

# **Somalia**

**Expanded Programme on Immunization**

**A Comprehensive Multi-Year Plan**

**2011 – 2015**

**April, 2011**

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EPI team of Somalia

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## Acronyms

AD	Auto-Disable (syringe)
AEFI	Adverse Events Following Immunization
AFP	Acute Flaccid Paralysis
AMISOM	African Union Mission in Somalia (A peace-keeping force in Mogadishu)
ANC	Ante-Natal Care
BCC	Behavior Change Communication
BCG	Bacillus Callamete-Guarin vaccine
CCS	Country Cooperation Strategy
CHD	Child Health Days
CHW	Community Health Worker
cMYP	Comprehensive Multi-Year Plan
DPO	District Polio Officer
DPT	Diphtheria-Pertusis-Tetanus
EPI	Expanded Programme on Immunization
GAVI	Global Alliance for Vaccines and Immunization
GDP	Gross Domestic Product
GF	The Global Fund to Fight AIDS, Tuberculosis and Malaria
GNI	Gross National Income
GIVS	Global Immunization Vision and Strategy
HSS	Health Systems Strengthening
IDP	Internally Displaced Persons
IDSR	Integrated Disease Surveillance and Response
IEC	Information Education Communication
MCH	Maternal and Child Health
MCH/OPD	Maternal Child Health/Out Patient Department
MDG	Millennium Development Goals
MICS	Multi-Indicator Cluster Survey
MOH	Ministry of Health
MNT	Maternal and Neonatal Tetanus
NEZ	North East Zone (Puntland) – North East Somalia
NGOs	Non-governmental Organization
NID	National Immunization Days
NWZ	North West Zone (Somaliland) – North West Somalia
OPV	Oral Polio Vaccine
ORS	Oral Rehydration Solution
PEO	Polio Eradication Officer
PHC	Primary Health Care
RED	Reaching Every District
SIA	Supplemental Immunization Activities
SRCS	Somali Red Crescent Society
SSS	Somalia Support Secretariat
TBA	Traditional Birth Attendant
TFG	Transitional Federal Government
THE	Total Health Expenditure
TT	Tetanus Toxoid
UN	United Nations
UNCT	United Nations Country Team

UNSAS	United Nations Somalia Assistance Strategy
UNTP	United Nations Transitional Plan
UNICEF	United Nations children's fund
VPD	Vaccine Preventable Disease
VSSM	Vaccine Supplies Stock Management
WCBA	Women of Child Bearing Age
WHO	World Health Organization
WPV	Wild Polio Virus
WVI	World Vision International
ZPEO	Zonal Polio Eradication Officer

## Executive Summary

Somalia, located in the Horn of East Africa, has been without a central government and in a continued civil strife since 1991, which resulted in division of the country into three major administrative entities: Somaliland, Puntland and Central/South zones. Based on UNDP projections in 2010, total estimated population of the country was 8.7 million people. Though Somalia in general is in turmoil, Somaliland and Puntland do have relative peace and stability where local governments are functioning. GNI per capita for Somalia was estimated to be US\$ 288 in 2008<sup>1</sup>; and the GDP is estimated at US\$ 2.5bn with a growth rate of 2.6%.

Health services in Somalia are run by local governments and humanitarian agencies; and the immunization programme is supported by UNICEF Somalia, WHO Somalia and more than 40 NGOs, coordinated in an EPI Working Group that is organized under the umbrella of Somalia Support Secretariat (SSS). Immunization schedule of Somalia includes the traditional six antigens of EPI vaccines, including a birth dose of OPV and vitamin A at the age of 9 months. Services are currently delivered through fixed sites at health facilities, complemented by RED approach in Somaliland and Puntland and some districts of Central/South zone. A nation-wide Child Health Days strategy is used to reach more children with routine immunization integrated with other child health interventions. As a result of the combined strategies, immunization coverage has increased from about 30% in 2008 to more than 60% in 2010. The country has been polio-free for more than three years. Successful rounds of measles catch-up and follow-up campaigns have resulted in about 90% reductions in measles mortality. At least two rounds of Child Health Days have been conducted in 20 of the 21 regions. With each rounds of CHD, coverage of more than 80% of the targeted children was achieved with most of the interventions.

Somalia has been providing the traditional six antigens since the beginning of immunization programme in the country and currently plans to apply for under-utilized/new vaccines to GAVI, as they become available. With the support of GAVI and immunization partners like UNICEF and WHO, the country has planned to introduce Pentavalent (DTP-HepB-Hib) vaccine in 2013.

Somalia has made use of MYP for improving its immunization programme, since 2005. The country's last cMYP, 2008 – 2010, expired in 2010, with most of its objectives having been met within the plan period. Therefore, the current cMYP was developed through a consultative and inclusive process. The plan has a set of defined objectives and targets for 2011-2015, based on identified priority areas that are derived from problem analysis of immunization programme of the country within the broader context of health and socio-economic situation. Costing and financial analysis of the plan indicated a total financial requirement of about US\$ 106 million for the plan period, and a funding gap 81% of the total requirement for immunization programme of the country. The cMYP was agreed upon by all immunization partners of Somalia.

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<sup>1</sup> [http:// UN data country profile Somalia.htm](http://UNdata.countryprofile.Somalia.htm)

## Chapter 1: Situation Analysis

### 1.1 Background

#### ***Geography***

Somalia covers a total geographic area of 637,657 km<sup>2</sup>, and is bordered by Ethiopia and Djibouti in the west, Kenya in the south, the Gulf of Aden in the north and the Indian Ocean in the east. The country has the longest coastline in Africa. Most parts of Somalia range from semi-arid to arid, and are hot and dry throughout the year. Temperatures can reach as high as 46 degree Celsius. Droughts occur every two to three years, followed by heavy and devastating floods. There are two rainy seasons, May - August and October-November. Most parts of the country are flat, covered mainly with short acacia trees and scanty grasslands. The country is administratively divided into 18 regions and 98 districts. After the disintegration of the central government this administrative division has taken different shape. Currently there are three zones (Northwest, Northeast, and Central & South) under which are reported 21 regions and 98 districts<sup>2</sup>. (See annex 1)

#### ***Demography***

Population estimates for Somalia are debatable. The last population census was conducted in the 1970s. All population estimates have therefore been derived through a mixture of projecting from these figures as well as from figures used in delivering nation-wide services such as polio vaccination campaigns and/or household surveys. Somalia is estimated to have a total population of 8.7 million people (UNDP 2005). A UNDP survey (UNDP 2002) indicated that an average household consists of 5.8 persons, and nearly half of the total population is younger than 15 years. About 36 % is living in an urban environment and about 64% in rural areas. The average annual growth rate was estimated at 3% (UNDP Somalia).

Table 1: Estimated Population of Somalia, by zone, 2010<sup>3</sup>

<b>Zone</b>	<b>Population</b>
North West Zone (Somaliland)	2,181,200
North East Zone (Puntland)	1,006,400
Central/South Zone	5,510,100
<b>TOTAL</b>	<b>8,697,600</b>

*Source: AYCS document based on UNDP Projection*

<sup>2</sup> The number of regions and districts that are accepted by the international community are those that were defined by the last Somali government: 19 regions and 93 districts. The number has been changing since then, especially in NW/NE zones. The number we used here is the figure agreed upon by partners in Somalia.

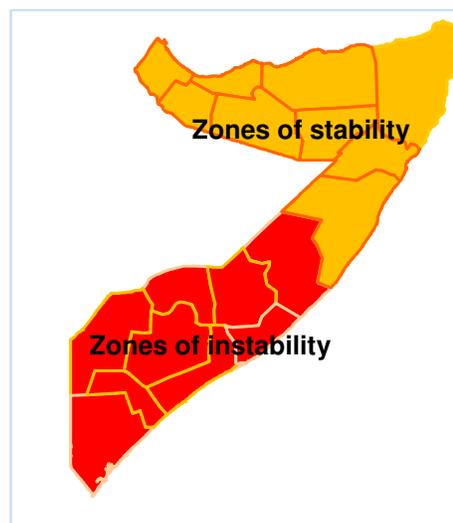
<sup>3</sup> Based on UNDP projections made in 2005

## ***Socio-Political Situation***

Since 1991, Somalia has been without a central government. Conflict and instability have had profound effects on the socio-economic aspects of the country. Amid the political turmoil of the late 1980s and early 1990s, the north-western zone of the country declared its independence, namely the Republic of Somaliland. Later, in 1998, the north-east declared itself as the autonomous State of Puntland. Most parts of South/Central Somalia remains locked in intermittent conflict and violence. The Transitional Federal Government (TFG), in place since 2004, controls certain areas of Mogadishu, the capital city of Somalia. Broadly speaking there are zones of stability and instability in Somalia.

**Zones of stability:** Both north-west and north-east zones are relatively stable. Basic social services are provided to the community by the local administration with support of humanitarian agencies. In these areas local NGOs and professional societies are also functioning and the private sector is booming.

**Zones of instability:** Most parts of Central and South Somalia, including Mogadishu, remain unstable. These areas are characterized by inter-clan conflict sporadic fighting between insurgents and TFG and its AMISOM allies. As a result of the prevailing insecurity, most of these areas are inaccessible for international staff. However, WHO has been able to remain inside Somalia in all districts and implement activities such as Child Health Days.



## ***Socio-Economic Situation***

Due to the complexity, dispersion and informality of the economy, most figures of Somali's economy are estimates. GNI per capita for Somalia was estimated to be US\$ 288 in 2008<sup>4</sup>; and the GDP is estimated at US\$ 2.5bn with a growth rate of 2.6% (roughly 320 US\$ per capita – Economist Intelligence Unit 2008). Remittances by the Somali diaspora are seen as one of the pillars of the economy, and essential to the survival of large portions of the population. Remittances are estimated at 1 billion US\$ per year. Telecommunications are reliable; money transfer and exchange services fill the hole left by an absent formal banking sector. Total reported exports have risen from an estimated US\$117m in 2000 to \$380m in 2007<sup>5</sup>, demonstrating that entrepreneurs are able to thrive in a compromised security context such as Somalia. Remittances have been used to invest in a flourishing private sector– including private health care services.

<sup>4</sup> [http:// UN data country profile Somalia.htm](http://UNdata/countryprofile/Somalia.htm)

<sup>5</sup> IMF Direction of Trade Statistics <http://www.imf.org/external/pubs/cat/longres.cfm?sk=20721.0>

## ***Health Sector Financing***

Health financing in Somalia is fragmented and unpredictable. In Somaliland and Puntland, government allocations to the health budget have increased in the last few years, reaching up to 2 – 3% of the total government budgets. According to a study<sup>6</sup> conducted in 2006, health expenditure (largely out-of-pocket) was estimated to account for 3 to 3.5% of GNI. It was also estimated that health received about 10% of the US\$ 390m spent by main donors in 2006. Donor contributions for health tripled over the past seven years, from US\$ 23 to US\$ 62m in 2007. About 22% of the total budget was used for malaria, HIV and TB; and 20% was spent for the polio eradication programme (2000 – 2006). The above-mentioned study estimated that international assistance provided roughly US\$ 7 per capita in health expenditure, in 2000 - 2006. The study by the World Bank on trends in donor financing of the health sector<sup>7</sup> between 2000 and 2006 indicates:

- Conventional donors' funding for the health sector grew almost three-fold in seven years, passing from US\$ 23.00 in 2000 to US\$ 62 million in 2006.
- Per capita aid financing for health grew from US\$ 3.00 in 2000 to US\$ 7.00 in 2006.
- Health sector financing for health progressively shifted from horizontal to vertical programmes, particularly through polio eradication campaigns and programmes through the Global Fund for AIDS, Tuberculosis & Malaria (GFATM).
- Within vertical programmes, EPI, reproductive health, non-communicable diseases and nutrition received inadequate funding.
- Support for health system strengthening was significant but fragmented.

The study recommended:

- A large increase in funding to address the severe health needs of the Somali population.
- Contributions to the health sector should be made more strategic to address, as a matter of priority, funding-gaps in key areas (EPI, reproductive health, nutrition and non-communicable diseases)
- Activities to strengthen the health system should be sustained but made more strategic and coherent through improved coordination mechanisms to enhance priority-setting and reduce transaction costs.

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<sup>6</sup> A major inventory of external resources, carried out in 2006 (Capobianco and Naidu, 2008).

<sup>7</sup> Capobianco E., Naidu V.A REVIEW OF HEALTH SECTOR AID FINANCING TO SOMALIA (2000-2006). August 2007. World Bank.

## **Health Infrastructure**

The country has an internationally recognized Federal Ministry of Health (MoH), while the self-declared autonomous zones of Puntland and Somaliland have separate Ministries. The MoH's ability to coordinate and monitor NGOs, public and private health services is limited. This vacuum has been filled essentially by non-governmental organizations (local and international) through funding from UN agencies, and multilateral and bilateral donors. Major hospital services are concentrated in cities like Mogadishu, Hargeisa, Bossaso and Baidoa. There are more than 250 MCH centers and about 600 health posts in Somalia that provide basic health and immunization services. The MCH/ OPD are networks of close-to-client outlets of primary health care unit. Each is staffed by 5 – 7 nurses and auxiliaries. MCHs are operational in Somalia mainly due to the provision of medical supplies from UNICEF.

The health sectors in Somaliland and Puntland have institutions and structures in place with functional local authorities of health<sup>8</sup>. Somaliland has developed a five year health strategic plan with an investment plan and a health strategic framework. A Health Sector Reform (HSR) secretariat was established, but needs further assistance to make it functional.

### **Organization of the Health System**

Essential Package of Health Services was defined for the country through a consultative and inclusive process by partners. The essential package is organised through classic tiers of service provision with the following four levels:

- Primary health unit
- Health centre
- Referral health centre
- Hospital

Partners are working towards the realization of the package. The distribution of health facilities is shown in table 2, below.

Table 2: Distribution of Health Facilities in Somalia, 2008

<b>Zones</b>	<b>Health Post</b>	<b>MCHs</b>	<b>District Hospital</b>	<b>Referral Hospital</b>
Somaliland	160	70	8	1
Puntland	120	44	4	1
South Central	264	134	15	5
<b>TOTAL</b>	<b>544</b>	<b>248</b>	<b>27</b>	<b>7</b>

*Source: UNICEF Somalia, 2008*

<sup>8</sup> Each MoH is differently structured – but each has departments dealing with health services, primary health care, EPI, nutrition, planning and human resource development, administration and finance and health management information systems (HMIS) – among other things.

## **Health Status**

The MDG health-related indicators for Somalia are among the worst in the world. The infant mortality rate was estimated at 132 per 1,000 live births in 1999, with the rate of under-five mortality at 224 per 1,000 live births. Maternal mortality was estimated as high as 1,600 per 100,000 live births in 1999 (World Bank, 2005). The proportion of under-five children who are underweight is 26%. Immunization coverage (1 year-old children fully immunized<sup>9</sup>) was only 36% in 2007 (WHO/UNICEF Joint Reporting Format, 2007). The synergistic effect of poverty, civil unrest and poor health delivery system has resulted in a poor health status of Somali community (see table 2 below).

Table 3: Health/Vital Statistics, Somalia

Indicator	Recent Estimate	Source, and Year.
Under-five Mortality Rate	180 per 1000 live births	Immunization Summary, a statistical reference, 2011 edition (UNICEF & WHO)
Infant Mortality Rate	109 per 1000 live births	Immunization Summary, a statistical reference, 2011 edition (UNICEF & WHO)
Neonatal Mortality Rate, 2009	52 per 1000 live births	UNICEF, 2009
Maternal Mortality Ratio	1,044 per 100,000 live births	
Percentage of under-fives suffering from: underweight (WHO), severe	12	UNICEF, 2003 - 2009
Percentage of under-fives suffering from: underweight (WHO), moderate & severe	32	UNICEF, 2003 - 2009
ANC attendance	26.1%	UNICEF, 2006
Access to safe drinking water	29.3%	UNICEF, 2006

## **1.2 Global Immunization Vision and Strategy**

WHO and UNICEF along with other partners have jointly prepared a Global Immunization Vision and Strategy (GIVS) for the years 2006–2015. Its goal is to protect more people against more diseases by expanding the reach of immunization activities, by reaching out to every eligible person, including those in age groups beyond infancy, within a context in which immunization is high on every health agenda. The aim of the strategy is to sustain existing levels of vaccine coverage, extend immunization services to those who are currently left out, un-reached and to age groups beyond infancy, introduce new vaccines and technologies, link immunization with the delivery of other health interventions and the overall development of the health sector. The strategy places immunization firmly within the context of the health system, highlighting the

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<sup>9</sup> An infant is considered fully immunized one dose of BCG, and measles each four doses of OPV and three doses DPT

fact that immunization can both benefit from, and contribute to, the development of the health sector by overcoming system-wide barriers. Furthermore, the strategy also underlines the crucial contribution of immunization to the global preparedness of epidemics and complex emergencies. The realization of this vision will need a strengthened surveillance, better monitoring and evaluation, and the application of solid data for programme management.

### ***GIVS Goals***

Between 2006 and 2015, all those working on immunization and related product development should strive to prevent morbidity and mortality by achieving the following goals and targets.

#### **By 2010 or earlier**

- **Increase coverage.** Countries will reach at least 90% national vaccination coverage and at least 80% vaccination coverage in every district or equivalent administrative unit.
- **Reduce measles mortality** Globally, mortality due to measles will have been reduced by 90% compared to the 2000 level.

#### **By 2015 or earlier (as the case may be)**

- Sustain coverage. The vaccination coverage goal reached in 2010 will have been sustained.
- Reduce morbidity and mortality. Global child-hood morbidity and mortality due to vaccine-preventable diseases will have been reduced by at least two thirds compared to 2000 levels.
- Ensure access to vaccines of assured quality. Every person eligible for immunization included in national programmes will have been offered vaccination with vaccines of assured quality according to established national schedules.
- Introduce new vaccines. Immunization with newly introduced vaccines will have been offered to the entire eligible population within five years of the introduction of these new vaccines in national programmes.
- Ensure capacity for surveillance and monitoring. All countries will have developed the capacity at all levels to conduct case-based surveillance of vaccine-preventable diseases, supported by laboratory confirmation where necessary, in order to measure vaccine cover-age accurately and use these data appropriately.
- Strengthen systems. All national immunization plans will have been formulated as an integral component of sector-wide plans for human resources, financing and logistics.
- Assure sustainability. All national immunization plans will have been formulated, costed and implemented so as to ensure that human resources, funding and supplies are adequate.

### ***1.2.1 GIVS in Somalia Context***

GIVS presents the following four strategic areas as a framework for strategic planning.

1. Protecting more people
2. Introducing new vaccines and technologies
3. Integrating immunization, other health interventions and surveillance in the health system context
4. Immunizing in the context of global interdependence

The following matrix shows the status of the immunization programme in Somalia within the context of the GIVS strategic framework.

<b>Strategic Area 1: Protecting more people</b>	
<b>Recommended Strategy</b>	<b>Status in Somalia and way forward</b>
Use a combination of approaches to reach everybody targeted for immunization	Fixed immunization sites, RED approach and CHDs are being used. The CHDs have been instrumental in achieving DPT3 coverage above 60% over last two years; and CHDs will continue for three years.
Increase community demand for immunization	Advocacy messages will be used to target specific audiences, including religious leaders and women. BCC is one of the major areas planned under GAVI HSS fund. This needs to be addressed within the framework of a comprehensive communication/C4D strategy and plan Somalia has implemented the EM Region-wide Vaccination Week activities including advocacy and educational messages on immunization reaching out to the community.
Ensure that unreached people are reached in every district at least four times a year	Access is improving through RED and CHD approach; and will continue to improve with complementary strategies
Expand vaccination beyond the traditional target group	Children of 12 – 23 months have been reached with CHDs. Expansion of vaccination of these target will continue.
Improve vaccine, immunization and injection safety	All facilities are provided with AD syringes and safety boxes. Health workers have been trained on vaccine management and injection safety. This is also addressed during refresher training on routine EPI
Improve and strengthen vaccine-management systems	In 2009, following a joint WHO/UNICEF training course on VSSM, vaccine management system has improved.
Evaluate and strengthen national immunization	Immunization system is monitored through the routine HMIS of UNICEF and the monthly meetings of EPI group which is subcommittee of Health Sector Coordination Committee.

<b>Strategic Area 2: Introducing new vaccines and technologies</b>	
<b>Recommended Strategy</b>	<b>Status in Somalia and way forward</b>
Strengthen country capacity to determine and set policies and priorities for new vaccines and technologies	Last EPI policy was developed more than 20 years ago. Need to review and update in line with current developments in health and immunization WHO, UNICEF and health partners work with the three ministries in this regards.
Ensure effective and sustainable introduction of new vaccines and technologies	Only six traditional antigens are used in the national immunization schedule. Introduction of new vaccines (Pentavalent DPT-HepB-Hib) is planned for 2013.
Promote research and development of vaccines against diseases of public health importance	Two papers on measles mortality and an economic evaluation of CHD were produced in 2009 and 2010. Operational research is given due importance and budget is assigned for it under the GAVI HSS support.

<b>Strategic Area 3: Integrating immunization, other health interventions and surveillance in the health system context</b>	
<b>Recommended Strategy</b>	<b>Status in Somalia and way forward</b>
Strengthen immunization programme within the context of health analysis of district-wide data	District health system is planned to be strengthened under the GAVI HSS support. Currently immunization data is being collected, analyzed and used at zonal level. HMIS is now being finalized and integrates Immunization data into other health systems analysis at district and facility level
Improve management of human resources	Human resource management is poor due to absence of a functional government. HSS component of GAVI and GF support will improve the management of human resources.
Assess and develop appropriate interventions for integration	Child Health Days are used to deliver integrated health interventions. Efforts are being made to integrate health and nutrition interventions at facility and community levels: Immunization services at nutrition treatment sites.
Maximize the synergy from integrating interventions	During CHD that last 5 days, 8 high impact interventions are delivered, reaching a maximum of beneficiaries with extremely costs effective results.
Sustain the benefits of integrated interventions	All partners are committed to continue with Child Health Days, for the next 3 to 5 years. But, funding is a major barrier to sustaining the CHDs. Efforts

	now being made to implement the EPHS that would strengthen integration in routine services
Strengthen monitoring of coverage and case-based surveillance	In 2008, case based measles surveillance has started in two zones ( NW and NE zones), and being expanded to the other zones (Central and South)
Strengthen laboratory capacity through the creation of laboratory networks	Two zonal laboratories have been strengthened. In NW and NE zones. Expansion of laboratory facilities to other zones (Central and South) is underway.
Strengthen the management, analysis, interpretation, use and exchange of data at all levels	Data management is being strengthened with the establishment and support of EPI units within the Ministries of Health.
Provide access to immunization services in complex humanitarian emergencies	Immunization services were immediately established in Somalia after the collapse of the government with the support of UNICEF and WHO. This establishment has contributed to the building of the health system. Immunization services have been conducted in Somalia, despite years of conflict. Polio, measles campaigns have continued and polio free status attained. Routine immunization have been ongoing over the years and CHD have been implemented as of 2008

<b>Strategic Area 4: Immunizing in the context of global interdependence</b>	
<b>Recommended Strategy</b>	<b>Status in Somalia and way forward</b>
Ensure reliable global supply of affordable vaccines of assured quality	UNICEF is the sole provider of vaccines, of assured quality, in Somalia
Ensure adequate and sustainable financing of national immunization systems	Immunization programme in Somalia depends fully on humanitarian assistance, as there is no functional central government.
Improve communication and dissemination of information	Information is shared among partners on a monthly basis. This would be further reinforced with the development of a communication plan. The EPI working group serves as a platform for information sharing as well
Define and recognize the roles, responsibilities and accountability of partners	A coordination mechanism hosted by SSS exists at national level. Zonal level coordination has been started in NW and NE zones.
Include vaccines in global epidemic preparedness plans and measures	Response to vaccine preventable diseases remains a major component of epidemic response plans and vaccines are included as priority supplies All routine immunization vaccines are provided by UNICEF. Pandemic influenza vaccine and other epidemic response vaccines are provided by WHO. Somalia has developed an epidemic preparedness plan.

### **1.3 Immunization System Components of Somalia**

With the support of WHO and UNICEF, EPI programme in Somalia started in 1978, with the strategy of mobile and outreach services. An evaluation of the programme in 1985 showed that the strategy achieved very low immunization coverage. Between 1985 and 1988, a strategy of mass immunization campaign was adopted and implemented in major towns of the country. The operation resulted in about 75% coverage of children in towns. However, this could not be sustained and immunization coverage rapidly declined when fighting broke out in 1988.

The civil war of 1988 - 1992 devastated the health infrastructure and dispersed health workers. The modest gains of the programme were completely lost due to the war. By the end of 1992, the international community, led by UNICEF, gave priority to the initiation of EPI services; and in 1996, more than 100 MCH centers and 4 zonal cold stores were functioning. Currently there are 250 MCH centers that are providing immunization services.

### ***1.3.1 Organization of EPI System***

#### **Health Authorities**

All the three health authorities of Somalia provide leadership in matters of immunization activities in their respective areas. The internationally recognized TFG's ministry of health in Mogadishu, capital city of Somalia, is in the process of re-organizing itself and has assigned a focal person for immunization activities. WHO Somalia's sub-office in Mogadishu is closely working in assisting the federal ministry of TFG.

The relatively stable zones of Somaliland and Puntland have each an EPI unit organized under their PHC department of respective MOH. The EPI unit consists of EPI manager, surveillance officer and measles laboratory focal person; and all are supported technically and financially by WHO Somalia. These units coordinate all immunization activities in their respective zones. Much of the improvement in immunization coverage over the last two years is due mainly to the input from these units. Regional EPI structures in Somaliland and Puntland have been strengthened and supported by UNICEF Somalia.

#### **UNICEF Somalia**

UNICEF Somalia is the major financier and partner of EPI in Somalia. Its support to EPI includes: procurement and distribution of vaccines and injection equipments of assured quality, maintenance of cold chain in Nairobi and within Somalia, production and dissemination of management tools, production and dissemination of IEC materials, provision of financial assistance to partners for implementing outreach sessions and supervision with the Reaching Every District, collection and analysis of data and coordination of activities. UNICEF has a dedicated international and national staff both in Nairobi and inside Somalia; and is the chair of EPI Working Group of partners in Nairobi.

#### **WHO Somalia**

WHO Somalia provides technical assistance to MOH TFG, local health authorities and all partners; and is the second major financier of immunization activities in Somalia. Through its four sub-offices and an extensive network of its Polio Programme, it conducts disease surveillance, provides training to health workers and carries out supportive supervision. WHO Somalia has the following staffs under its Polio Programme, which are a critical part of the WHO/UNICEF team within Somalia:

- 5 Zonal Polio Eradication Officers (ZPEO)
- 24 Polio Eradication Officers (PEOs), covering all regions of Somalia, and
- 150 District Polio Officers (DPOs), covering all districts of Somalia.

## International NGOs

There are about 40 international NGOs supporting immunization activities in Somalia. In total, NGOs are running more than 150 MCHs, and are involved in immunization service delivery, disease surveillance, social mobilization, training of health workers, supporting logistics and provision of technical and financial support to local health authorities. Most NGOs have national and international staff dedicated for immunization activities, both within the country and in Nairobi. Most partners participate in the monthly meeting of EPI Working Group partners under the umbrella of SSS.

### ***Coordination among EPI Partners***

Most immunization partners have a coordination mechanism at Nairobi level in an EPI Working Group organized under the umbrella of SSS. The working group is chaired by UNICEF, co-chaired by WHO and attended by most NGOs who have office in Nairobi. Major partners include UNICEF, WHO, SRCS/IFRC, WVI, IMC, CISP, Trocaire, Merlin, SAFUK International, Intersos, SORDES, COSV, DIAL, KISIMA, etc. At zonal level coordination of EPI activities is carried out in Somaliland and Puntland under the leadership of EPI units of MOH of Somaliland and Puntland.

In Somalia, all partners have a role to play; and the immunization programme is benefitting from the comparative advantage of each partner. In improving immunization coverage through CHDs, for instance, UNICEF's fund raising competitive advantage is matched with WHO's technical expertise and extensive ground presence, utilizing the local resource of NGOs under the leadership of local authorities. The table below shows distribution of major EPI activities by partners.

Table 4: Distribution of EPI activities by major partners

Partners	Major EPI Activities				
	Service Delivery	Disease Surveillance	Vaccine supply	Logistic	Social mobilization and communication
Local authorities	Run some MCH facilities	Supports data collection	Provides leadership	Provides security	Support IEC activities
UNICEF	Provides essential medicines and supplies to MCHs including running costs and supports training	Supports disease surveillance	Procures, stores and distributes vaccine	Runs and maintains Cold chain	Produces IEC materials, training and funding for social mobilization
WHO	Provides Training Management support to MOH	- Collects and analyses data -Conducts training	Supports vaccine management	Delivers vaccine to vaccination sites during campaigns	Training and technical inputs
NGOs	Run MCH facilities Conduct outreach	Support surveillance	Support request and management	Supports transport	Support IEC activities

**1.3.2 Immunization Services Components**

**A. Service Delivery**

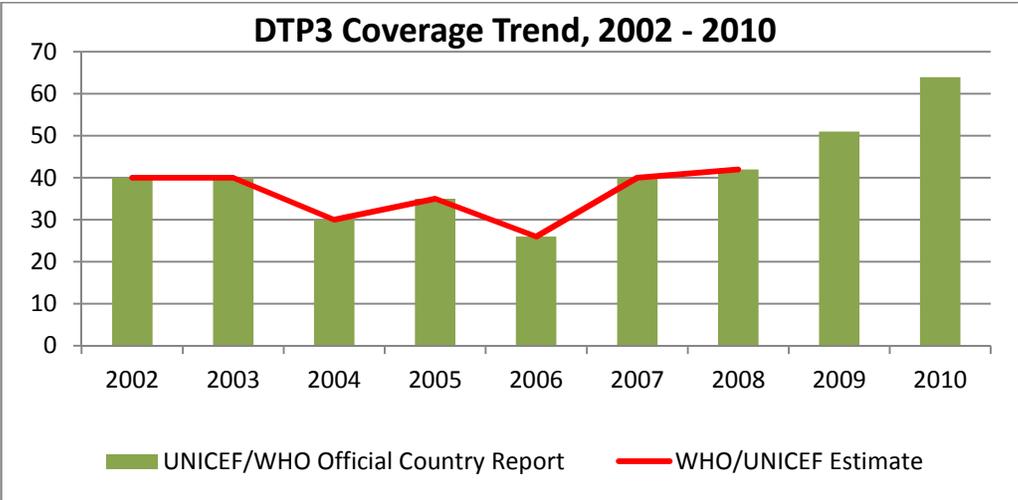
**Immunization Schedule:** The immunization schedule in Somalia includes the traditional six antigens of EPI vaccines, including a birth dose of OPV, and vitamin A at the age of 9 months. .

Table 5: Vaccination Schedule for Somalia

Antigen	Schedule				
	Birth	6 wk	10 wk	14 wk	9 month
BCG					
OPV					
DTP					
Measles					
TT	Pregnant women at health facilities and WCBA during CHDs				

**Immunization Service Delivery Strategy:** Immunization services are currently delivered on a daily basis in more than 250 MCHs fixed sites, complemented by RED approach in Somaliland and Puntland and some districts of Central/South zone. A nation-wide CHD strategy is used to reach more children. In some remote areas a mobile strategy has been employed.

**Immunization Coverage:** Routine immunization data comes from fixed sites and CHD/RED outreach campaigns. The data from fixed site are collected through the HMIS system of UNICEF. Data from CHD/RED is collected by WHO field staff, and data from both sources are validated by MOH/UNICEF/WHO zonal team. These data reveal that immunization coverage has improved over the last two years. (See Figure 1)



Source: UNICEF/WHO Somalia Annual Report

Figure 1: Reported Immunization Coverage in Somalia, 2002 – 2010

## **B. Cold Chain and Vaccine Supply**

UNICEF supports the overall management of the central vaccine cold stores located in Nairobi, and zonal and regional cold stores located within the country. Both at central and zone level, the standard of equipment, as well as the capacity are enough to accommodate stock levels during peak time at all level. The following table indicates the distribution of cold chain by zones. .

Table 6: Cold chain distribution by zone , 2010

	In Use		2011 Plan for Replacement	
	Refrigerators	Freezers	Refrigerators	Freezers
CSZ	134	128	51	20
NWZ	69	50	35	21
NEZ	64	41	18	15
Total	267	219	104	56

## **C. Injection Safety**

UNICEF provides AD syringes and safety boxes for all EPI activities. No shortage has been reported. UNICEF, WHO and health partners are supporting the ministries to ensure injection safety. All MCHs use safety boxes that are later burned and buried.

## **D. Advocacy and Communication**

UNICEF and WHO conduct advocacy and communication activities, including training for health workers and religious leaders; and production of health education materials. Community sensitization meetings and involvement of CHW/TBA need to be scaled up to further increase the awareness on immunization.

## **E. Diseases Surveillance**

Surveillance of Vaccine Preventable Diseases is currently conducted in collaboration with Communicable Disease Surveillance and Response (CSR), surveillance systems of WHO Somalia. AFP surveillance is well established certification level of indicators of performance. Surveillance for the other EPI target diseases is being improved. Measles case based surveillance has been started in NW/NE zones, and expansion to other zones is underway.

## **1.4 Accelerated Disease Control**

### *1.4.1 Polio Eradication*

In 1998, the Polio Eradication Initiative (PEI) started in Somalia in line with the global PEI. Somalia had been polio free from 2002 to mid 2005 till a WPV, originally coming from Nigeria, was re-introduced through Yemen. The WPV re-infection in July 2005 resulted in an explosive outbreak, initially in major towns but spread later to other regions of Somalia. The outbreak left more than 220 children paralyzed for life. WHO Somalia, in collaboration with UNICEF, MoH, local authorities and other health partners intensified the polio eradication efforts. More than 25 rounds of high quality SIAs got implemented, enabling Somalia to stop the WPV transmission as of 25 March 2007. Since then the country has maintained its polio free status.

During each Polio NIDs over 1.8 million under-5 yr children are targeted. The campaign uses a house-to-house strategy involving about 12,000 polio vaccinators, team supervisors and social mobilizers. Vaccinators are selected from the community and are deployed across all districts of Somalia. During each round of NIDs coverage of more than 90% has been achieved. due to the low routine EPI coverage, Somalia is at risks of re-infection with wild polio virus again from the endemic counties, if vaccination activities are not continued with high quality SIAs reaching all under five year children in all districts of Somalia. Hence it is important to continue with a minimum of two rounds of NIDs and also give additional OPV doses using the opportunity during CHDs and routine EPI activities to maintain a high immunity profile of under-five children.

The success of polio free Somalia despite the absence of central government for two decades is mainly due to:

- Acceptance and continued support of the community, clan elders, religious leaders and local authorities to polio eradication activities.
- The ownership, leadership and support of the health authorities in areas where they are functional.
- The active involvement of NGOs and thousands of polio volunteers.
- The continued coordination and collaboration of WHO and UNICEF,
- The continued support of donors to implement all planned programme activities.
- The commitment of the WHO polio national staff.

The continued presence of WHO polio staff inside Somalia, has enabled WHO Somalia to implement all planned polio eradication activities and other population based public health interventions like Child Health Days.

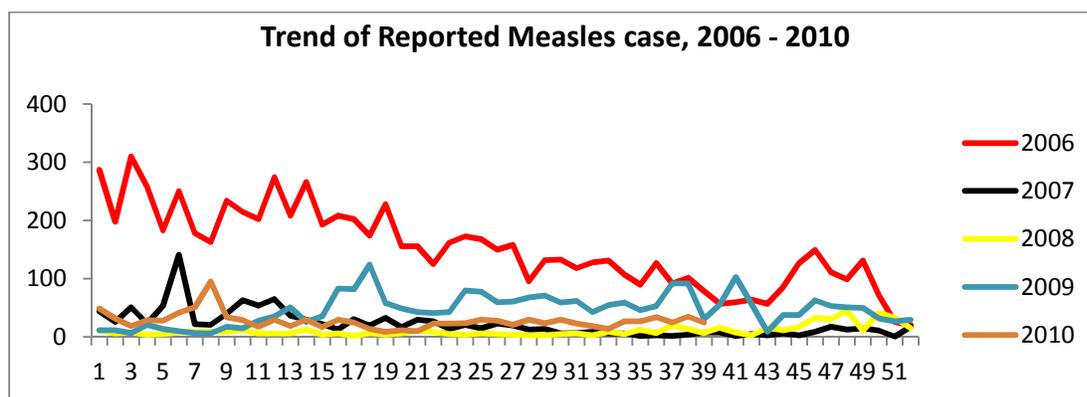
### 1.4.2 Measles Elimination

In Somalia, it was estimated that approximately 8,000-12,000 children died each year due to measles representing approximately 10% of all childhood deaths. WHO, UNICEF, local health authorities and all partners had adopted and implemented the strategy of reducing measles mortality and morbidity through: 1) Achieving and maintaining high routine measles immunization coverage in all districts; 2) Provision of second opportunity of measles immunization for all children through supplemental immunization activities; 3) Surveillance for cases of measles, including laboratory confirmation of outbreaks; and 4) Ensuring effective clinical management of measles cases including provision of vitamin A. Accelerated measles control in Somalia started with the implementation of measles catch-up campaign in Nov, 2005 through to Aug, 2007. Follow-up campaigns<sup>10</sup>, in the shape of Child Health Days (CHD), have been conducted as of Dec, 2008, twice a year. The following table shows the status of implementation of the four strategic components of measles control, of Somalia.

Table 7: Status of Measles Control Strategy in Somalia

Strategy component	Status
Routine immunization	DPT3 coverage 64% (48% through fixed and 16% through CHD) is achieved through routine immunization service.
Provision of second opportunity	Catch-up campaign (Nov 2005-August 2007) conducted and coverage of 90% achieved. Follow-up campaigns conducted with coverage of 85%.
Surveillance	Nation-wide aggregate surveillance and sub-national case-based surveillance in peaceful/stable northern areas.
Effective clinical management	About 30% of the population has access to health services. .

Measles morbidity and mortality have declined substantially after the catch-up and follow-up campaigns. The following figure shows the declining trend of measles morbidity.



Source: WHO surveillance system

Figure 2: Trend of reported measles cases, 2006 - 2010

<sup>10</sup> Measles follow-up campaign is used as a platform for integrating other child health interventions (DPT, OPV, TT, vitamin A, de-worming, ORS, aquatab, nutritional screening and health promotion) and delivered twice a year.

## Estimated Measles Mortality Reduction

Estimation of measles mortality reduction in Somalia is challenging due to incomplete disease and death surveillance. But, following the implementation of measles catch-up campaign, in 2005-2007; and successive rounds of campaigns in 2008 – 2010, measles morbidity and mortality declined substantially. The table below shows the “*estimated<sup>11</sup> number of measles cases, measles deaths, and the notification fraction for measles cases during non-outbreak and outbreak years for the period 2000 to 2009. Over this period the estimated number of measles deaths declined by 91% from 10,548 deaths in 2000 to 981 in 2009. Measles deaths among children under five years of age were estimated to total 75,182 over 2000-2009, accounting for 11.8% of the 636,438 estimated total child deaths over this period.*” (WHO)

Table 8: WHO estimates of child deaths due to measles, 2000-2009

Year	Estimated number of measles cases, all ages	Estimated number of measles deaths, all ages	Estimated notification fraction during non-outbreak years (%) <sup>12</sup>	Estimated notification fraction during outbreak years (%)
2000	256,297	10,548	1.4	NA
2001	253,294	10,454	1.4	NA
2002	289,008	11,897	NA	3.3
2003	251,481	10,405	NA	3.3
2004	369,375	15,239	NA	3.3
2005	344,945	14,233	NA	3.3
2006	98,024	4,050	1.4	NA
2007	58,527	2,412	1.4	NA
2008	32,130	1,326	1.4	NA
2009	23,789	981	1.4	NA

Source: WHO Global measles mortality reduction estimates

<sup>11</sup> The estimate was made in 2010, by WHO through its annual estimates of measles deaths at country, regional and global level.

<sup>12</sup> The notification fraction estimates the percent of all cases occurring in a given year that are brought to a health facility, correctly diagnosed, and reported by the health worker and disease surveillance staff to the national level.

1.4.3 Maternal and Neonatal Tetanus Elimination

Despite a paucity of epidemiologic burden of disease, available data indicate that Neonatal Tetanus is a public health problem in Somalia, as shown in figure 5, below. Acceleration campaigns were conducted in Puntland and Lower Shebelle in 2004. This campaign was followed through with nation-wide campaigns of CHD, in 2009 and 2010 in which MNT elimination was a critical component. Yet, the coverage of TT vaccination in all rounds of CHD was below or just 60% in all the campaigns due to poor social mobilization by health workers and lack of awareness by mothers.

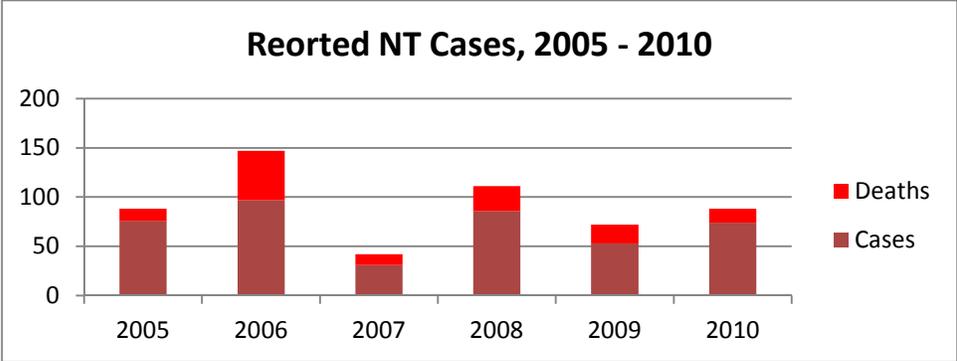


Fig. 3: Reported NT cases and deaths 2009 – 2010

With a TT coverage of 25% among pregnant women (JRF 2010) and an ante-natal coverage of 26% (UNICEF, 2006), MNT elimination needs to be considered seriously.

## 1.5 Child Health Days in Somalia

### **Goal**

The goal of CHDs is to enhance child survival in Somalia, by reducing morbidity and mortality levels in children less than 5 years old, with high-impact life-saving health interventions delivered through campaigns conducted twice a year.

**Specific Objective:** The specific objectives of CHDs are to:

- Increase coverage of routine EPI vaccines from the current < 40% to at least 60%<sup>13</sup> of children aged less than one year;
- Immunize at least 60% of children aged under one year with routine EPI vaccines;
- Immunize at least 95% children aged 9 to 59 months with measles vaccine irrespective of previous immunization or disease status;
- Immunize at least 95% children aged 0 to 59 months with OPV irrespective of previous immunization status;
- Supplement all children aged 6 to 59 months with one dose of Vitamin A according to the age of the child;
- De-worm all children aged 12 to 59 months with albendazole tabs;
- Screen all children 6-59 months using Mid Upper Arm Circumference (MUAC) tapes and refer acutely malnourished children for further management in selective feeding centers;
- Promote the use of Oral Re-hydration Therapy, through the distribution of 3 sachets of ORS to families;
- Immunize at least 80% women of child bearing age with protective dose of TT.

Somalia has implemented two – four round in 2009 and 2010. Child Health Days are jointly planned, implemented and evaluated by Ministries, WHO and UNICEF.

### **CHD Strategy**

Child Health Days are conducted in all urban, rural and hard-to-reach areas across Somalia. Campaigns are implemented in phases depending on accessibility, security, operational capacity of partners and availability of skilled manpower in the districts. The major components of Child Health Day's strategy include:

- Delivery Strategy: child health survival interventions are delivered in all health facilities and selected CHD sites such as schools. Mobile teams are used for the hard-to-reach areas.
- Duration of campaign: CHD campaigns are conducted twice a year. Each round lasts for 5 days. Child health interventions are delivered by persons from the community. Each team is composed of 5 – 6 volunteers selected from the community. In total, about 30 000 volunteers work during each round child health days.

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<sup>13</sup> This objective was set while CHD was designed. Currently immunization coverage is 64%; and the plan is to raise it to 90% in the next 5 years.

## **CHD Results**

Since the communities are very much involved in Child Health Days, the health interventions have been remarkable as communities generally do not have access to basic health services. The following table shows coverage for major interventions.

Table 9: Coverage of major CHD intervention, 2010

<b>Intervention</b>		<b>coverage</b>	
<b>Category</b>	<b>Item</b>	<b>Number</b>	<b>Per cent</b>
Routine immunization	DPT1-3	305,426	86
Measles follow-up	Measles	1,335,892	86
Polio Eradication	OPV	1,587,109	89
MNT elimination	TT	1,222,314	60
Nutrition	Vitamin A	1,326,110	85
Mass de-worming	Albendazole	1,164,523	84
Prevention of Diarrhoea	ORS	1,013,786	87
	Aquatabs	1,014,827	87
Nutrition	MUAC	820,741	82

### **Cost-effectiveness of CHD:**

An economic evaluation of CHD was conducted with the US Centre for Disease Control and Prevention (CDC, Atlanta) in 2010. The study evaluated the two rounds of 2009 and revealed that *“two rounds of CHDs per year could save more than 10,000 children and avert 0.49 million DALYs (disability adjusted life years) and are very cost effective with the average cost per intervention per beneficiary reached being less than US \$1”*. The evaluation drew the following conclusions:

- Using CHDs as a platform for delivery of child survival interventions in a conflict setting, despite the high operational costs, provide excellent value for money
- Somalia CHDs meet criteria for very cost-effective interventions
- Somalia CHDs compare favorably with other health sector “best buys” in sub-Saharan Africa
- Pentavalent vaccine use for both rounds of CHDs could have had a bigger impact on child mortality

## 1.6 New Vaccine Introduction

Somalia has been providing the traditional six antigens for routine EPI ever since the beginning of immunization programme in the country. It plans to introduce under-utilized / new vaccines as they become available for Somalia. With the support of GAVI and humanitarian agencies like UNICEF and WHO, the country is planning to introduce Pentavalent (DTP-HepB-Hib) vaccine in 2013. Somalia would therefore apply to GAVI for support under its underused and new vaccines window. Introduction of a new vaccine entails a change in existing immunization system, health workers practice and the perception/acceptance on the part of parents. Towards this end, the country will undertake all the necessary preparation to introduce the new vaccine.

### ***Burden of Disease***

In Somalia, there is a paucity of data on the epidemiologic burden of Hepatitis B, Hib disease, as well as on burden of disease from meningitis or pneumonia. However, data from neighboring countries and the developing world indicate that Hib is a leading cause of acute bacterial meningitis and an important cause of severe pneumonia. Nevertheless the following table shows estimates for major vaccine preventable diseases from available sources.

Table 10: Burden of Major Vaccine Preventable Diseases, 2009

Disease	Suspected Cases	Source
Measles	2477	WHO, CDC report, 2009
Pertusis	823	WHO, CDC report, 2009
NNT	53	WHO, CDC report, 2009
Hepatitis B	1) 4% 2) 12.08% (HBs +ve)	1) HIV sero-prevalence survey, WHO, 2004 2) Transactions of the Royal Society of Tropical Medicine, Vol 79, issue 2, 1985, page 162 - 164
Pneumonia	15% <sup>14</sup>	MICS survey, UNICEF, 2006
Meningitis	325	WHO Somalia, Surveillance Report, 2009

### ***Cold Chain Requirement for New Vaccine***

With the planned introduction of DTP-HepB-Hib vaccine in 2013 the available net positive storage capacity at national level would be sufficient. However at zonal level, Somali will need a total of 673 litres of positive storage. There will be no need for negative storage. The total need of the positive storage will be accommodated with additional of 7 MK304 refrigerators, as indicated in the below table.

<sup>14</sup> According to MICS survey, 15% of children were reported as having symptoms of pneumonia in the last 2 weeks. Of these, only 13% were taken to an appropriate provider (most commonly a pharmacy).

Table 11: Cold chain need for new vaccine introduction

Zone	Positive storage in liters				Negative storage in liters		
	Required	Available	Need	Suggested equipment	Required	available	Need
NWZ	1364	756	608	6 MK304	230	3960	-
NEZ	629	826	-	-	106	1392	-
CZ	2232	3471	-	-	377	8184	-
SZ	1212	1144	68	1 MK304	205	216	-
Total	5432	6197	673	7	914	13752	

### ***DTP-Hep-Hip Introduction Schedule***

The DTP-Hep-Hip vaccine will be introduced in 2013, after fully instituting all the required inputs and prerequisites in place and before the launching date as indicated below.

Table 12: New vaccine introduction scheme

Major Activities	2011				2012				2013	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
<b>Application</b>										
Discussion at partners level (NBO)										
Discussion at zonal level										
Finalize pre-application process										
<b>Cold Chain</b>										
Vaccine management Assessment										
Receiving, distribution and installation of equipment										
<b>Training</b>										
Development and printing of training materials ( basics, new schedule , AEFI, Injection safety, Immunization safety, etc )										
Conduct TOT, and cascade of training for health workers.										
<b>Social mobilization</b>										
Development and distribution of IEC materials; and advocacy meeting										
Launching of Pentavalent vaccine in the										

existing immunization schedule										
<b>Monitoring</b>										
Develop monitoring tool, including for AEFI										
Supportive supervision										
<b>Surveillance</b>										
Update surveillance form and collect data										

### 1.6 Immunization Situational Analysis

Situation analysis of Somalia's EPI programme was conducted by partners using standard immunization planning tools, and results presented in Tables 13 and 14 below.

Table 13: Situational analysis of routine EPI by system components

System Components	Suggested indicators	National status			
		2007	2008	2009	2010
Routine coverage	DTP3 coverage	36	31	51	64
	% of districts with > 80% coverage	None	None	None	None
	National DTP1–DTP3 drop-out rate	40%	25%	40%	19
	Percentage of districts with drop-out rate DTP1–DTP3 > 10	100	100	100	100
Routine surveillance	% of surveillance reports received at national level from districts compared to number of reports expected	No VPD surveillance. IDSR being implemented			
Cold chain/Logistics	Percentage of districts with adequate numbers of functional cold chain equipment	NA			
Immunization safety	Percentage of districts that have been supplied with adequate (equal or more) number of AD syringes for all routine immunizations	100	100	100	100
Vaccine supply	Was there a stock-out at national level during the last year?	No			
	If yes, specify duration in months				
	If yes, specify which antigen(s)				
	Vaccine availability at facility level				
Communication	Availability of a plan				
Financial sustainability	What percentage of total routine vaccine spending was financed using government funds? (including loans and excluding external public financing)	None. No functional central government in Somalia.			
	Percentage of government contribution for immunization programs	1 – 5 %			
Linking to other health interventions	Were immunization services systematically linked with delivery of other interventions(malaria, nutrition, child health) established	Yes. With Child Health Days, and with planned Female Health Workers to be started under GAVI HSS program.			
Human resources availability	No. of health workers/vaccinators per district population.	Average of 5-7 health workers per MCH; and at least 1 MCH per district			

	No of districts with MCH centers	98	98
Management planning	Are a series of district indicators collected regularly at national level? (Y/N)	No, but planned to be started in 2011	
ICC (EPI working group)	Number of meetings held last year	12 (EPI Working group)	
Waste disposal	Availability of a waste management plan	10	
Programme efficiency	Vaccine wastage monitoring at national level for all vaccines	No	
	Timeliness of disbursement of funds to district and service delivery level		
	No of functioning zonal/regional EPI offices	- Two sub-national offices (NW/NE zone) - 3 UNICEF sub-offices (and 4 WHO sub-offices)	

Table 14: Situational analysis by accelerated disease control initiatives

Component	Suggested indicators	National status			
		2007	2008	2009	2010
Polio	<i>OPV3 coverage</i>	36 (SIA:96)	31 (SIA:98)	51 <sup>15</sup> (31 <sup>16</sup> ) (SIA:96)	64
	<i>Non-polio AFP rate per 100 000 children under 15 years of age</i>	4	3.9	3.3	
	<i>Extent: NID/SNID Number of rounds Coverage range</i>	10	4	2	2
MNT	<i>TT2+ coverage</i>	32	32	34	25
	<i>Number of districts reporting &gt; 1 case per 1000 live births</i>	NA	NA	NA	NA
	<i>Was there an SIA? (Y/N)</i>			Yes	Yes
Measles	<i>Measles coverage</i>	28	31	59	68
	<i>Number of outbreaks reported</i>	NA	NA	2	4
	<i>Extent: NID/SNID Age group Coverage</i>	Catch-up (last 10 districts)	Follow-up	Follow-up	Follow-up

<sup>15</sup> UNICEF Somalia/WHO Somalia Country Report

<sup>16</sup> WHO/UNICEF Joint Reporting Form

## 1.7 Immunization Problem Analysis

Based on consultations made with international and national partners, managerial assessments conducted and observations made at the field level, strengths and weaknesses of immunization services were identified. There are strengths and opportunities in Somalia at programme and political level in the north, though some areas are inaccessible in the south. The table below summarizes the major immunization problems in Somalia.

Table 15: Major problems by immunization activities

<b>Immunization Activities</b>		<b>Major Problems</b>
<b>Service Delivery</b>	<b>Program Management</b>	<ul style="list-style-type: none"> <li>- MOH of TFG is being re-organized. As a result the management of EPI in Central/South zone has been supported by WHO, UNICEF and NGO partners. The frequent lack of access to these zones has affected program management.</li> <li>- Weak supervision and support from health authorities to MCH/OPDs.</li> <li>- Weak monitoring and evaluation system.</li> <li>- Fragmentation of national counterparts in to three entities is challenging for program support by WHO, UNICEF and partners.</li> </ul>
	<b>MCH services</b>	<ul style="list-style-type: none"> <li>- Poor health services at MCH level that is currently being addressed by GAVI HSS</li> <li>- Low planning and monitoring capacity of health workers at service delivery outlets. This has been addressed through training by partners.</li> <li>- Lack of incentives and frequent delay in salary payments for health workers in MCHs run by local health authorities.</li> <li>- Infrequent supervision by management support level, and partner agencies due to frequent lack of access in Central/South zones.</li> <li>- Shortage of trained health workers in some health facilities.</li> </ul>
	<b>Access</b>	<p>Access to the rural poor and nomadic population has been a problem. The situation is improving after the introduction of RED approach and CHD as a complementary strategy of improving access. These strategies are expensive and sustainability depends on the level financing of immunization activities.</p>
	<b>Utilization</b>	<ul style="list-style-type: none"> <li>- Lack of awareness by mothers</li> <li>- Lack of time by mothers. Mothers in Somalia are usually bread winners of the family. The working hours of most MCHs coincide with the time of the bread-winning activity of mothers. This problem is being addressed by partners in advocating and supporting the extension of working hours.</li> <li>- Low utilization of TBAs/CHWs in communicating messages to parents. This problem is planned to be addressed by the recruitment of new cadre of Female Health Workers with</li> </ul>

	<p>the support of GAVI HSS.</p> <ul style="list-style-type: none"> <li>- High dropout rate due to high mobility of the community and fear of minor side-effects has been a problem. This is partly addressed through outreach activities, and will further be addressed through BCC strategy of GAVI HSS and dropout tracing mechanism.</li> </ul>
<b>Vaccine Supply and cold chain</b>	<ul style="list-style-type: none"> <li>-The EPI units in MOHs of NW and NE zones are composed of a manger, surveillance officer and measles laboratory focal person. In case of breakdown of cold chain there is dedicated focal person to follow maintenance of cold chain. Currently this task is carried out by UNICEF zonal offices.</li> </ul>
	<ul style="list-style-type: none"> <li>- High wastage rates of vaccines. This has been addressed by UNICEF through training of zonal staff and institution of VSSM system in all zones.</li> <li>- Vaccine distribution is not made according to the 'Earliest Expiry First Out' (EEFO) leading to high numbers of waste age rate.</li> </ul>
<b>Disease Surveillance</b>	<ul style="list-style-type: none"> <li>- Vertical surveillance systems that are planned to be re-organized under an IDSR system</li> <li>- No monitoring of surveillance activities, except that of AFP, at zone level. The recent re-organization under IDSR will address this issue.</li> <li>- Little use of surveillance data at local level, due to lack of managerial capacity of local health authorities. The issue of capacity building of health authorities is addressed through the Health Systems Strengthening (HSS) component of GAVI and GF.</li> <li>- Weak capacity of partners in detecting and responding to outbreaks. This is addressed through instituting IDSR and conducting training to partners.</li> </ul>
<b>Advocacy and communications</b>	<ul style="list-style-type: none"> <li>- No standard health education message is used at facility level. Behavioral Change and Communication (BCC) is one of the four objectives of GAVI HSS.</li> <li>- No involvement of CHW in social mobilization activities. The Female Health Workers that are planned to be trained and deployed will be instrumental in this area.</li> </ul>

## 1.8 Evaluation of cMYP 2008 – 2010

In the last cMYP, a set of specific objectives were defined for the immunization programme in Somalia. The table below indicates the achievement status of each objective.

Table 16: Achievement status of past cMYP

cMYP 2008 – 2010 Objectives	Achievement Status
1. <b>Routine Coverage:</b> By the end of 2010 Somalia will have a national DTP3 coverage of 55%.	Achieved. Current reported coverage in 2010 is 64%
2. <b>Polio Eradication:</b> By the end of 2010 Somalia will have maintained polio-free status	Achieved. Polio-free status maintained
3. <b>Measles Elimination:</b> By the end of 2010 measles elimination will have been achieved.	Not achieved. Regional target is moved to 2015
4. <b>MNT Elimination:</b> By the end of 2010 achieve elimination of MNT	Not achieved, but coverage of TT has increased
5. <b>Vaccine Management System:</b> by the end of 2010 all zones will have completed vaccine assessment and will have conducted training courses at all levels.	Partially achieved. Training courses have been conducted.
6. <b>EPI Management:</b> By the end of 2010 the three ministries will have functional EPI units in place.	Partially achieved. Two ministries (NW and NE zones) have functional EPI units
7. <b>EPI Cold chain:</b> By the end of 2009 all old cold chain equipments will have been replaced	Achieved.
8. <b>Immunization Safety:</b> By the end of 2010, AEFI surveillance system will be implemented in all regions	Partially achieved (for CHD)
9. <b>Advocacy and Communication:</b> Service utilization will be improved as evidenced by drop in refusal and dropout rate	Partially achieved, dropout rate decreased
10. <b>Disease Surveillance:</b> Integrated Disease Surveillance system in place by the end of 2009	Partially achieved. Tools have been developed and distributed.
11. <b>New Vaccine Introduction:</b> Hepatitis vaccine introduced as of 2010 in phases starting from NWZ.	Not achieved. Somalia was not eligible for GAVI support till recently because of low DPT3 coverage.

## **1.9 Priority Areas of Intervention**

Based upon the EPI situation analysis and considering the strengths and weaknesses of the immunization the system, the following EPI key components are seen as a top priority for the next five years.

1. Routine Immunization Coverage
  - a. Improving routine immunization coverage by increasing access and utilization of immunization services through:
    - i. Implementation of RED approach in all districts of Somalia.
    - ii. Conducting CHDs
    - iii. Improvement of service utilization through targeted BCC
2. Accelerated Disease Control
  - a. Maintaining the polio free status by conducting quality SIA.
  - b. Achieving the elimination of measles by 2015
  - c. Achievement TT coverage of > 70% among pregnant women and > 80% among WCBA by 2015.
3. Programme Management
  - a. Supporting EPI units within existing ministries in all zones.
  - b. Improvement of capacity of zonal and regional managers through conduct of Mid-level management training at zone and regional level.
  - c. Strengthening of supportive supervision especially from zone to district and MCH levels.
4. Immunization safety: by the end of 2012, AEFI surveillance system will be implemented in all regions
5. Introduction of new vaccine: Pentavalent vaccine will be introduced in 2013.
6. Advocacy and communication: communication strategy improved to increase service utilization.
7. Disease surveillance: Integrated Disease Surveillance system in place and functioning by the end of 2011

## **Chapter 2: Immunization Plan for Somalia, 2011-2015.**

Based on general health services and especially the immunization situation analysis, the following comprehensive multi-year immunization plan was drafted. The process of planning has been inclusive of all partners.

### **2.1 Goal and Objectives**

#### ***Goal***

Based upon global immunization targets Somalia EPI programme aims at improving the health status of Somali children. This will be achieved by decreasing the mortality and morbidity levels from vaccine preventable diseases through providing primary antigens to all eligible target populations.

#### ***Specific Objectives***

The following specific objectives are defined for EPI in Somalia.

1. Routine Coverage: Increase DTP3 coverage from 65% in 2010 to DTP-HepB-Hib3 of 90% in 2015, with more than 80% of districts attaining > 80% coverage.
2. Polio Eradication: maintain the current polio-free status.
3. Measles Elimination: by the end of 2015 the elimination of measles will have been achieved.
4. MNT Elimination: by the end of 2015 all districts will have reported less than 1 case per 1000 LB.
5. Vaccine Management System: VSSM established in all zones by the end of 2012
6. EPI management: by the end of 2012 the three ministries will have functional EPI units in place.
7. Immunization Safety: by the end of 2012, AEFI surveillance system will be implemented in all regions.
8. Advocacy and Communication: communication strategy drafted and implemented by the end of 2012.
9. Disease Surveillance: Integrated Disease Surveillance system in place and functioning by the end of 2011.
10. Introduction of a new vaccine: Pentavalent DTP-HepB-Hib vaccines introduced by 2013.

## 2.2 Annual Targets

The following table shows annual targets for each priority area and immunization objective, for the planned period.

Table 17: Immunization targets by year

National priorities	Immunization Objectives	Annual Targets
Routine Coverage	By the end of 2015 Somalia will have a DTP3 <sup>17</sup> coverage of 90%	2011: achieve coverage of 69%
		2012: achieve coverage of 74%
		2013: achieve coverage of 79%
		2014: achieve coverage of 84%
		2015: achieve coverage of 89%
Polio	By the end of 2015 Somalia will have maintained its polio-free status	No circulation of the wild polio virus
		2 SIAs conducted annually
		AFP surveillance maintained at certification standard
Measles	By the end of 2015 elimination of measles will have been achieved.	2011-14: .Conduct 3 follow-up campaigns 2015: achieve coverage of 95%
		2011- 15: Case based surveillance started in four zones
MNT	By the end of 2015 achieve an incidence rate of < 1 case per 1000 LB in all districts; and a coverage of > 70% among pregnant women in all districts	2011-14: conduct 3 campaigns 2014: achieve coverage of 80% among WCBA 2015: achieve TT coverage of 70% among pregnant women.
Vaccine management System and cold chain	By the end of 2015 all zones will have established VSSM.	2011-12: a vaccine management assessment and training courses conducted.
		2012: VSSM established in all zones.
		2012: cold chain made sufficient for new vaccine introduction.
EPI Management Capacity	By the end of 2015 the three 'ministries' will have functional EPI units in place.	2011: 2 EPI units established in South and Central zone
		2012-15: 4 EPI units in all zones strengthened and maintained
Immunization Safety	By the end of 2012, injection safety plan and AEFI surveillance system will be implemented in all zones	2012-15: Injection safety plan and AEFI surveillance system implemented in all regions
Advocacy and communication	Service utilization will be improved as measured by level of dropout rate.	2011-15: Conduct annual advocacy meetings in all zones; and four training courses for health workers. - Conduct annual vaccination weeks
Disease Surveillance	Integrated Disease Surveillance system in place by the end of 2011	2011: IDSR implemented in all zones. 2013: Evaluation of IDSR conducted
New Vaccine		2011 - 2012: Assessment and preparatory work completed
		2013: DTP-Hep-Hip vaccines introduced in Somalia.

<sup>17</sup> DPT containing vaccine

## **2.3 General and Specific Strategies and Key Activities**

To achieve the above objectives, the following general and specific strategies will be used.

### **2.3.1 General Strategies**

#### **A. Building Partnership**

The cooperation among local partners and humanitarian agencies that are providing immunization services and the zonal ministries would be strengthened. The partnership strategy will set out the environment in which all health services and immunization activities would operate. This component is very important in Somalia where zonal administration is stronger than the national administration.

#### **B. Linkage of cMYP to GAVI HSS plan and UNSAS**

The recently adopted GAVI HSS plan has the following objectives:

Objective 1: To improve awareness and demand for quality maternal and child health services including immunization and Emergency Obstetric Care (EMOC) - through a *comprehensive and sustained campaign of behavioural change communication*.

Objective 2: To improve availability and utilization of essential maternal and child health services- by *upgrading/ strengthening and supporting selected MCH/Health centres*.

Objective 3: To improve accessibility of basic preventive, promotive and curative health services to rural communities - through supporting recruitment, training, deployment and supervision of a new cadre of Community based female health workers, serving a defined catchment population and linked to the local MCH/Health centre.

Objective 4: To provide evidence (on utilization, impact and cost of services) in order to generate appropriate, equitable and affordable health care delivery models through managing a programme of operational/health system research.

The UNTP is structured around five overall strategic outcomes. Of these, Outcome 4 seeks to ensure that: *Children, youth and vulnerable groups have increased and more equitable access to quality education and health services*. The UN Country Team has finalized the UN Somalia Assistance Strategy (UNSAS) 2011-2015 providing the common framework for UN assistance in Somalia. The UNSAS has three outcomes, out of which Outcome 1 is focused on improved access to social services and accelerating child survival and maternal health is a key component.

The above goal and objectives of cMYP are consistent with the global vision as laid out in GIVS and agencies' plan such as the CCS of WHO; and contributes to the achievement of the MDGs. This cMYP will be linked with GAVI HSS, and the HSS component of The Global Fund.

### 2.3.2 Specific Immunization Strategies and Key Activities

This strategy component will adopt the RED (Reaching Every District) strategy to improve access and utilization of immunization services. Immunization services will be delivered at all health facilities. Additional facilities will be recruited, an outreach and acceleration campaign will be initiated and supervision will be strengthened. Utilization of services will be increased through improving the quality of vaccination services. Cold chain and vaccine supply management will be improved to enhance effectiveness of the programme. The following matrix maps key activities of each strategy under the specific objectives.

<b>Objective 1: Increasing Immunization Coverage</b>	
<b>Strategy</b>	<b>Key Activities</b>
Increase access through the expansion of fixed sites and outreach sessions.	<ul style="list-style-type: none"> <li>- Expand outlets of routine immunization services in IDPs.</li> <li>- Extension of RED approach to more districts</li> <li>- Update district microplanning</li> <li>- Conduct training for health workers on facility based micro planning for each catchment area.</li> <li>- All MCHs will have 4 outreach sessions per month</li> <li>- Communities will be involved in outreach sessions and defaulter tracing through clan elders, TBA.CHWs and Female Health Workers.</li> <li>.- Training for health workers on</li> <li>- Conduct two rounds of nation-wide CHDs each year</li> </ul>
Increase utilization through improving services and implementing BCC	<ul style="list-style-type: none"> <li>- Training for vaccinators, supervisors and social mobilizers</li> <li>- Conduct of supportive supervision and on-job-training</li> <li>- Conduct BCC at national level</li> <li>- Disseminate messages to parents through TBA/CHWs and Female Health Workers.</li> <li>- Conduct defaulter tracing with the support of TBA/CHWs and Female Health Workers</li> </ul>
<b>Objective 2: Polio Eradication</b>	
<b>Strategy</b>	<b>Key Activities</b>
<ul style="list-style-type: none"> <li>- SIA</li> <li>- AFP surveillance</li> </ul>	<ul style="list-style-type: none"> <li>- Conduct 2 rounds of NIDs annually</li> <li>- Maintain and improve AFP surveillance</li> </ul>
<b>Objective 3: Measles Elimination</b>	
<b>Strategy</b>	<b>Key Activities</b>
<ul style="list-style-type: none"> <li>- Follow up campaigns</li> <li>- Strengthen aggregate and case based measles surveillance</li> </ul>	<ul style="list-style-type: none"> <li>- Develop five-years strategic plan of action</li> <li>- Conduct annual rounds of follow up campaign as part of CHD up to 2013.</li> <li>- Establish measles case based surveillance in South/central zone</li> <li>- Support measles case based surveillance in NW/NE zones</li> </ul>
<b>Objective 4: MNT Elimination</b>	
<b>Strategy</b>	<b>Key Activities</b>
<ul style="list-style-type: none"> <li>- CHD campaigns</li> <li>- Clean delivery</li> <li>- Strengthen MNT surveillance</li> </ul>	<ul style="list-style-type: none"> <li>- Conduct annual rounds of CHD up to 2013.</li> <li>- Training of health workers on VPD surveillance</li> <li>-</li> </ul>

<b>Objective 5: Improve Vaccine Supply Management</b>	
<b>Strategy</b>	<b>Key Activities</b>
Improve vaccine stock management	<ul style="list-style-type: none"> <li>- Conduct training on VSSM</li> <li>- Establish VSSM in all zones.</li> </ul>
<b>Objective 6: Improve Immunization Service Management</b>	
<b>Strategy</b>	<b>Key Activities</b>
Capacity building of EPI Unit of ministries	<ul style="list-style-type: none"> <li>- Support two EPI Units in Somaliland/Puntland</li> <li>- Establish two EPI units in South and Central zones</li> <li>- Strengthen quarterly zonal coordination meeting</li> <li>- Conduct training on management of health services</li> <li>- Provide logistics support to MOH to conduct supportive supervision.</li> </ul>
<b>Objective 7: Improve immunization safety</b>	
<b>Strategy</b>	<b>Key Activities</b>
Training and Strengthening of monitoring system	<ul style="list-style-type: none"> <li>- Conduct training on injection safety.</li> <li>- Provide logistic support for supportive supervision.</li> <li>- Institute AEFI system</li> </ul>
<b>Objective 8: Advocacy and communication</b>	
<b>Strategy</b>	<b>Key Activities</b>
BCC strategy	<ul style="list-style-type: none"> <li>- Develop advocacy and communications strategy</li> <li>- Conduct advocacy meetings with community leaders</li> <li>- Conduct social mobilization activities before and at all outreach sessions.</li> <li>- Conduct annual vaccination weeks</li> </ul>
<b>Objective 9: Vaccine Preventable Disease Surveillance</b>	
<b>Strategy</b>	<b>Key Activities</b>
Capacity building Strengthening of case-based surveillance	<ul style="list-style-type: none"> <li>- Assess training needs and conduct training on surveillance</li> <li>- Develop and distribute reporting forms and guidelines.</li> <li>- Provision of reagents, materials and supplies for measles laboratory</li> <li>- Establish measles laboratory facility in Central and South zones. -</li> <li>- Regular collection and analysis of data and feedback to health facilities</li> </ul>
<b>Objective 10: New vaccine introduction</b>	
<b>Strategy</b>	<b>Key Activities</b>
Introduction of under-used vaccine	<ul style="list-style-type: none"> <li>- Assessment of cold chain capacity</li> <li>- Application for GAVI</li> <li>- Development of guidelines, management and monitoring tools</li> <li>- Training of health workers</li> <li>- Launching of Pentavalent DTP-Hep-Hip vaccine</li> </ul>

## 2.4 Monitoring and Evaluation

Monitoring of immunization activities will be made at health facility level on a daily basis, through immunization monitoring charts. At zone level management structures will be assisted to strengthen regular supportive supervision. To standardize and maximize output of supervision, a standard supervisory checklist will be updated. Zonal coordination on quarterly basis and joint supervision by major partners will be strengthened for monitoring progress and annual review meeting of evaluation be conducted.

At Nairobi level the EPI working Group monthly meeting will monitor progress of implementation of the cMYP. For monitoring and evaluation purposes the following major verifiable process and output indicators will be used.

Strategic area	Key process indicators	Key output indicators
Increase access	<ul style="list-style-type: none"> <li>- Number of districts covered by RED approach.</li> <li>- Number of updated district microplanning</li> <li>- Number of training conducted</li> <li>- Number and quality of nation-wide CHDs conducted each year</li> </ul>	<ul style="list-style-type: none"> <li>o National DTP3 coverage</li> <li>o Per cent of districts with &gt; 80% coverage</li> <li>o National DTP1–DTP3 drop-out rate of &lt; 10%</li> </ul>
Increase utilization	<ul style="list-style-type: none"> <li>- Number of training</li> <li>- Numb of supportive supervision conducted by EPI unit staff</li> <li>- Quality and number of immunization message communicated by Female Health Workers.</li> <li>- Existence of defaulter tracing in each district</li> </ul>	
Polio Eradication	<ul style="list-style-type: none"> <li>- Number of NIDs</li> <li>- Performance of AFP surveillance</li> </ul>	<ul style="list-style-type: none"> <li>o Absence of circulating wild polio virus</li> <li>o Certification standard AFP surveillance maintained</li> </ul>
Measles Elimination	<ul style="list-style-type: none"> <li>- Existence of strategic plan of action</li> <li>- Number of follow-up SIAs conducted</li> <li>- Existence of measles case based surveillance in South/central zone</li> </ul>	<ul style="list-style-type: none"> <li>o Decreasing trend of reported measles cases</li> <li>o Attainment of regional goal of measles elimination</li> </ul>
MNT Elimination	<ul style="list-style-type: none"> <li>- Existence of strategic plan of action</li> <li>- Number of follow-up SIAs conducted</li> </ul>	<ul style="list-style-type: none"> <li>o Decreasing trend of reported MNT cases</li> </ul>
Vaccine Supply Management	<ul style="list-style-type: none"> <li>- Number of training conducted on VSSM</li> <li>- Establishment of VSSM in all zones.</li> </ul>	VSSM started in all zones
Capacity building of EPI Unit of ministries	<ul style="list-style-type: none"> <li>- Continuity of financial support to EPI Units in Somaliland/Puntland</li> <li>- Establishment of EPI units in South and Central zones</li> <li>- Number of quarterly zonal coordination meeting</li> <li>- Number of training conducted on management</li> </ul>	Two EPI units established and functioning in South and Central zones
Improve immunization safety	<ul style="list-style-type: none"> <li>- Number of training on injection safety.</li> <li>- Existence of AEFI system</li> </ul>	AEFI system established and functioning
Advocacy and communication Strategy	<ul style="list-style-type: none"> <li>- Existence of advocacy and communications strategy</li> <li>- Number of advocacy meetings with community leaders in zone</li> </ul>	Communication strategy in place and implemented

	- Conduct of vaccination week.	
Vaccine Preventable Disease Surveillance	<ul style="list-style-type: none"> <li>- Number of training surveillance</li> <li>- Number of monthly reports received</li> <li>- Number and type of reagents, materials provided for measles laboratory</li> <li>- Establishment of measles laboratory facility in Central and South zones.</li> </ul>	<ul style="list-style-type: none"> <li>○ IDSR in place and all VPD reported</li> <li>○ Measles laboratory established and functioning in Central and South zones</li> </ul>
New vaccine introduction	<ul style="list-style-type: none"> <li>- Timely conduct of cold chain capacity assessment</li> <li>- Quality and timeliness of application for GAVI</li> <li>- Existence of guidelines, management and monitoring tools</li> <li>- Number and quality of training of health workers</li> </ul>	Pentavalent DTP-HepB-Bib vaccine administered as part of routine schedule.

## **Chapter 3: Cost and Financial Analysis, cMYP, 2011 - 2015**

### **3.1 Methods and Assumptions**

A comprehensive multi-year plan (cMYP) for immunization is a management tool that:

- Provides national goals, objectives and strategies for three to five years based upon a situational analysis;
- Addresses all components of the immunization system relevant to the country;
- Makes synergies between various immunization initiatives, such as polio; and integrates in one plan those activities common to accelerated disease control and other initiatives and routine immunization,
- Includes costing and financing assessments to be linked to the relevant planning cycle of the country;
- Encourages links with other programmes; and
- Includes scenarios and strategies for financial sustainability.

Based on the above general principles of cMYP the following steps were undertaken to develop cMYP in the specific context of Somalia.

#### ***Steps Undertaken to Develop cMYP***

- Series of meetings and consultations were held with UNICEF, WHO and partners in developing draft MYP.
- Consensus building workshop held in Nairobi on 23, Sep. 2010. Draft MYP and planning tools were discussed in this meeting and consensus reached at on: priority areas if immunization programme, objectives, annual targets; and the draft MYP further developed.
- Consultant was recruited for supporting development of cMYP.
- Briefing on the process of cMYP was made at EPI Working Group meeting and discussion points for cost estimation presented. In this meeting NGOS to be included in the cost estimation were agreed upon
- Meetings between the consultant and partners were held to estimate costs of immunization activities. Partners involved in cost estimates include: UNICEF, WHO, SRCS/IFRC, Trocaire, WVI, Merlin and SWISS Kalmo.
- EPI log forecasting tool was used to calculate future resources required for vaccines and cold chain equipments; and the WHO-UNICEF cMYP costing and financing tool (version 2.5 – March 2011) was used for analyzing costing and financing of immunization activities.

- Immunization workplans of health ministries in Somaliland, Puntland and Central/South zones were incorporated into the current cMYP.
- Draft cMYP was circulated to all EPI partners, and final version presented at EPI Working Group meeting and agreed upon.

### ***Assumptions and limitations***

- Macro-economic data for Somalia was not available at [www.who.int/nha/countries](http://www.who.int/nha/countries) website and at the World Bank site <http://ddp-ext.worldbank.org><sup>18</sup>. Therefore the UN data (GDP per capita) available at [http://data.un.org/country\\_profile.aspx](http://data.un.org/country_profile.aspx) , and the report of health system observatory (THE and GHE as % of THE) available at [http://www.emro.who.int/health\\_system\\_observatory/PDF/Somalia/health\\_care\\_financing\\_and\\_expenditure](http://www.emro.who.int/health_system_observatory/PDF/Somalia/health_care_financing_and_expenditure) were used.
- There were no recent demographic indicators for Somalia. Therefore UNDP population projections for 2005 - 2010 were used. This projected population figure was used to further project population estimates for 2011 – 2015, applying a 3% population growth rate (UNICEF-WHO Immunization summary 2011).
- It is assumed that Somalia will use a 10 dose vial presentation of DTP-HepB-Hib vaccine ( the presentation that will actually be used depends on availability of presentations at the time of the country’s application to GAVI).
- There was no system to monitor vaccine wastage rates in Somalia. Therefore, estimates of wastage, for all antigens, was made by UNICEF-EPI supply officer

Somalia has not had a comprehensive country-wide development strategy, macro-economic plan, or a health sector plan with which an immunization cMYP could be linked. As a result, the current cMYP is linked to strategic plans of development partners and the TFG workplan and workplans of sub-national governments in Somaliland and Puntland

Despite these limitations, the cMYP will be used as a management tool, framework for aligning immunization plans of EPI partners, generation of detailed annual work plans for 2011 – 2015, and monitoring and evaluation of immunization activities. It will also be used as country-wide immunization document in streamlining and linking activities and costs with related health programmes.

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<sup>18</sup> These are the sites that are recommended in the WHO-UNICEF *Guidelines for Developing a Comprehensive Multi-Year Plan for Immunization*.

### 3.2 Demographic Indicators and Population Projections

The last census in Somalia was carried out in 1974; and all subsequent demographic figures have been based on a number of estimates and projections. The demographic figures used in this cMYP planning are estimates made by UNDP Somalia.

Table 18: Somalia demographic indicators, 2011 – 2015

Indicator	Source of information	Base line year	Plan Period				
		2010	2011	2012	2013	2014	2015
Total population	projections are based on 3% AGR from UNDP-Somalia data	8,697,600	8,958,528	9,227,284	9,504,102	9,789,225	10,082,902
Births	projections are based on 4% CBR from UNICEF-WHO Immunization summary 2011	347,904	358,341	369,091	380,164	391,569	403,316
Infant deaths	Using IMR 109/1000LB in UNICEF-WHO Immunization summary-2011	37,922	39,059	40,231	41,438	42,681	43,961
Surviving infants	(projection using IMR in UNICEF-WHO Immunization summary-2011	309,982	319,282	328,860	338,726	348,888	359,355
Pregnant women	Considered equivalent to LB	347,904	358,341	369,091	380,164	391,569	403,316

### 3.3 Cost Analysis of Immunization Activities, 2010

In 2010, the total expenditure on immunization was US\$ 26.5 million, out of which, 70.7% was used for Supplemental Immunization Activities (SIA) and 29.3% for routine immunization services. In per capita terms; the cost of routine immunization was US\$ 0.8, and the cost per DTP 3 child was US\$ 35.5, as shown in Table 13 below.

Table 19: Baseline year cost analysis

Baseline Indicators	Expenditure in US\$, 2010
Total Immunization Expenditures	26,530,784
Supplemental Immunization Activity	19,433,348
Routine Immunization only	7,097,436
Per capita expenditure (Only for routine)	0.8
Per DTP3 child	35.5
Per cent of vaccines and supplies cost	9.6%
Per cent Total health expenditures	6.3%
Per cent of GDP	0.27%
Total Shared Costs	28,968
% Shared health systems cost	0%
<b>GRAND TOTAL</b>	<b>26,530,784</b>

Due to lack of data, it was difficult to relate immunization expenditures to macro-economic indicators in Somalia, nevertheless, using available information on macro-economic indicators, expenditure on routine immunization constituted 6.3 % of estimated total health expenditure and 0.27% of the GDP.

**Costing of Immunization Activities**

Expenditure data on traditional vaccine and supply cost, cold chain equipment, transportation of vaccines and staff for outreach sessions, personnel, etc were collected and used to calculate total costing of routine immunization activities of 2010. Figure 6 below shows the costing pattern of routine immunization activities.

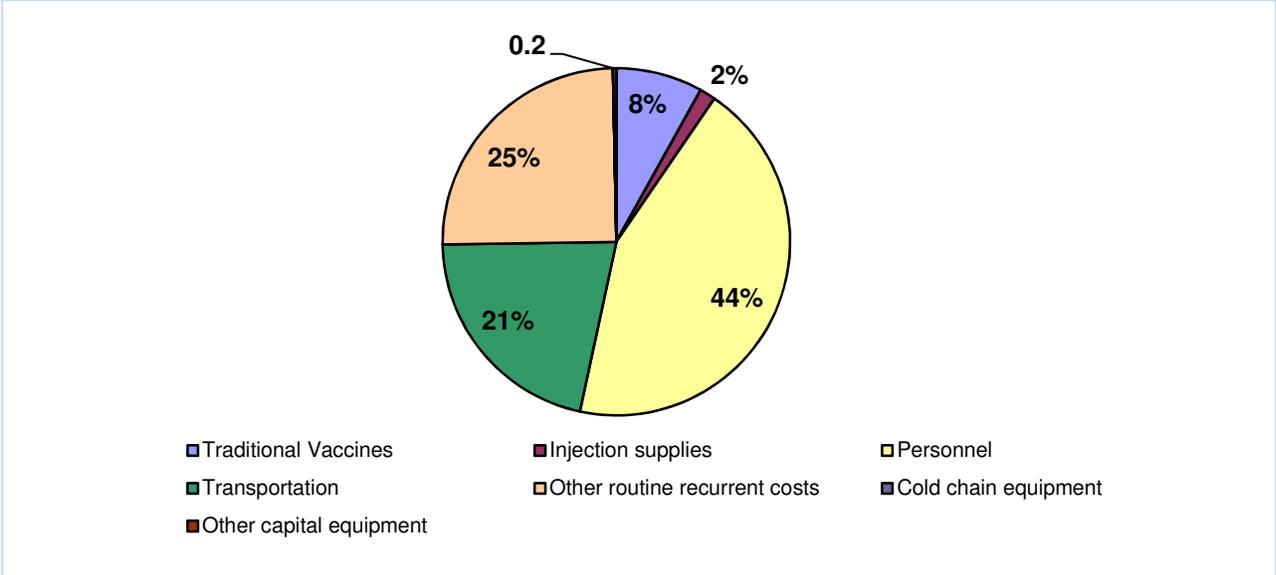


Figure 4: Baseline cost profile for routine immunization, 2010

As shown above, the major cost drivers, in routine immunization expenditures, were salaries (44%) of EPI staff employed by WHO Somalia and UNICEF Somalia. Expenditures on other routine recurrent costs (surveillance, field security costs, training, social mobilization, etc) constituted 25% of the total cost of immunization. Cost of transportation (for fixed and outreach strategies) amounted about 21%, and costs of vaccines and injection supplies amounted to about 10% of the total immunization costs.

**3.4 Financing of Immunization Activities, 2010**

Immunization in Somalia includes both routine and supplemental activities. Data on sources of expenditures on both routine and supplemental immunization activities were obtained from immunization partners operating in Somalia. For the purposes of planning, financing pattern of 'routine only' and 'routine and SIA' was calculated and presented separately.

### ***Financing of Routine Activities***

As shown in figure 7, UNICEF Somalia was the major financier of routine immunization activities in Somalia, financing about 46% of all the routine expenditures. These expenditures were used to cover cost of traditional vaccines, per-diem for outreach activities, salaries for staff, etc. The second major financier was WHO Somalia which covered about 29% of the total expenditures, mainly used for disease surveillance, salaries, etc. There are about 40 NGOs operating in Somalia in the area of immunization. These NGOs financed about 24% of total immunization cost. The contribution of sub-national governments was about 1% of routine immunization expenditure.

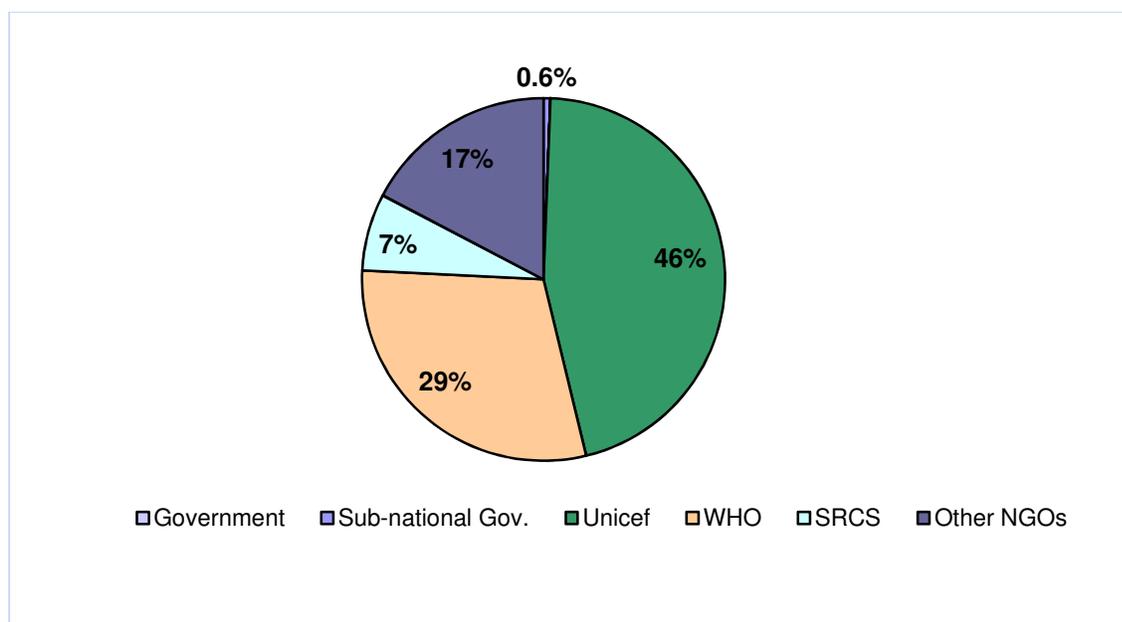


Figure 5: Baseline year financing profile, 2010 (Routine only)

### ***Financing of Routine and SIA***

Figure 8, below shows WHO Somalia to have been the major financier of the combined routine and supplemental immunization activities. The change in financing pattern was due to supplemental immunization activities of polio and CHD. In 2010, WHO contributed about 51% of the combined cost of routine and supplemental activities, mainly on training and operational cost campaigns and disease surveillance. UNICEF Somalia covered about 43% of the total combined cost of routine and supplemental activities, mainly on procurement and transportation of vaccines and supplies, IEC/social mobilization, etc.

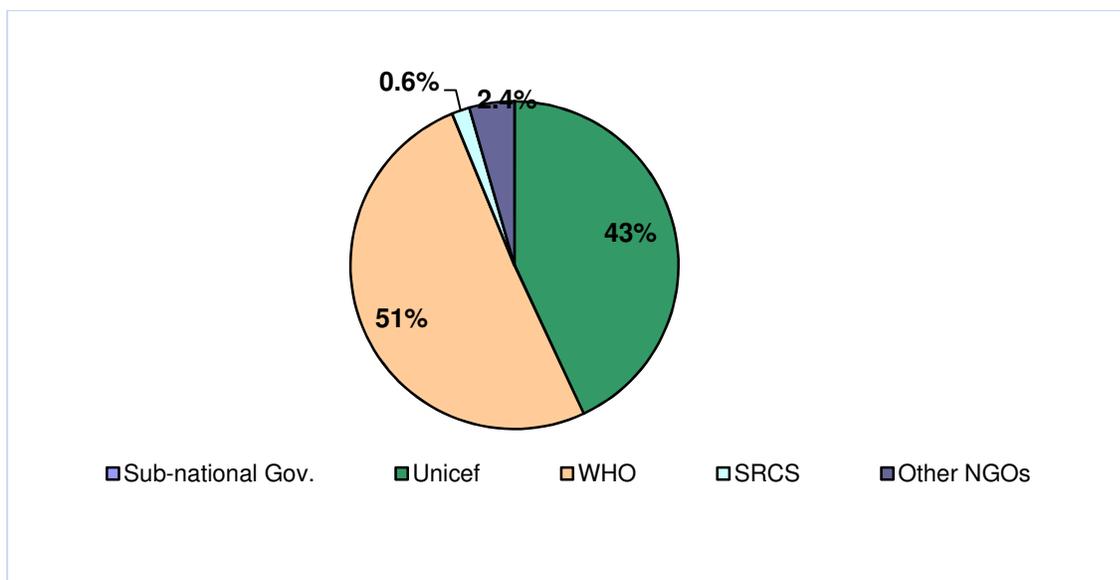


Figure 6: Baseline financing profile, routine and SIA

### 3.5 Future Requirements, Financing and Gap Analysis 2011-2015

Analysis of future resource requirements, financing and funding gap of the cMYP period was carried out under two scenarios:

- Baseline scenario, defined as a situation in which Somalia's future requirement, financing and gap, was considered only with the current vaccination schedule (traditional vaccines only) without the addition of any under-used or new vaccine.
- Alternative scenario, defined, as a situation in which the future requirement, future financing and gap, was considered with the introduction of DTP-HepB-Hib vaccine in the country's vaccination schedule starting from 2013.

Results of analysis of future requirement, financing and gap are presented separately for the baseline and alternative scenarios.

#### 3.5.1 Future Resource Requirement Under Baseline Scenario

For the baseline scenario, a resource envelope of US\$ 98.2 million will be needed over the planned period, with an annual average of US\$ 19 million. The annual average of the future requirement is less than the baseline year expenditure, due to the fact that SIAs, which constitute the bulk of immunization expenditure in Somalia, are planned only for the first 3 yrs of the plan period. The total future resource requirement is shown in table 19 and figure 9, below.

Table 20: Future resource requirement, 2011 - 2015

cMYP component	Future requirement in US\$					
	2011	2012	2013	2014	2015	Total
Vaccine Supply and Logistics	1,219,459	1,095,641	1,108,068	1,207,884	1,297,276	5,928,329
Service Delivery	4,750,436	4,941,923	5,106,568	5,275,824	5,441,527	25,516,278
Advocacy and Communication	193,077	196,939	200,877	204,895	208,993	1,004,781
Monitoring and Disease Surveillance	817,204	724,415	537,756	554,069	570,933	3,204,376
Programme Management	924,736	961,192	982,964	1,036,386	1,090,128	4,995,406
Supplemental Immunization Activities	18,600,712	19,008,510	19,616,983	0	0	57,226,205
Shared Health Systems Costs	61,392	61,788	63,024	64,284	65,570	316,058
<b>Total</b>	<b>26,567,016</b>	<b>26,990,407</b>	<b>27,616,241</b>	<b>8,343,342</b>	<b>8,674,427</b>	<b>98,191,433</b>

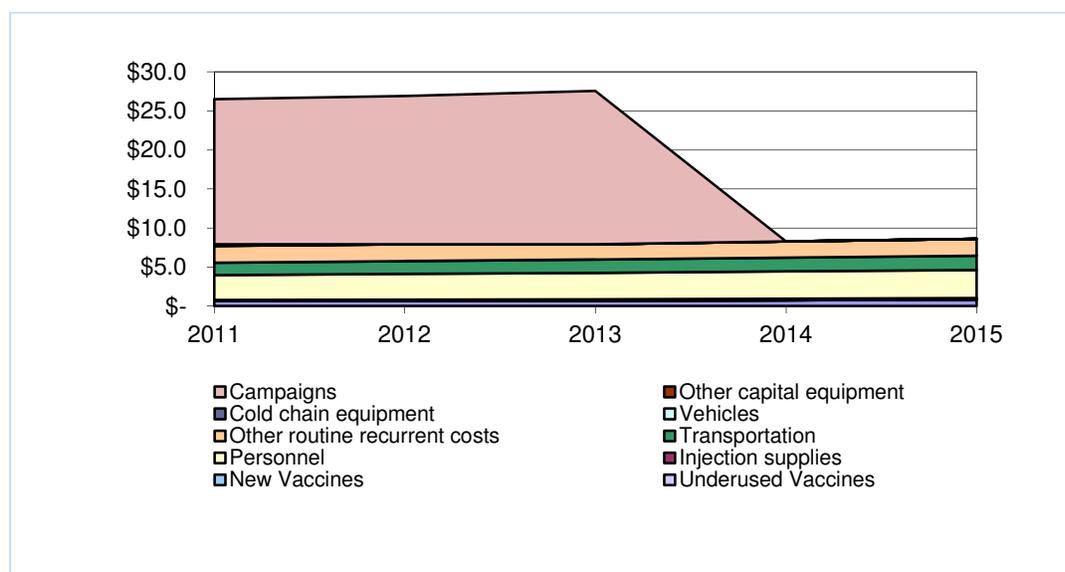


Fig.7: Projection of future resource requirement in millions

This resource requirement can be translated into an average of US\$ 30.4 per DTP3 child which shows a reduction of about US\$ 10 over the current cost of US\$ 40 per DTP3 child. The decrease in per child cost, despite the increase in the required routine costs, is due to the planned increase in routine coverage and planned reduction in vaccine wastage.

### ***Financing and Funding Gap***

The financial profile for the plan period indicates that the total secured funds for immunization are only US\$ 20.6 million. With this level of secure funds, the funding gap will be 79% of total resource requirements, as shown in table 20 and figure 10, below.

Table 21: Resource requirement, secured financing and gaps, 2011 - 2015

<b>Resource Requirements, Financing and Gaps</b>	<b>Plan Period</b>					<b>Total</b>
	2011	2012	2013	2014	2015	
Total Resource Requirements (US\$)	26,567,016	26,990,407	27,616,241	8,343,342	8,674,427	98,191,433
Total Resource Requirements (Routine only) (US\$)	7,966,304	7,981,898	7,999,257	8,343,342	8,674,427	40,965,228
Per capita	0.9	0.9	0.8	0.9	0.9	0.9
Per DTP3 child	36.0	32.7	29.9	28.5	27.1	30.4
Total Secured Financing(US\$)	8,969,920	8,419,923	2,809,267	200,532	216,379	20,616,022
Funding Gap (with secured funds only) (US\$)	17,597,096	18,570,484	24,806,974	8,142,810	8,458,048	77,575,412
Resource Requirements, Financing and Gaps	66%	69%	90%	98%	98%	79%

The funding gap changes if the analysis includes probable situation of funding, in which the funding gap will drop dramatically to 1%. This is due to the fact that all partners are planning to continue undertaking both routine and supplemental immunization activities that are currently being implemented in Somalia.

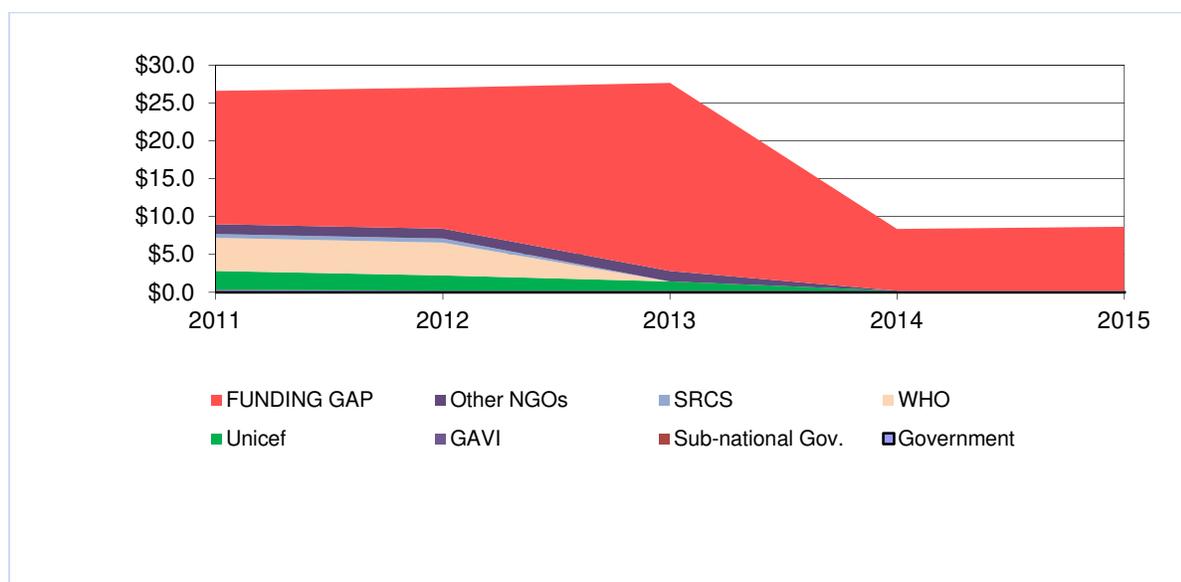


Fig.8: Future secure financing and gap, in millions.

Table 22: Funding gap with secure funds

Activities	Plan Period					Total
	2011	2012	2013	2014	2015	
Vaccines and injection equipment	0	0	853,414	945,212	1,027,592	2,826,218
Personnel	0	143,201	1,589,414	3,463,555	3,560,520	8,756,690
Transport	349,574	606,013	937,537	1,767,568	1,836,307	5,497,000
Recurrent costs	1,017,462	1,217,837	1,800,892	1,943,118	2,009,647	7,988,956
Logistics cold chain, other equipment)	0	7,601	0	0	0	7,601
Campaigns	16,230,060	16,595,832	19,616,983	0	0	52,442,875
Total Funding Gap	17,597,096	18,570,484	24,798,241	8,119,454	8,434,065	77,519,340

### 3.5.2 Future Resource Requirement Under Alternative Scenario

In this scenario the effect of introducing DTP-Hep B-Hib vaccine into the routine immunization schedule was assessed in term of costs, finance and funding gap. As seen in the below table; the total resources required under this scenario will increase by about US\$ 8.8 Million. The total required cost will be US\$ 106.96 million with an annual average of US\$ 21.4 million per year. This means increase of resources required by approximately 8.9% from the baseline scenario.

Vaccines cost will increase from 9 % (US\$ 3.7 million) of total resource requirements 2011-2015 in the baseline scenario to 23.2 % ( US\$ 11.6 million)

Table 23: Future resource requirements, alternative scenario

cMYP Component	Plan period					Total
	2011	2012	2013	2014	2015	
Vaccine Supply and Logistics	1,228,654	1,091,473	4,308,720	3,465,458	3,755,186	13,849,491
Service Delivery	4,750,436	4,941,923	5,106,568	5,275,824	5,441,527	25,516,278
Advocacy and Communication	193,077	196,939	200,877	204,895	208,993	1,004,781
Monitoring and Disease Surveillance	817,204	724,415	537,756	554,069	570,933	3,204,376
Programme Management	924,930	961,192	1,322,620	1,280,753	1,361,502	5,850,996
Supplemental Immunization Activities	18,600,712	19,008,510	19,616,983	0	0	57,226,205
Shared Health Systems Costs	61,392	61,788	63,024	64,284	65,570	316,058
Grand total	26,576,405	26,986,239	31,156,548	10,845,282	11,403,710	106,968,185

Despite the huge increase in vaccines cost; the new vaccine will have minimal effect on cold chain storage capacity<sup>19</sup>. For the introduction of Pentavalent DTP-HepB-Hib, it is only seven MK304 refrigerators that will be required, which will cost only US\$ 7,294.

<sup>19</sup> This is because the presentation of Pentavalent vaccine which is planned to be used is that of 10 dose vials (4.4 cm /dose), which has no big difference from the presentation of existing DTP vaccine (3 cm /dose).

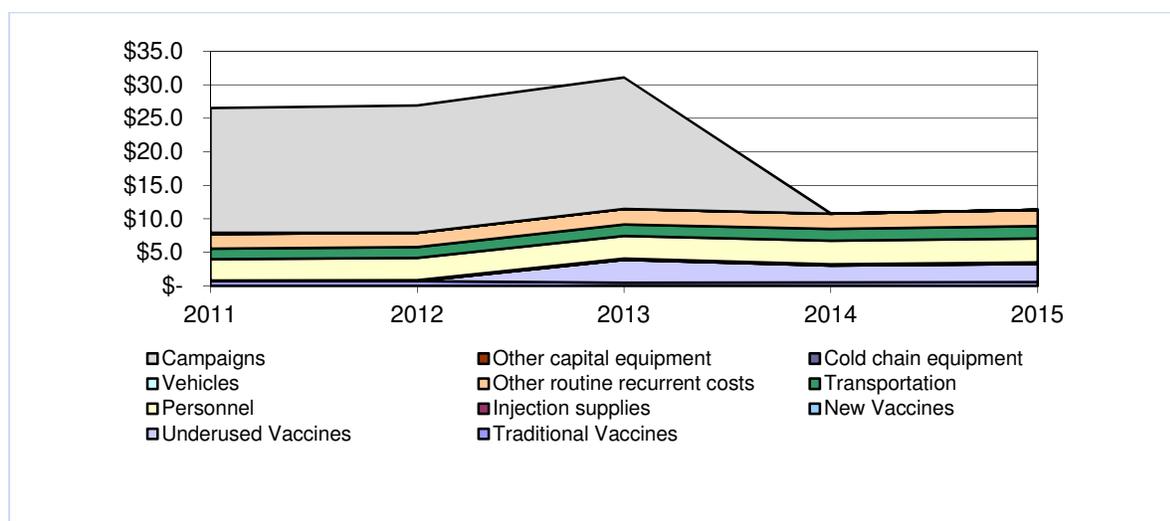


Fig. 9 Future secure and probable financing and gap, in millions

The above required resources can be translated into per DTP child cost of US\$ 37 and US\$ 1 per capita on average. In consideration of the burden of Hepatitis B virus and Hib diseases in Somalia, and the cost effectiveness of the vaccine as discussed in previous chapters of the cMYP; the resource requirements that accompany DTP-Hep-Hip vaccine introduction is quite reasonable and acceptable.

### Financing and Gap Analysis, Alternative Scenario

Under the alternative scenario, the funding gap will be 81 %.( 86.3 million U\$), with secure funds. This shows an increase of US\$ 8.8 Million compared to the gap under baseline scenario. The figure below illustrates the financing profile and funding gap considering secure funds only.

Table 24: Funding gap with secure funds in US\$

Composition of the funding gap	Plan period					Total
	2011	2012	2013	2014	2015	
Vaccines and injection equipment	0	0	4,042,970	3,191,259	3,472,833	10,707,062
Personnel	0	143,201	1,589,414	3,463,555	3,560,520	8,756,690
Transport	349,574	606,013	937,537	1,767,568	1,836,307	5,497,000
Recurrent costs	1,019,556	1,217,837	2,151,644	2,199,011	2,293,688	8,881,737
Logistics	0	3,433	0	0	0	3,433
SIA	16,230,060	16,595,832	19,616,983	0	0	52,442,875
<b>Total Funding Gap</b>	<b>17,599,191</b>	<b>18,566,316</b>	<b>28,338,548</b>	<b>10,621,394</b>	<b>11,163,348</b>	<b>86,288,797</b>

### **Summary of Resource Requirement Under the Two Scenarios**

The summary of total resources requirement under the baseline and alternative scenarios is presented in Table 25.

Table 25: Comparison between the two scenarios

<b>Resource Requirements, Financing and Gaps in US\$</b>	<b>2011- 2015</b>	
	<b>Baseline scenario</b>	<b>Alternative scenario</b>
Total Resource Requirements	98,191,433	106,968,185
Total Resource Requirements (Routine only)	40,965,228	49,741,980
Percent Vaccines (routine)	9.0%	23.2%
Total Secured Financing	20,616,022	20,623,316
Funding Gap (with secured funds only)	77,575,412	86,344,869
Percent of total Needs	79%	81%
Total probable financing	76,166,914	84,905,250
Co-financing of GAVI vaccines	-	919,518
Funding gap (with secured & probable funds)	1,408,497	1,439,620
% of Total Needs	1%	1%

### **3. 6 Co-financing for Under Used Vaccines**

All countries applying for GAVI New Vaccine Support are required to co-finance the GAVI supported vaccines from the time of introduction. Somalia will apply for DTP-HepB-Hib; and will introduce this vaccine in 2013. During the period 2013-2015, the co-finance level that must be paid for in order to fulfill GAVI funding requirement, will be US\$ 919,518 with an average annual rate of US\$ 306,506. Detailed co-financing level by year is shown in table 24, below.

Table 26: Annual requirement of co-financing, 2013 - 2015

<b>Year</b>	<b>Annual fund requirement in US\$</b>
2013	373,954
2014	268,894
2015	287,107
Total	929,955

In Somalia, UNICEF has been the major financier of immunization, and has been procuring and providing the traditional vaccines, since the start of EPI Programme. UNICEF will meet the GAVI funding requirement in covering the above cost of co-financing for the planned Pentavalent vaccine introduction.

### **3. 7 Sustainability Analysis**

#### ***3.7.1 Sustainability of Health Programmes in Somalia***

Despite the socio-political turmoil, there are opportunities of sustainability in Somalia that need to be built upon.

##### ***Local Functioning Governments***

In Somalia, there is a de-facto decentralization that forms the basis of local ownership of health programmes and managerial sustainability. The relative political stability in Somaliland and Puntland has created more secure programming and sustainability spaces in which capacity of local health authorities could be built, so that they would assume ownership of health programmes. Both Somaliland and Puntland administrations have been gradually expanding their national budgets and both have committed to continue the trend – aiming to reach 5-6% of total expenditure on health in 3 – 5 years.

##### ***Success Stories***

Somalia has been polio-free for more than three years. Measles mortality in Somalia was reduced by about 90%. Control of Tuberculosis and Roll Back Malaria are on track. In the area of governance, according to UNDP, *“Somaliland is progressing from institution strengthening and infrastructure rehabilitation to capacity building and sustainability of institutions. Puntland is progressing on institutional strengthening and infrastructure rehabilitation. In Somaliland, there are efforts under-way through international assistance programmes to promote Public Financial Management reform and overall improvement in governance and the public process. This programme is expected to enhance the state’s capacity to generate more revenue through taxation and to allocate additional money to the social sectors.”* All these success stories provide opportunities of sustainability.

##### ***Vibrant Diaspora***

The large and well-developed diaspora repatriates significant remittances which have been invested to create a flourishing private sector in Somalia that includes the provision of private health care services. Public-private partnership in the health sector is an area that is looked into and being used to enhance participation of the private sector in delivery of health services. This will provide an element of opportunity of sustainability.

##### ***Harmonization of Development Aid***

According to the UNCT, *“The work of the United Nations family in Somalia is set out in a joint five year strategy called the United Nations Somalia Assistance Strategy (UNSAS). The UNSAS*

*covers humanitarian, recovery and development priorities in Somalia from 2010 until 2015. The main focus of UNSAS in the five year period is; improving access to quality basic services, among others. The United Nations in Somalia, is also promoting a common approach to local governance systems, and encouraging stronger links between civil society organizations and the central authorities, and promoting partnerships between the Government, civil society and the private sector in order to increase capacity for service delivery”*(UNCT Somalia). Though aid will not lead to sustainability, harmonization of humanitarian aid through such mechanism like UNSAS will create the space of sustainability.

### ***Increasing Trend of Health Financing***

According to a study<sup>20</sup> conducted in 2006, health expenditure was estimated to account for 3 to 3.5% of GNI. It was also estimated that health received about 10% of the US\$ 390m spent by main donors in 2006. Donor contributions for health tripled over the past seven years, from US\$ 23m to US\$ 62m in 2007, and Per capita aid financing for health grew from US\$ 3.00 in 2000 to US\$ 7.00 in 2006.

#### ***3.7.2 Sustainability of Immunization Programme***

Sustainability of immunization programmes in general depend on continuity of:

- Demand for immunization
- Supply of efficient services, and
- Carrying capacity of the programme

In Somalia, the demand for immunization is increasing and the provision of an immunization service has improved over time. Capacity of the health system in general and that of the immunization programme in particular has improved, and is planned to further improvement with the support of HSS component of GAVI and GFATM.

### ***Strategies towards Sustainability***

The current cMYP includes a set of strategies based on the specific context of Somalia and the MDG goals of reducing child mortality. The following immunization, operational and fundraising programme strategies will be implemented.

1. Immunization strategies to increase efficiency of current EPI programme.
  - a. Vaccines are one of the major cost drivers of required resources. To increase efficiency of the programme, a system will be put in place to improve vaccine wastage rates through
    - i. Adequate training for zonal , regional, district and health facility health workers on vaccine management,

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<sup>20</sup> A major inventory of external resources, carried out in 2006 (Capobianco and Naidu, 2008).

- ii. MDVP and wastage control especially in areas of relative stability (NE and NW zones), and
    - iii. Increasing immunization coverage.
  - b. Strengthen social mobilization/IEC activities to increase utilization of existing immunization services at fixed sites, which will minimize wastage and maximize efficiency. As discussed in the strategy section of this plan, one of the four objectives of GAVI HSS is to increase demand for immunization, through behavioral change and communication strategy.
- 2. Delivery strategy of integrating EPI with other child health interventions
  - a. Somalia has a good lesson learnt from recent experience of Child Health Days, in which routine immunization was integrated and delivered with other child health intervention. Integration of intervention has been found to be cost-effective as discussed earlier.
  - b. Pursue better integration of resources and maximize use of shared cost and other existing opportunities.
- 3. Operational strategy of linking with other programmes
  - Strengthen outreach activities through the use Female Health Workers to be initiated with GAVI HSS programme.
  - Rehabilitation cold chain equipment in selected MCHs is planned with GAVI HSS.
  - Make use of the planned managerial capacity building of GAVI and GFATM. Using the cMYP to advocating more/new donor support (World Bank, JICA, etc) to ensure better support to immunization services and attaining MDGs. This support will be directed to main areas of probable funds and to the funding gap.
- 4. Fund raising strategies to increase resource availability
  - Advocacy for immunization to be a priority area of funding within the context of Somalia. Integration of immunization programme has recently enhanced consideration of EPI as a priority programme with funding windows like CHF and CERF. This strategy will be pursued, and the trend of funding is expected to continue.
  - Advocacy for commitment from traditional donors to continue their support.
  - Use the cMYP as an advocacy tool for attracting support from non-traditional donor.

Against the background of the above ongoing and planned programmatic improvements, analysis of future resource requirements, financing and funding gap of the cMYP period was carried out under two scenarios:

- Baseline scenario with the current vaccination schedule (traditional vaccines only)
- Alternative scenario with the introduction of DTP-HepB-Hib vaccine in the vaccination schedule (2013)

### ***Baseline Scenario***

In base line scenario; the annual resources required for routine immunization during the plan period will represent between 6.4 - 6.6% of the total expenditure on health with an increasing trend as the requirement increase every year, and between 14.4-14.6% of (estimated) government expenditure on health. These needs are translated into a range of US\$ 0.84 - 0.86 per capita.

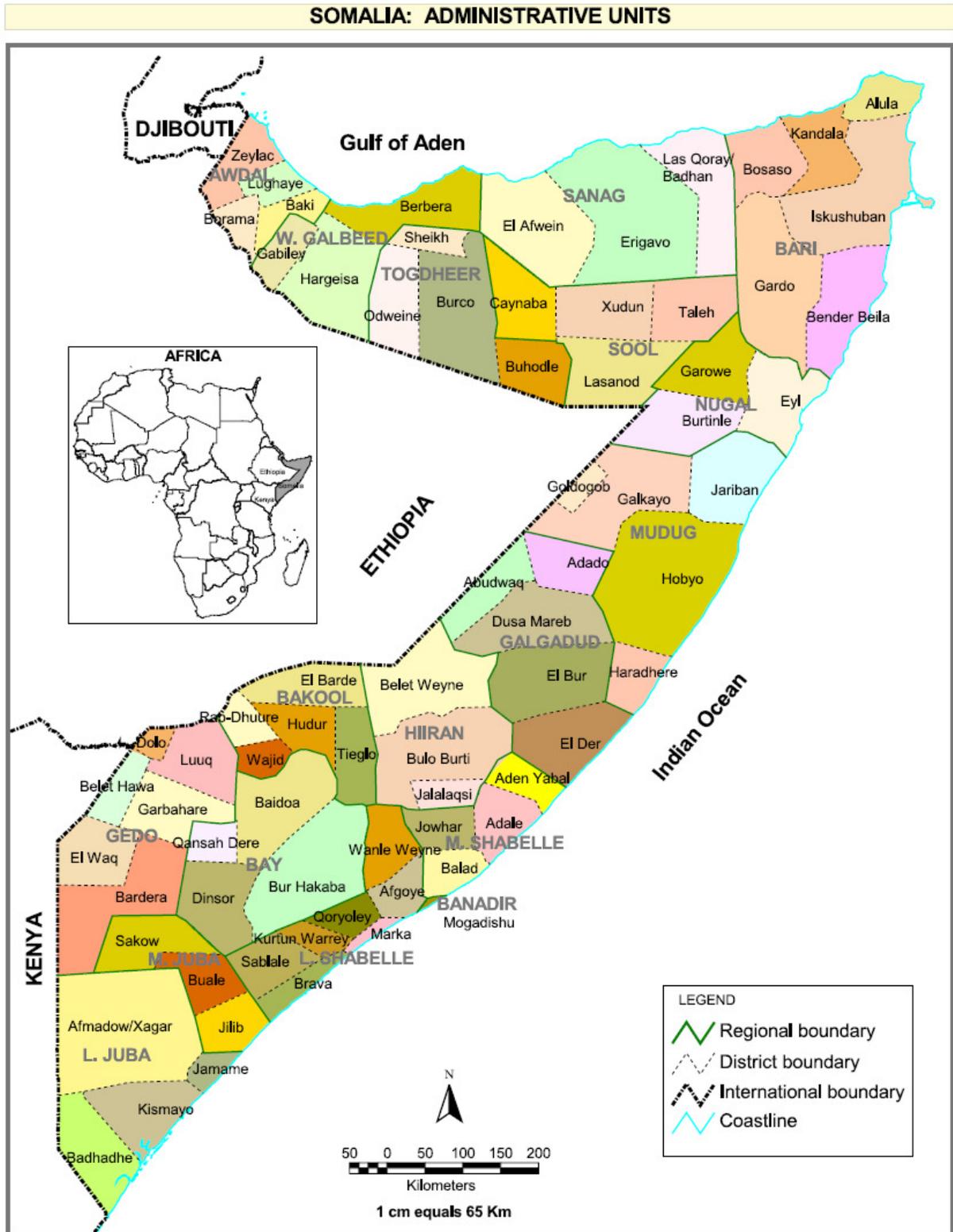
### ***Alternative Scenario***

With alternative scenario; the annual resource requirement for routine immunization during the plan period will represent between 6.6 - 9.3% of the total expenditure on health, and between 14.8-20.8% of (estimated) government expenditure on health. These needs are translated into US\$ 0.86-1.12 per capita.

The figures on macro-economic indicators for Somalia are estimates, with the last estimate made in 2001. Absence of federal government, minor contribution from existing sub-national government, and presence funding gaps, will put a great pressure on UNICEF Somalia, WHO Somalia, immunization partners and donor agencies to help Somalia achieve the planned objectives

# Annexes

## Annex 1: Map of Somalia



## References

1. Estimated District-wise Population of Somalia - Mid Year 2005, UNDP
2. IMMUNIZATION SUMMARY, a statistical reference, the 2011 Edition,
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