reduce vaccine wastage rate</li> </ul>	- Implement holistically the RED for RCH approach in all districts

	<ul style="list-style-type: none"> <li>• <b><u>Strategy 4.2:</u></b> Implement policies that reduce missed opportunities such as open vial and multi dose</li> </ul>	<ul style="list-style-type: none"> <li>- Train service providers to implement policy</li> <li>- conduct regular supportive supervision.</li> </ul>
	<ul style="list-style-type: none"> <li>• <b><u>Strategy 4.3:</u></b> Improve vaccine and cold chain management</li> </ul>	<ul style="list-style-type: none"> <li>- Review child health and CH/ EPI functional structure, endorse by ICC for RCH and fill vacant posts</li> <li>- Put in place a sound logistic management system</li> </ul>
<p>Objective 5: Improve public private partnership for immunization services</p>	<ul style="list-style-type: none"> <li>• <b><u>Strategy 1:</u></b> advocacy with private service providers</li> </ul>	<ul style="list-style-type: none"> <li>• Hold meetings with private health care providers</li> <li>• Train private health care providers</li> <li>• Provide private health care providers with vaccines and other immunization supplies</li> </ul>
<p>Objective 6: increase local Government funding for immunization</p>	<ul style="list-style-type: none"> <li>• Strategy 1: Advocacy with the local government</li> </ul>	<ul style="list-style-type: none"> <li>• Hold advocacy meetings with local council authorities</li> <li>• Sensitize local councils on the benefits of immunization</li> <li>• Create budget lines in local council budgets for immunization</li> </ul>

**Table 16: Key Activities and Timeline**

<b>Key Activities</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
<b>Service delivery</b>					
• Develop Micro-plans for service delivery.					
• Conduct regular integrated routine and outreach services					
• Conduct regular CH/EPI consultative meetings with stakeholders					
• Train Private service providers and provide them with vaccines and tools					
• Collaborate with, health NGOs, CBOs and FBOs to reach more beneficiaries (Defaulter tracing, Home visits, identification of missed children etc).					
• Conduct monthly/quarterly monitoring and supervision of integrated Programme implementation					
• Conduct monthly data harmonization and analysis					
• Conduct National bi-annual programme reviews/ assessments, and monthly district meetings					
• Develop joint plans for Africa Vaccination Week/MCHW with other programmes					
• Support Polio Eradication committees (NPEC /NCC).					
• Monitor AFP/VPD surveillance databases and district reporting					

• Conduct measles follow up campaign for <5 in 2012 and 2015					
• Conduct TT SIAs in high risk districts for WCBA					
• Conduct TT immunization in schools					
• Additional training of health staff on routine and new /under use vaccines					
• Sensitize politicians and opinion leaders					
• Review EPI policy to include use of new t vaccines and policies					
• Introduce key messages on pneumococcal and rota Vaccines into routine					
• Introduce MSD and key messages on MSD Vaccination					
• Trace defaulters and unimmunized through home visits					

<b>Key Activities</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
<b>Advocacy and Communication</b>					
• Sensitize politicians and opinion leaders					
• Expand ICC membership to include other partners for better integration					
• Identify and establish new partnerships for resource mobilization and communication.					
• Identify communication officer for CH/EPI at national level					

<ul style="list-style-type: none"> <li>National/Districts develop communication plan to link with communities and include key messages on RI, SIAs, and outreach.</li> </ul>					
<ul style="list-style-type: none"> <li>National/Districts to implement communication plans</li> </ul>					
<b>Surveillance</b>					
<ul style="list-style-type: none"> <li>Develop systems for routine/ active surveillance at national and district</li> </ul>					
<ul style="list-style-type: none"> <li>Support all districts to identify and support chiefdom surveillance focal person with</li> </ul>					
<ul style="list-style-type: none"> <li>Conduct monthly supportive supervision to all health facilities.</li> </ul>					
<ul style="list-style-type: none"> <li>Sensitize and orientate community health agents including traditional healers on AFP/VPDs.</li> </ul>					
<ul style="list-style-type: none"> <li>Institute regular monitoring of AEFI for routine and SIAs</li> </ul>					
<ul style="list-style-type: none"> <li>Include AEFI in national database for district monitoring</li> </ul>					
<ul style="list-style-type: none"> <li>Equip Identified PHL</li> </ul>					
<ul style="list-style-type: none"> <li>Conduct refresher training for Laboratory staff</li> </ul>					

Key Activities	2012	2013	2014	2015	2016
<b>Vaccine Supply Quality and Logistics</b>					
• Develop vaccine management information system					
• Train staff on the use of vaccine management system					
• Estimate vaccines and injection supplies need and procure taking note of lead time					
• Quarterly and monthly distribute vaccines and other logistics to districts and PHUs					
• Procure vehicles, motor bikes, bicycles, boats office equipment and other capital equipment for EPI activities					
• Ensure road worthiness of vehicles and motor bikes; and maintenance other capital equipment					
• Provide additional solar cold chain in every district					
• Conduct refresher training for cold chain technicians					
• Repair faulty cold chain equipment					
• Procure cold chain equipment and spare parts					
• Sustain vaccine bundling policy in every district.					
• Report on district use of injection supplies					
• Construct 170 additional incinerators at CHCs and hospitals.					
• Establish immunization waste collection/management systems					
• Construct burning pits for CHPs and MCHPs					



Key Activities	2012	2013	2014	2015	2016
<b>Programme Management</b>					
• Create a specific budget line in MOHS for vaccines purchase					
• Build financial planning and management capacity.					
• Hold round table conferences with public and private sectors to mobilize resources					
• Train health care staff to fill vacant posts					
• Employ staff to fill vacant posts					
• Support international training for 4 EPI national staff per year					
• Conduct MLM training					
• Support study tours and conferences for 4 EPI staff per year					
• Construct 25 Health centres per year					
• Pay building overheads					
• Conduct operational research and coverage survey					
• Programme administration					

**Table 17: Indicators for monitoring, supervision and evaluation**

• Objectives	• Key indicators
<ul style="list-style-type: none"> <li>• 1. By 2016, all 13 districts would have achieved Penta3 coverage of at least 80%.</li> </ul>	• Routine Penta3 immunization coverage
	• Proportion of districts with 80% or more Penta3 coverage
	• Proportion of districts implementing RED for RCH strategy
	• Number of integrated outreach services conducted per quarter
	• Proportion of private practitioners delivering immunization
<ul style="list-style-type: none"> <li>• 2. By 2016, Sierra Leone would have continued to maintain polio free Status.</li> </ul>	• % of children under five reached with two doses of OPV
	• Routine OPV 3 coverage
	• Polio surveillance indicators
<ul style="list-style-type: none"> <li>• 3. By 2016, measles immunization coverage would have been increased to at least 80% in all 13 districts</li> </ul>	• % of districts with at least 80% routine Measles immunization coverage
	• Proportion of children under five reached during SIAs
	• % of districts detecting at least one suspected measles case
	• % of suspected measles cases with blood samples collected
<ul style="list-style-type: none"> <li>• 4. By 2016, TT2+ coverage among WCBA would have</li> </ul>	• % of WCBA immunized with TT2+

	<ul style="list-style-type: none"> <li>• Proportions of districts with TT elimination status &gt; 1 cases per 1000</li> <li>• Number of reported cases of tetanus</li> <li>• Proportion of high risk districts where SIAs have been conducted</li> </ul>
5. By 2016, Pneumococcal vaccine would have been introduced in all 14 districts	<ul style="list-style-type: none"> <li>• Number of districts that have introduced Pneumococcal vaccine</li> <li>• Pneumo coverage</li> </ul>
6. By 2015, MSD vaccination would have been introduced into routine immunization in all 14 districts	<ul style="list-style-type: none"> <li>• Number of districts that have introduced MSD vaccination</li> <li>• MSD coverage data</li> </ul>
7. By 2016, YF and Measles coverage would have been the same	<ul style="list-style-type: none"> <li>• Measles and Yellow fever immunization coverage</li> </ul>
8. By 2016, dropout rate would have been reduced from 15% to <10%.	<ul style="list-style-type: none"> <li>• Dropout rate</li> <li>• Proportion of districts with dropout rate of &lt;10%</li> </ul>
9. By 2016, % of advocacy and communication activities funded would have increased from 15% to 80%	<ul style="list-style-type: none"> <li>• % of funding received for advocacy and communication activities</li> </ul>
10. By 2016, all 13 districts would have developed and implementing advocacy and communication's plans on EPI	<ul style="list-style-type: none"> <li>• Proportion of districts with advocacy plans and implementing it</li> </ul>
11. By 2016, IDSR would have been implemented in all 13 districts	<ul style="list-style-type: none"> <li>• % of Health staff trained on IDSR</li> <li>• % of health facilities implementing IDSR</li> <li>• Availability of a functional public health laboratory in country</li> </ul>
12. By 2016 wastage rate of BCG would have been	<ul style="list-style-type: none"> <li>• Wastage rate</li> </ul>

	<ul style="list-style-type: none"> <li>• Proportion of districts with wastage rates of 30% and below for re-constituted vaccines, and 10% below for other vaccines, and 5% and below for pentavalent and Pneumo vaccines</li> </ul>
13. By the end of 2016, all health facilities conducting EPI services will be reporting no stock-out of potent vaccines and other supplies	<ul style="list-style-type: none"> <li>• Proportion of health facilities reporting stock-out of potent vaccines and other supplies</li> </ul>
14. By 2016, all health facilities providing EPI services will be practicing injection safety according to national guidelines	<ul style="list-style-type: none"> <li>• Proportion of districts reporting on AD use</li> </ul>
	<ul style="list-style-type: none"> <li>• Proportion of districts adhering to bundling</li> </ul>
	<ul style="list-style-type: none"> <li>• Availability of AD needles and syringes and safety boxes</li> </ul>
	<ul style="list-style-type: none"> <li>• Proportion of facilities using safe injection and waste disposal measures</li> </ul>
15. By 2016, national funding for Immunization activities would have increased by 5% per year to at least 50%	<ul style="list-style-type: none"> <li>• % of yearly national funding for immunization</li> </ul>
16. By 2016, 90% of PHU vacant posts would have been filled and sustained with MOHS employees	<ul style="list-style-type: none"> <li>• Number of health workers of various categories trained</li> </ul>
	<ul style="list-style-type: none"> <li>• Number of vacancies filled with MOHS employed staff</li> </ul>

**Table 18: Annual work plan for 2014**

Key Activities	2014			
	Q1	Q2	Q3	Q4
Service delivery				
• Develop Micro-plans for service delivery.				
• Conduct regular integrated routine and outreach services				
• Conduct regular CH/EPI consultative meetings with stakeholders				
• Train Private service providers and provide them with vaccines and tools				
• Collaborate with, health NGOs, CBOs and FBOs to reach more beneficiaries (Defaulter tracing, Home visits, identification of missed children etc).				
• Conduct monthly/quarterly monitoring and supervision of integrated Programme implementation				
• Conduct monthly data harmonization and analysis				
• Conduct National bi-annual programme reviews/ assessments, and monthly district meetings				
• Develop joint plans for Africa Vaccination Week/MCHW with other programmes				
• Support Polio Eradication committees (NPEC /NCC).				
• Monitor AFP/VPD surveillance databases and district reporting				
• Conduct TT immunization in schools				

• Additional training of health staff on routine and new /under use vaccines				
• Sensitize politicians and opinion leaders				
• Introduce key messages on pneumococcal and rota Vaccines into routine				
• Introduce key messages on MSD Vaccination				
• Trace defaulters and unimmunized through home visits				
<b>Advocacy and Communication</b>				
• Sensitize politicians and opinion leaders				
• Expand ICC membership to include other partners for better integration				
• Identify and establish new partnerships for resource mobilization and communication.				
• National/Districts develop communication plan to link with communities and include key messages on RI, SIAs, and outreach.				
• National/Districts to implement communication plans				
<b>Surveillance</b>				
• Develop systems for routine/ active surveillance at national and district				
• Support all districts to identify and support chiefdom surveillance focal person with				
• Conduct monthly supportive supervision to all health facilities.				
• Sensitize and orientate community health agents including traditional healers on AFP/VPDs.				
• Institute regular monitoring of AEFI for routine and SIAs				
• Include AEFI in national database for district monitoring				
• Equip Identified PHL				
• Conduct refresher training for Laboratory staff				

<b>Vaccine Supply Quality and Logistics</b>				
• Develop vaccine management information system				
• Train staff on the use of vaccine management system				
• Estimate vaccines and injection supplies need and procure taking note of lead time				
• Quarterly and monthly distribute vaccines and other logistics to districts and PHUs				
• Procure vehicles, motor bikes, bicycles, boats office equipment and other capital equipment for EPI activities				
• Ensure road worthiness of vehicles and motor bikes; and maintenance other capital equipment				
• Provide additional solar cold chain in every district				
• Conduct refresher training for cold chain technicians				
• Repair faulty cold chain equipment				
• Procure cold chain equipment and spare parts				
• Sustain vaccine bundling policy in every district.				
• Report on district use of injection supplies				
• Establish immunization waste collection/management systems				
• Construct burning pits for CHPs and MCHPs				
<b>Programme Management</b>				
• Build financial planning and management capacity.				
• Hold round table conferences with public and private sectors to mobilize resources				
• Train health care staff to fill vacant posts				
• Employ staff to fill vacant posts				

• Support international training for 4 EPI national staff per year				
• Conduct MLM training				
• Support study tours and conferences for 4 EPI staff per year				
• Pay building overheads				
• Conduct operational research				
• Programme administration				



## Annexes

### Annex 1: Characteristics of the Vaccines in Use and recommended storage Temperature

Vaccine	Formulation	Storage Temperature
BCG	Lyophilized/freeze dried	+2° to +8 °C
OPV	Liquid	+2° to +8 °C
Measles	Lyophilized/freeze dried	+2° to +8 °C
Pentavalent	Liquid	+2 to + 8 °C
Yellow Fever	Lyophilized/freeze dried	+2 to + 8 °C
TT	Liquid	+2 to + 8 °C
*Pneumococcal	Liquid	+2 to + 8 °C
**Rotavirus	Liquid	+2 to + 8 °C
Diluents	Liquid	+2 to + 8 °C

*\*Vaccines introduced in early 2011*

*\*\*Vaccine for introduction in 2012*

At the Peripheral health Unit level, all vaccines shall be stored at a temperature of +2 to + 8 °C for a period not exceeding one month.

**Annex 2: Immunization schedule for children 0-11 months old**

<b>Age</b>	<b>Vaccine</b>	<b>Other interventions</b>
At birth	BCG, OPV0,	EEBF, GMP
6 Weeks	OPV1, Penta1, Pneumo1, Rota1	GMP,
10 Weeks	OPV2, Penta2, Pneumo2, Rota2	GMP
14 Weeks	OPV3, Penta3, Pneumo3,	GMP, LLINs
9 Months	Measles*, Yellow fever**	Vitamin 'A', GMP etc
15 Months	Measles Second Dose	Vitamin 'A', GMP etc
9-13 Years	HPV (only demonstration programme now for girls 9 years, yet to be introduced)	Other ADH interventions that are yet to be identified

**\*Pentavalent=DPT-HepB-Hib**

**\* Administer Vitamin A at the same time as Measles and Yellow Fever vaccines**

**\*\* Under the EPI, Yellow Fever vaccine in routine services is restricted only to children under one year of age. MOHS shall decide on all changes.**

**Annex 3: Immunization Schedule for Tetanus Toxoid for Women of Childbearing Age (15-49 years))**

<b>Dose</b>	<b>When to give</b>	<b>Duration of protection</b>
TT1	At first contact with woman of childbearing age, or as early as possible in pregnancy	No protection
TT2	At least 4 weeks after TT1	3 years
TT3	At least 6 months after TT2	5 years
TT4	At least 1 year after TT3 or during Subsequent pregnancy	10 years
TT5	At least 1 year after TT4 or during subsequent pregnancy	All childbearing years

**Annex 4: Summary of route of administration of vaccines**

<b>Vaccine</b>	<b>Route of administration</b>	<b>Site of administration</b>
BCG	Intradermal	Upper <b>Right</b> arm
Pentavalent	Intramuscular	Outer part of <b>left</b> thigh
OPV	Oral	Mouth
Measles	Subcutaneous	Upper <b>left</b> arm
Yellow fever	Subcutaneous	Upper <b>right</b> arm

Tetanus Toxoid	Intramuscular	Upper <b>left or right</b> arm
Pneumococcal	Intramuscular	Outer part of <b>right</b> thigh
Rotavirus	Oral	Mouth

## Annex 5 Organogram of the Ministry of Health and Sanitation

