

Data Collection Survey on Health Sector

Country Report Republic of Sierra Leone

October 2012

Japan International Cooperation Agency
(JICA)

KRI International Corp.

TAC International Inc.

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This report is prepared to support JICA's country operation in health through strategic programming. The contents, however, may need to be supplemented with the latest and more detailed information by the readers since the report is mainly based on literature review and not on field study, with the exception of some countries.

Foreword

Background

The current situation surrounding the health sector in developing countries has been changing, especially at the start of the 21st century. Based on the recommendations from the concept of “Macroeconomics and Health”¹, development assistance for health has greatly increased to accelerate efforts to achieve the Millennium Development Goals (MDGs) by 2015. The development assistance for health has risen sharply from USD 10.9 billion to USD 21.8 billion in 2007². Moreover, development assistance was harmonized by the common framework developed at the three consequent high-level forums in Rome (2003), in Paris (2005) and in Accra (2008).

Regardless of such favorable environmental changes for the health sector in developing countries, the outcomes do not seem to reach the level of expectation in many countries. Many developing countries, particularly Sub-Saharan African countries, will not achieve some of their MDGs 4 (Reduce child mortality), 5 (Improve maternal health) and 6 (Combat HIV/AIDS, malaria and other diseases) by 2015. Therefore, while raising more money for health is crucial for lower-income countries striving to move closer to universal coverage³; “More Money for Health⁴”, it is just as important to get the substantial health gains out of the resources available; “More Health for Money⁵”. Efficiency is a measure of the quality and/or quantity of output of services for a given level of input, and improving efficiency should also be seen as a means of extending coverage for the same cost and the improved health outcomes.

Considering this situation surrounding the health sector in developing countries, in a recent movement of its development assistance work, JICA has been working on country-based analytical work. This consists of macro level and sector wide analytical work aiming to clarify JICA’s aid direction in each country by looking at priority areas of concern and aid mapping. The purpose of the Data Collection Survey on Health Sector is to contribute to JICA’s analytical work efforts. In the past, JICA’s analytical efforts were concentrated on the project planning purpose, as a consequence, information gathered in such analytical works were naturally limited to be around the particular projects. It is therefore thought to be important for JICA to conduct a country-based health sector review to gather complete information and analyze the whole sector to learn about the situation of the country and identify high priority problems and issues to be tackled in the health system.

Objectives of the Study

The key to the formulation of a good project is having conducted thorough sector reviews. Good sector reviews and analyses help us to understand the health situation and its determinants, and the capacity for health project implementation in the countries. They also help us to contribute to the countries for identifying the feasible projects in the context of priorities and developing the necessary policies and strategic planning for the health service delivery. It is also necessary to conduct such health sector review studies on a regular basis in order to develop and implement effective and efficient health projects. Based on this concept, JICA decided to carry out the sector review studies of 23 selected countries. The objectives of the sector review are to give recommendations to JICA on the aid direction for the health sector in each country, and to improve strategic approaches and the efficiency of aid cooperation.

Structure of the Report

The health sector study country report consists of seven chapters. Chapter 1 is the summary of the socio-economic situation of each country. Chapter 2 is an analysis of the national health policy, strategic approaches, and plans. Chapter 3 describes the health situation of each country to show the priority health problems by using health information and data. Chapter 4 is an analysis of the health service delivery function of each country, while Chapter 5 is an analysis of other functions of the country’s health system namely: human resources for health, health information systems, essential medical products and technologies including the health facilities, health financing, and leadership and governance. Chapter 6 is an analysis of the development partners’ assistance and cooperation. Based on the above analysis, Chapter 7 provides recommendations to JICA on the strategic areas of cooperation and its approaches.

¹ WHO announced “Macroeconomics and Health: Investing in Health for Economic Development” in December, 2000. This regards Health is an intrinsic human right as well as a central input to poverty reduction and socioeconomic development and the process helps place health at the centre of the broader development agenda in countries.

² Ravishankar N., Gubbins P., Cooley J.R., et. al; June 2009; Financing of global health: tracking development assistance for health from 1990 to 2007; the Lancet 373:2113-2132

³ According to WHO, Universal coverage (UC) is defined as ensuring that all people have access to needed promotive, preventive, curative and rehabilitative health services, of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user to financial hardship.
(http://www.who.int/health_financing/universal_coverage_definition/en/index.html)

⁴ In the World Health Report 2010 (WHO), the report advocates it with the following concrete three suggestions as the requirements; 1) Increase the efficiency of revenue collection, 2) Reprioritize government budgets, and 3) Innovative financing. As the forth suggestion, it advocates increasing development aid and making it work better for health.

⁵ The World Health Report 2010 also suggests the needs of improving the efficacy in the health systems and eliminating the inefficiency/waste will enable the poor countries to improve the availability and quality of the services.

Abbreviation and Acronyms

ABFP	Annual Budget Framework Paper
ACT	Artemisinin-based Combination Therapy
AHSPR	Annual Health Sector Performance Review
AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
ARI	Acute Respiratory Infection
ART	Anti-retroviral Therapy
AfDB	African Development Bank
BPEHS	Basic Package of Essential Health Services
CAC	Chiefdom ADIS Commission
CBP	Community-based Provider
CCM	Community Case Management
CCS	Country Cooperation Strategy
CDC	Centers for Disease Control and Prevention
CFSVA	Comprehensive Food Security and Vulnerability Survey
CHC	Community Health Center
CHO	Community Health Officer
CHP	Community Health Post
CHW	Community Health Worker
CMH	WHO Commission for Macroeconomics and Health
CMO	Chief Medical Officer
CMS	Central Medical Store
CRS	Catholic Relief Service
CWIQ	Core Welfare Indicators Questionnaire
DAC	District AIDS Commission
DACO	Development Assistance Coordination Office
DDPC	Director of Disease Prevention and Control
DFID	Department for International Development
DHIS	District Health Information System
DHMT	District Health Management Team
DHS	Demographic and Health Survey
DMO	District Medical Officer
DOTS	Directly Observed Therapy Short-course
DPPI	Director of Policy, Planning and Information
DPT	Diphtheria, Pertussis, Tetanus
EPI	Expanded Programme on Immunization
EU	European Union
FHCI	Free Health Care Initiative
GDP	Gross Domestic Product
GHI	Global Health Initiative
GNI	Gross National Income
GOSL	Government of Sierra Leone
HC	Health Compact
HIPC	Heavily Indebted Poor Country
HIS	Health Information System
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HRA	Health Research for Action
HRIS	Human Resource Information System
HRMIS	Human Resource Management Information System
HSCC	Health Sector Coordinating Committee
HSFP	Health Systems Funding Platform

HSSG	Health Sector Steering Group
IDW	Integrated Data Warehouse
IMCI	Integrated Management of Childhood Illness
IMF	International Monetary Fund
IPTp	Intermittent Preventive Treatment for Pregnant Women
JICA	Japan International Cooperation Agency
JPWF	Joint Programme of Work and Funding
LLIN	Long Lasting Insecticide-Treated Net
LMIS	Logistic Management Information System
LTEF	Long-term Expenditure Framework
M&E	Monitoring and Evaluation
MCH	Maternal and Child Health
MCHP	Maternal and Child Health Post
MDGs	Millennium Development Goals
MICS	Multiple Indicator Cluster Survey
MMR	Maternal Mortality Ratio
MOHS	Ministry of Health and Sanitation
MTEF	Mid-Term Expenditure Framework
NACP	National AIDS Control Programme
NAS	National AIDS Secretariat
NASA	National AIDS Spending Assessment
NGO	Non-Governmental Organization
NHA	National Health Account
NHSSP	National Health Sector Strategic Plan
NMCP	National Malaria Control Program
NPPU	National Pharmaceutical Procurement Unit
NTD	Neglected Tropical Diseases
PBF	Performance-based Funding
PHC	Primary Health Care
PHU	Peripheral Health Unit
PMTCT	Prevention of Mother to Child Transmission
PRSP	Poverty Reduction Strategy Paper
PSM	Procurement and Supply Chain Model
RBM	Roll Back Malaria
RDT	Rapid Diagnostic Test
REACH	Regional East African Community Health
SECHN	State Enrolled Community Health Nurse
SMART	Standardized Measurement and Assessment of Relief and Transition
SSF	Single Streams of Funding
SSL	Statistics Sierra Leone
STI	Sexually Transmitted Infection
SUN	Scaling Up Nutrition (Framework)
TBA	<i>Traditional</i> Birth Attendant
TFR	Total Fertility Rate
THE	Total Health Expenditure
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNJV	United Nations Joint Vision
USAID	United States Agency for International Development
VCT	Voluntary Counseling and Testing
WFP	World Food Programme
WHO	World Health Organization



Source: http://www.freemap.jp/download.php?a=africa&c=africa_sierraleone (accessed 08/2012)

Republic of Sierra Leone

Summary

1. Since the civil war ended in 2002, the process of peace building and social economic recovery has advanced. In 2006, the country reached the completion point status under the Enhanced Heavily Indebted Poor Countries (HIPC) Initiative. Sierra Leone continually promotes the process of wide-range restructuring under the Poverty Reduction Strategy Paper (PRSP)-II. On the other hand, 60% of the population still lives in absolute poverty, and the degree of dependency on foreign aid is still high in the development process.
2. PRSP-I (2005-2007) and PRSP-II (2008-2012) recognize that strengthening the health system is an important priority in improving child and maternal mortality. The National Health Sector Strategic Plan (NHSSP) (2010-2015), therefore, aims to rebuild the national health system to provide quality care with equity and to contribute to the attainment of PRSP II and the MDG goals. In December 2011, the Government of Sierra Leone and the health sector partners signed the Health Compact (HC). HC provides a framework for more effective aid programs and efficient financial management. Given the present situation, government's aid alignment and coordination policy need to be closely followed.
3. Although non-communicable diseases are on the increase in recent years, the disease structure of Sierra Leone is still characterized by perinatal morbidity and infectious diseases like malaria and infant, under-five and maternal mortality is one of the highest in the world. The burden of infectious diseases such as malaria, acute respiratory infection (ARI), diarrhea, and malnutrition is disproportionately high, and control of epidemic outbreaks of other infectious diseases and endemic neglected tropical disease is also required. At present, the HIV prevalence rate has stabilized at 1.5%. Sierra Leone is categorized as a low prevalence country; yet the prevalence is spread to the general population. Young women are more vulnerable to HIV infection than men, and the HIV prevalence among pregnant women is also higher than that of the general population. The risk of malaria infection is high among the population. Malaria is the leading cause of morbidity and mortality for both adults and under-five children. The prevalence of tuberculosis is also increasing. Although the provision of service has been expanded, the emergence of multi-drug resistant tuberculosis and the TB/HIV co-infection become the issues of concern. Food insecurity is still pervasive and malnutrition remains a serious problem for the majority of people. Malnutrition accounts for 57% of the child mortality in Sierra Leone and its adverse impact on child health and growth is significant. While efforts are being made to improve the health status of the people, Sierra Leone is unlikely to achieve most of the health related MDG targets except HIV/AIDS.
4. To achieve the targets of NHSSP (2010-2015), the Basic Package of Essential Health Service (BPEHS) was developed to ensure delivery of the most effective services to reduce high maternal and child mortality. However, there are a number of constraints in the supply side such as shortage of skilled personnel, underdeveloped infrastructure and unavailability of drugs. The utilization of the public health facilities is low especially in rural areas. The major barriers in using health facilities are accessibility to the facilities and financial burden. In response to this situation, the free health care initiative (FHCI) was introduced in April 2007 for all under-five children, pregnant women, and lactating women. With free health care provision through FHCI, the increased access and utilization of health facilities, and improved health indicators have been reported. On the other hand, there are many challenges identified in FHCI; for instance, strengthening the monitoring system for FHCI, appropriate distribution of health personnel among health facilities, improved regional equality, development of electric and water supply system, building functional referral system, and financial sustainability. For the HIV/AIDS, malaria and tuberculosis control programmes, progress is being made with an intensive support from the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFAMT). However, as the financial dependency of these programs on external funding is very high, there are concerns over the financial sustainability of the programs.
5. In Sierra Leone, the entire social services are nearly destroyed by the ten-year civil war, and there are many issues to be tackled in the health service delivery. Many health facilities were reconstructed by 2007, however, an acute shortfall of health personnel and concentration of human resources in the capital city are one of the major constraints to the health service delivery. The drug procurement and supply system is weak and the capacity of responsible government agencies is also inadequate. These lead to the frequent shortage and stock-out of drugs in the health facilities. With regards to the health information system, the district health information system (DHIS) has improved the capacity of MOHS in

information collection and utilization for evidence-based planning, implementation, and monitoring. At present, integration of the data systems of all health programmes into HMIS is in process, and different data systems such as Human Resource Management Information System (HRMIS) and Logistics Management Information System will be interlinked with DHIS. The government spending in the health expenditure is low and out-of-pocket expenditure is very high at 80%. Consequently, health expenditure becomes a great financial burden on the population. As dependency of FHCI funding on external sources is similarly high, based on the analysis made in the National Health Accounts (NHA), the government will review the approaches to broaden the financing base of the health sector which includes social health insurance scheme and other potential funding sources.

6. A significant share of health sector support is off-budget in the form of a project aid in Sierra Leone, except a small-scale budget support. At present, aid alignment and efficient coordination through a sector-wide approach are being discussed. Information-sharing among the health sector partners is regularly taking place. However, an overall picture of donor funding and support are not well articulated by the government. Similarly, coordination between the central (Ministry of Finance) and the sector (Ministry of Health and Sanitation) is not adequate enough to understand the overall aid flow to the health sector.
7. Reducing child and maternal deaths has been recognized as an important health sector priority in Sierra Leone. In response, assistance can be designed with a two-prolonged approaches; one is to provide direct support of service delivery, and second is to provide support to strengthen the weak health system. In addition, the poor and the rural population in Sierra Leone are more vulnerable to morbidity and mortality including infant, child, and maternal mortality. Therefore, support in delivering equitable services which benefit the vulnerable population is also an important strategy for assistance.

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Country Report Republic of Sierra Leone

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Abbreviation and Acronyms

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Chapter 1 Country Situation

1.1 Socioeconomic Situation

The civil war in Sierra Leone which lasted from 1991 to 2002 either killed or displaced over 20,000 people, or almost one-third of the total population. After the war has ended, the newly elected government led the process of peace building and social economic recovery program. And in May 2006, Sierra Leone reached the completion point of the Enhanced Heavily Indebted Poor Countries⁶ (HIPC), a joint initiative of the International Monetary Fund (IMF) and the World Bank. Subsequently, a new political administration was elected in 2007, and Sierra Leone continually supports the process of wide-range restructuring by pursuing macroeconomic stability and economic development under the Poverty Reduction Strategy Paper (PRSP)-II (2008-2012), "Agenda for Change" [1]. Sierra Leone, however is still the poorest low-income country in the world, with 60% of the population living in absolute poverty, ranking 180 out of 187 countries and territories in the Human Development Index [2][3]. At present, the Department for International Development (DFID), the World Bank, the European Union (EU), and the African Development Bank (AfDB) provide 80% of the total development assistance to Sierra Leone [4]. Table 1-1 shows some of the basic economic and demographic indicators.

Table 1-1 Selected Economic and Population Indicators

Indicator	Unit	Value	Year	Source
Population	Person	6 million	2010	UNDP
Population growth rate	%	1.9	1990-2010	UNICEF
Economic growth rate	%	4.9	2010	World Bank
GNI per capita	USD	340	2010	UNICEF
Net Official Development Assistance received (% of GDP)	%	23	2009	UNDP
Population in severe poverty	%	53.2	2007	UNDP
Literacy rate (15 years old or more)	%	40.9	2005-2010	UNDP
Primary school net enrolment/attendance	%	69	2005-2009	UNICEF

Sources: 1. Human Development Report 2011, UNDP (2011) [3]
2. The State of the World Children 2011, UNICEF (2011) [5]
3. World Development Indicators, The World Bank (2012) [6]

Sierra Leone is administratively divided into four geographical regions, i.e., the Western Area and three provinces, namely, Eastern Province, Northern Province, and Southern Province. The three provinces are further divided into 12 districts, and the districts are subdivided into 149 chiefdoms. The Western Area, where the national capital, Freetown is located is composed of two areas, i.e., Western Area Rural and Western Area Urban. The 12 districts and 2 areas are further divided into 19 local governments. The 19 local governments consist of 13 district councils and 6 city councils. The estimated population of Sierra Leone in 2010 was around 5.6 million, with 38% residing in the urban areas in 2009⁷ [7].

⁶ In order to receive full and irrevocable reduction in debt available under the HIPC Initiative, a country must:

1. Establish a further track record of good performance under programs supported by loans from the IMF and the World Bank;
2. Implement satisfactorily key reforms agreed at the decision point; and
3. Adopt and implement its PRSP for at least one year.

⁷ The areas with over 5,000 residents

Chapter 2 Development Policies and Plans

2.1 National Development Policy

Although the 2003 National Long-term Perspective Studies-Sierra Leone Vision 2015 provides the long-term perspectives on development agenda [8], the Poverty Reduction Strategy Paper (PRSP)-I (2005-2007), “A National Programme for Food Security, Job Creation & Governance” laid out more specific mid-term development priorities. PRSP-I highlighted on the reduction of the child and maternal death as a health sector priority. The subsequent PRSP-II (2008-2012), “Agenda for Change” places the health sector’s priority in one of the four pillars on “Promoting Sustainable Human Development”, focusing on service delivery of reproductive health including the reduction of maternal mortality deaths, malaria, TB, and HIV/AIDS, improvement of child health, maternal and child nutrition, human resource development, and revitalization of health service system [9]. The implementation of PRSP-II is supported by the United Nations Joint Vision (UNJV), the Joint Assistance Strategy of the African Development Bank (AfDB) and the World Bank, and country programs of other development partners [10].

2.2 Health Sector Development Plan

The aim of the National Health Sector Strategic Plan (NHSSP) (2010-2015) is to contribute to the attainment of PRSP II, the Ouagadougou Declaration, and the Millennium Development Goals (MDG). Furthermore, the policy objective of NHSSP is to rebuild the national health system to provide quality care with equity.

NHSSP is a guiding document to form the basis for the following strategies:

- (i) Develop and implement the strategic and operational plans of central MOHS directorates, at the districts and in all the hospitals;
- (ii) Formalize coordination mechanisms and guide the participation of all stakeholders in health development in Sierra Leone; and
- (iii) Develop the long-term expenditure framework (LTEF), mid-term expenditure framework (MTEF), and the annual budget framework paper (ABFP) for the health sector.

The plan aims to strengthen the following six key pillars of the health system;

- Leadership and governance,
- Service delivery,
- Human resources for health,
- Medical products and technologies,
- Healthcare financing, and
- Health information systems [11].

The monitoring and evaluation (M&E) activities of NHSSP will include quarterly reports and annual health sector performance reviews (AHSPR). Each year, AHSPR are being developed through a joint review

mission conducted in the month of April and launched in May-June. The mid-term review is planned at the second half of 2012, and the end-term evaluation will be in 2015 [12].

The outcome indicators of HNSSP are listed in Table 2-1.

Table 2-1 NHSSP (2010-2015) Outcome Indicators

	Indicator	2008 Baseline	2015 Target
1	Infant mortality rate per 1,000 live births	89	50
2	Under-five mortality rate per 1,000 live births	140	90
3	Maternal mortality ratio per 100,000 live births	857	600
4	Prevalence of HIV (% of population aged 15-49)	1.5%	1.2%
5	Institutional deliveries	24.6%	90%
6	Population coverage of health insurance	0%	50%
7	% of children receiving Penta-3 before 12 months of age	54.6%	90%
8	Key health professional by cadre per 1,000 population	Doctor: 0.02	0.05
		Nurse: 0.18	0.5
		Midwives: 0.02	0.1
9	% of population living within 5 km of a health facility	73%	90%
10	% of population with access to safe drinking water	50.3%	90%
11	% of households with access to improved sanitation	13%	50%
12	Prevalence of underweight among children 6-59 months	21.1%	10%
13	% of PHUs reporting uninterrupted supply of essential drugs	39%	90%
14	Number of primary care or outpatient visits per person to health facilities per year	0.5 contacts/ year	3 contacts/ year
15	Contraceptive prevalence (% of women aged 15-49)	8%	30%
16	Total fertility rate	5.1	4
17	% of children under five years of age who slept the previous night under an insecticide treated net	26%	80%
18	Total public health spending per capita	5.6%	15%

Source: National Health Sector Strategic Plan 2010-2015, MOHS (November 2009) [11]

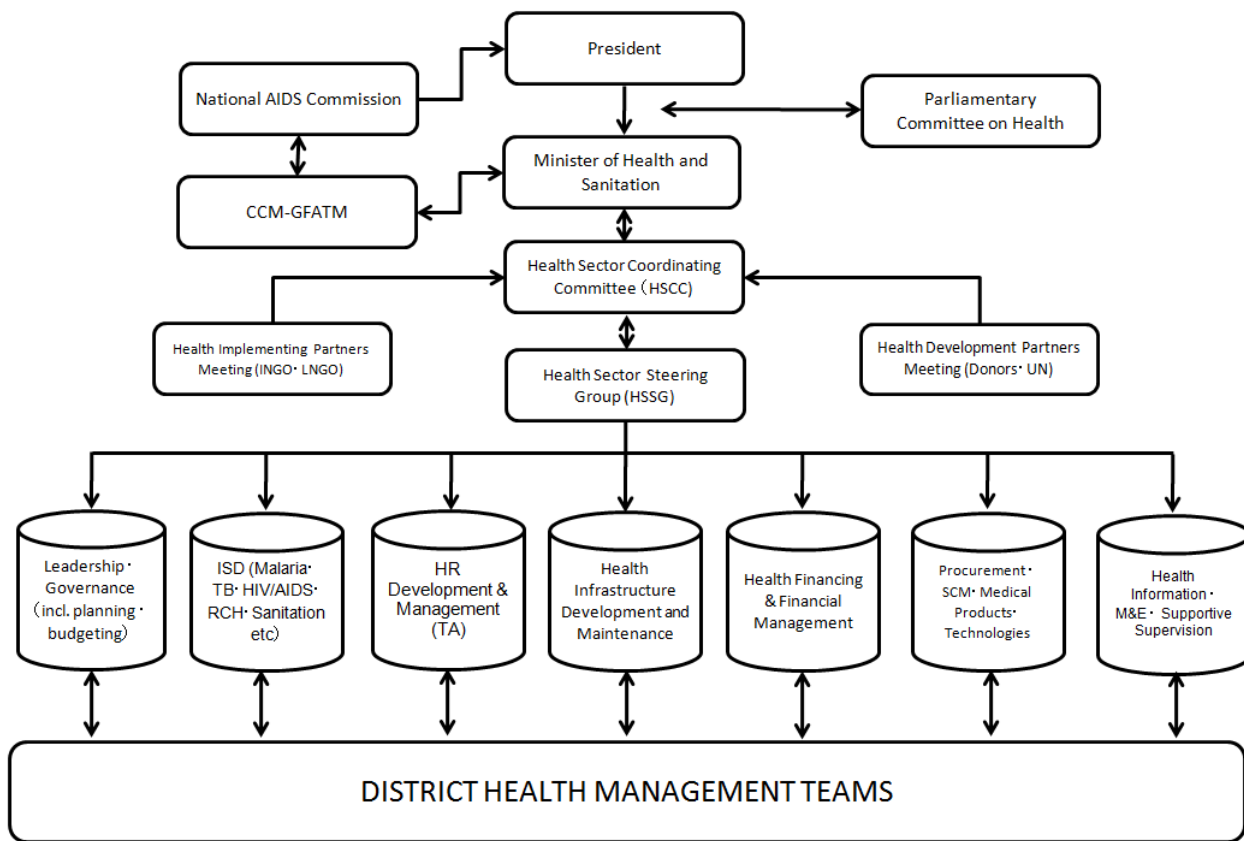
2.3 Health Compact

The Government of Sierra Leone (GOSL) and the health sector partners signed the Health Compact (HC)⁸ in December 2011. The HC is developed in line with the principles set out in the global International Health Partnership (IHP) Compact⁹, which aims to implement the NHSSP by increasing aid coordination through a sector-wide approach. Since the Free Health Care Initiative (FHCI)¹⁰ has been initiated, there is a growing concern about the financial sustainability of the initiative. Therefore, the main objective of the HC is to provide a framework for more effective aid programs and efficient financial management to achieve the goals of “Agenda for Change” and MDGs. The HC mechanism to support the implementation of NHSSP is proposed in Figure 2-1.

⁸ HC is a voluntary agreement between GOHS and health development partners. The signatory organizations are: the Ministry of Health and Sanitation, Ministry of Finance, Ministry of Local Government, Ministry of Rural Development, DFID, EU, the Government of Ireland, UNICEF, WHO, UNFPA, UNAIDS, the World Bank, AfDB, NGO, Faith-based organizations, and representatives of the civil society.

⁹ The global IHP Compact is a signatory agreement which aims to improve the coordination and effectiveness of international aid programs to achieve health related MDGs targets. 50 countries signed up in the IHP compact.

¹⁰ Please refer to 4-1 for FHCI.



ISD=Integrated Service Delivery
RCH=Reproductive and Child Health
SCM=Supply Chain Management

Note: HSCC: The highest consultative and strategic decision making body chaired by the Minister of Health
HSSG: Chaired by the Chief Medical Officer (CMO). Evolved from the current Free Health Care Initiative (FHCI) Steering Group

Source: Health Compact, and GOSL (December 2011) [13]

Figure 2-1 Health Compact National Coordinating Mechanisms Framework

At present, the Health Systems Funding Platform (HSFP) led by the World Bank is conducting a study on the health sector financial management, procurement system, and management of graded commodities to align the final support. Thereby, the discussion on HC including revision of the wide range of fragmented procurement systems has not progressed¹¹ [13].

¹¹ Information provided by the JICA Sierra Leone Field Office (April 2012)

Chapter 3 Health Status of the People

3.1 Overview

Improvement on health is being made by the government, donors, and NGOs to reduce maternal and child deaths however, as shown in Table 3-1, Sierra Leone has one of the highest infant (89), under-five (140), and maternal (857) mortality rates in the world¹². Malaria and malnutrition are the leading causes of under-five mortality.

In Sierra Leone, the burden of infectious diseases such as malaria, acute respiratory infection (ARI), diarrhea, and malnutrition significantly affects the population especially the pregnant women and under-five children. Malaria is the leading cause of under-five morbidity and mortality, and one-quarter of the population die from malaria [14]. The incidence of tuberculosis is also increasing. Moreover, lymphatic filariasis, schistosomiasis, onchocerciasis, and soil-transmitted helminthes are endemic to Sierra Leone, and there are occasional epidemic outbreaks of diseases including cholera, yellow fever, Shigellosis, Lassa fever, measles and meningitis. Although the disease structure of Sierra Leone is still characterized by perinatal morbidity and infectious diseases like malaria, in recent years non-communicable diseases like diabetes, cancer, hypertension, and cardio-vascular disease are on the increase[15] [16].

Table 3-1 summarizes the feasibility of achieving the MDG targets. When the millennium declaration was launched in 2000, Sierra Leone was undergoing nationwide disarmament, demobilization, and reintegration of its ex-combatants. Even after the civil war in 2002, the economic setback and serious structural weaknesses in governance and capacity resulted in a defective system of public service delivery including health services. Due to the widespread poverty, high unemployment, and low educational level, Sierra Leone is unlikely to achieve most of the MDG targets in 2015.

Table 3-1 Feasibility of Achieving the Health Related MDG Targets

Goal/Target	Indicator	Current Status	2015 Target	Feasibility of Achieving the Goal
1. Eradicate Extreme Poverty and Hunger	Prevalence of underweight children (%)	21	0	Will not be met
	Proportion of population below minimum level of dietary energy consumption (%)	26	0	
4. Reduce Child Mortality	Under-five mortality rate (per 1,000 live births)	140	95	May be met with increase and sustain efforts
	Infant mortality rate (per 1,000 live births)	89	50	
	Proportion of 1 year old children immunized against measles (%)	59.7	100	
5. Improve Maternal Health	Maternal mortality ratio (per 100,000 live births)	857	450	May be met with scale-up and sustain efforts
	Proportion of births attended by skilled health personnel (%)	42	100	
6. Combat HIV and AIDS, Malaria and other diseases	HIV prevalence among 15-24 years old pregnant women (%)	1.5	0	Likely to be met but only with regards to HIV/AIDS
	Access to malaria treatment (%)	30.1	100	
	Death rates associated with Tuberculosis (%)	-	-	

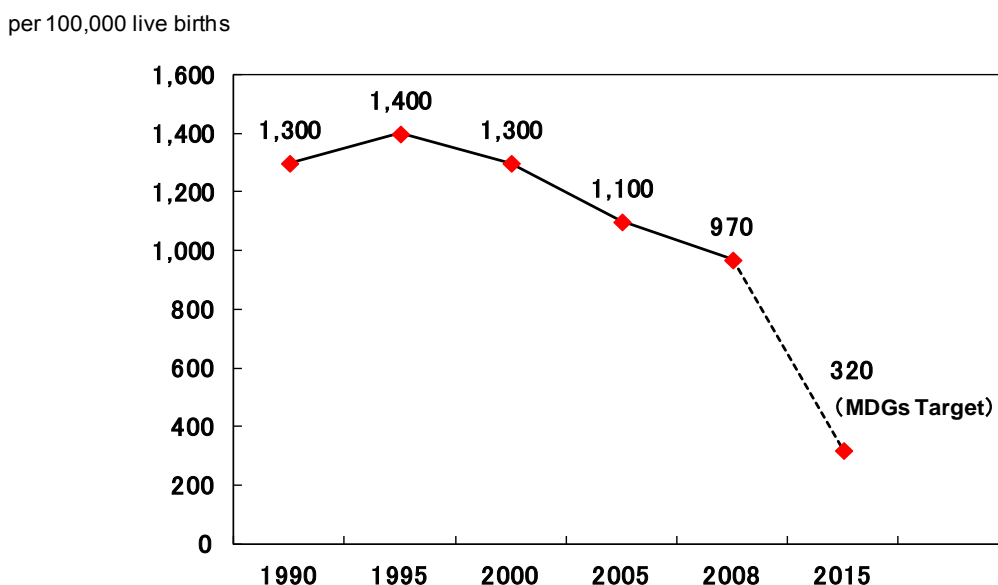
Source: MDGs Progress Report 2010, GOSL (September 2010) [10]

¹² UNICEF data

3.2 Maternal and Child Health

3.2.1 Maternal Health

The Demographic and Health Survey (2008) cited that the maternal mortality ratio (MMR) is unacceptably high at 970 per 100,000 live births. In Sierra Leone, one in every eight women die during pregnancy and childbirth,¹³ this situation calls for an immediate international attention as “human rights emergency” [17]. Figure 3-1 shows the maternal mortality ratio from 1990-2008.



*Data derived from WHO, UNICEF, UNFPA, the World Bank, and DHS

Source: Reproductive Health at a Glance, the World Bank (April 2011) [18]

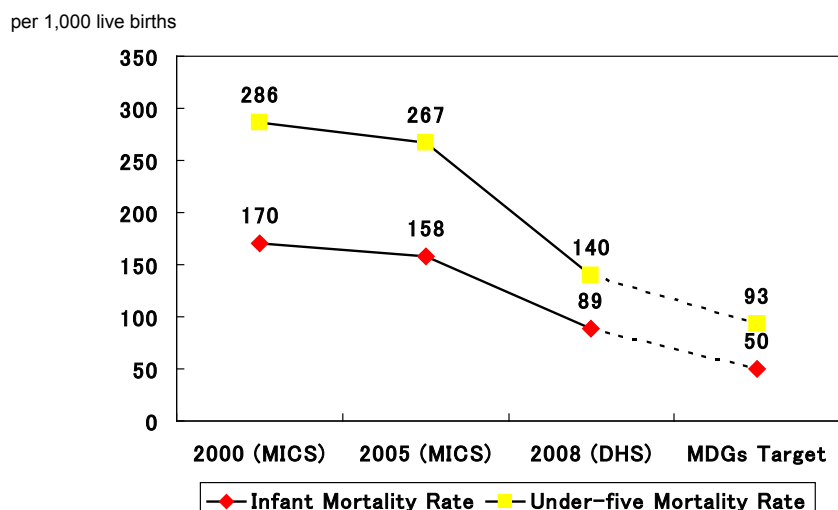
Figure 3-1 Maternal Mortality Ratio (1990-2008) and MDG Target

The main causes of maternal death reported by the hospitals were obstructed labor (17%), pre-eclampsia (14%), anemia (12%), ante-partum hemorrhage (APH) (8%), post-partum hemorrhage (PPH) (6%), ruptured uterus (4%), toxemia (3%), puerperal sepsis (2%), malaria (1%), HIV/TB (1%), ruptured uterus (1%), and others (31%) [19].

3.2.2 Child Health

The infant and under-five mortality rates are shown in Figure 3-2. Although there was a notable reduction during 2000 to 2008, the rates are still high compared to the average of Sub-Saharan Africa (76, 121) [20]. The nutritional status of children is poor, increasing the risk and severity of illness. Malaria, diarrhea, and ARI together with malnutrition accounted for about 70% of under-five consultations [15]. The coverage of DPT3 immunization increased from 44% to 90% during 2000 to 2010 and coverage of measles vaccination from 37% to 82% during the same period [21].

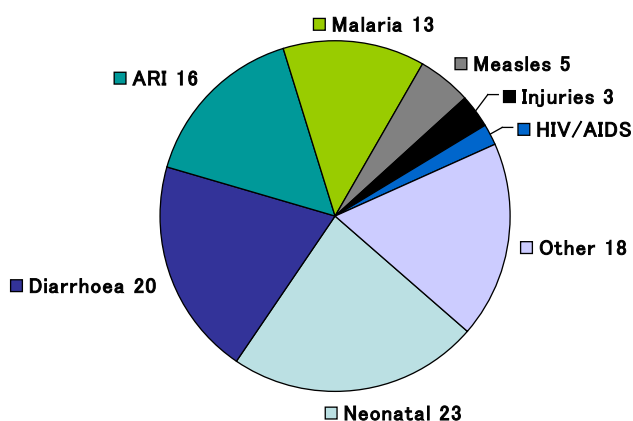
¹³Lifetime Risk of Maternal Death is the probability of dying from a maternal cause during a woman’s reproductive lifespan. The average probability is 1 in 3,800 in developed countries and 1 in 150 in developing countries.



Source: MICS2, SSL, and UNICEF (November 2000) [22]
MICS3, SSL, and UNICEF (August 2006) [23]
DHS, SSL, and ICF Macro (November 2009) [24]

Figure 3-2 Infant and Under-five Mortality Rates (2000-2008) and MDG Targets

As seen in Figures 3-3 and 3-4, the proportion of preventable diseases like malaria, diarrhea, and ARI are the main causes of under-five mortality. Likewise, many of the causes of neonatal deaths are also avoidable with proper newborn care. In addition, 23% of under-five deaths are attributed to neonatal deaths.



Source: Maternal, Newborn, and Child Survival Country Profiles, UNICEF (March 2010)[25]

Figure 3-3 Causes of Under-five Deaths (%) (2008)

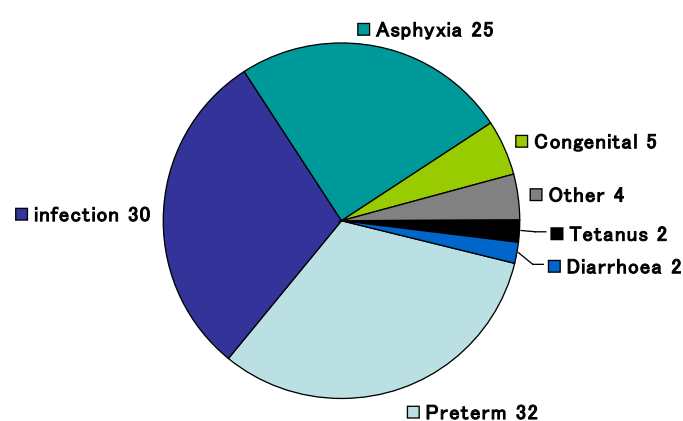


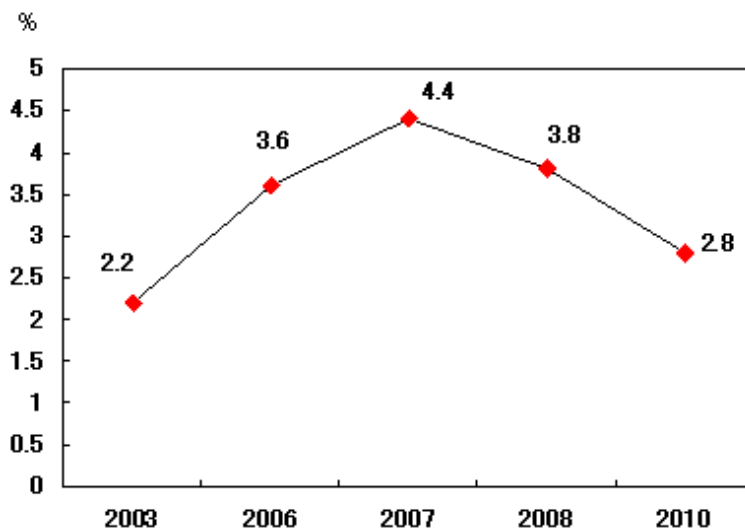
Figure 3-4 Causes of Neonatal Deaths (%) (2008)

3.3 Situation of Infectious Disease

3.3.1 HIV/AIDS

According to the 2008 DHS, the HIV prevalence rate was 1.5% among the adult population of 15-49 years old. The prevalence rate increased from 0.9% in 2002 to 1.5% in 2005, and since 2005, the rate has remained the same. The prevalence rate for women was 1.7% and 1.2% for men. By age group, the prevalence rate among women and men 15-49 years old were 1.4% and 0.5%, respectively. And for women and men over 25 years old were 1.9% and 1.5%, respectively, indicating that women are more vulnerable to HIV infection than men. Also, the prevalence was found to be higher in urban areas (2.5%) than in the rural areas (1.0%) [24].

The ANC Sentinel Surveillance Reports mentioned that the HIV prevalence among pregnant women was 4.4% in 2007, 3.8% in 2008 and 2.8% in 2010, as shown in Figure 3-5. The rate has decreased in 2010 but still higher than the general prevalence rate.



Source: Country Progress Report, NAS (31 March 2012) [26]

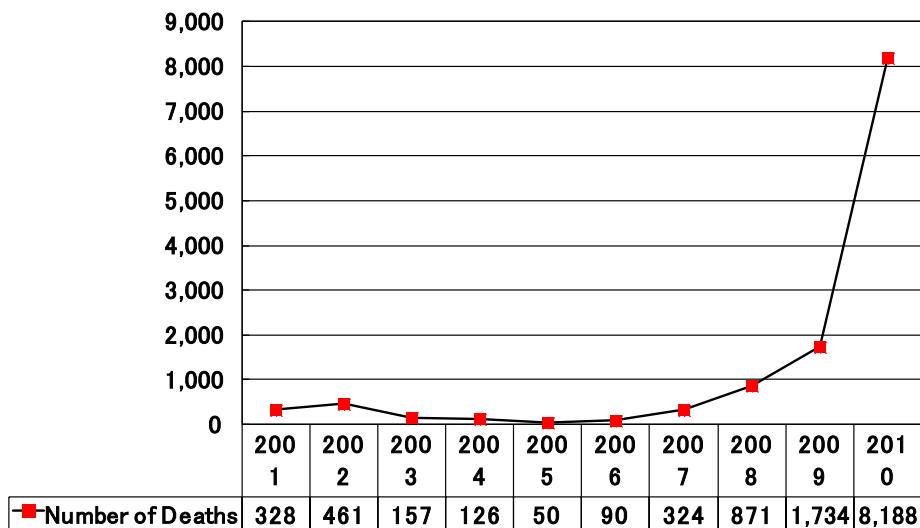
In 2010, around 39.7% adults aged 15-49 years, mostly engaged in commercial sex, were newly infected with HIV. People in discordant monogamous relationships contributed 15.6% while people reported to have multiple relationships contributed 40.8%. Among the risk groups, the prevalence rate was reported to be 1.13% for diamond and gold mine workers, 3.29% for military, 5.8% for police, 2.2% for mobile population, and 8.5% for female sex workers [26] [27].

According to the 2008 DHS, about 38% of women and 56% of men indicated that HIV could be prevented by using condoms and limiting sexual intercourse to only one partner who is HIV negative; however, among the sexually active population who engaged in risky multiple sexual relations, only 7% of men and 15% of women used condom in their last sexual encounter. This reveals that increasing knowledge of HIV/AIDS and promoting preventive behavior are essential among the high risk group [26].

Malaria

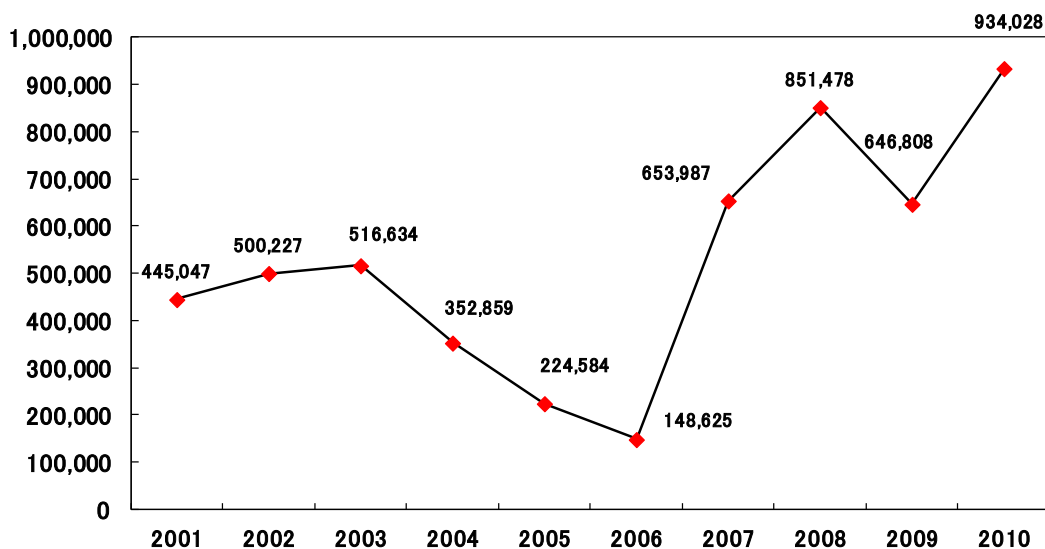
Malaria is endemic in Sierra Leone with the entire population at risk. The risk of infection is highest during the wet season from April to October. According to the Malaria Indicator Survey (MIS) 2008, malaria accounted for 50% of outpatient visits and 38% hospital admissions. Malaria is the number one cause of under-five morbidity and mortality. The 2005 Report also revealed that 33% of under-five deaths and 25% of all deaths were attributed to malaria. Given the situation above, malaria is one of the high-priority diseases in Sierra Leone. Malaria has a tremendous adverse impact on the school performance of children, also with the socioeconomic activities including agricultural activities which aggravate the living condition of the families and communities [14].

Figure 3-6 shows the number of reported malaria deaths from 2001-2010, and Figure 3-7 shows the number of suspected and confirmed cases of malaria. The reason for the sudden increase of malaria deaths in 2010 may be explained by the improved diagnosis and reporting but the definite reason is not yet clear.



Source: World Malaria Report 2011, WHO (13 December 2011) [28]

Figure 3-6 Number of Reported Malaria Deaths (2001-2010)



Source: World Malaria Report 2011, WHO (13 December 2011) [28]

Figure 3-7 Number of Suspected and Confirmed Malaria Cases (2001-2010)

3.3.3 Tuberculosis

Tuberculosis (TB) is also a disease of public health importance in Sierra Leone for both children and adults, and the incidence rate is still increasing. Some of the factors that contributed to the increase of TB infection are the following: a) an interruption to the TB Control Program during the 10-year civil war, b) environmental degradation caused by inflow of people to the urban areas, c) poverty, and d) malnutrition.

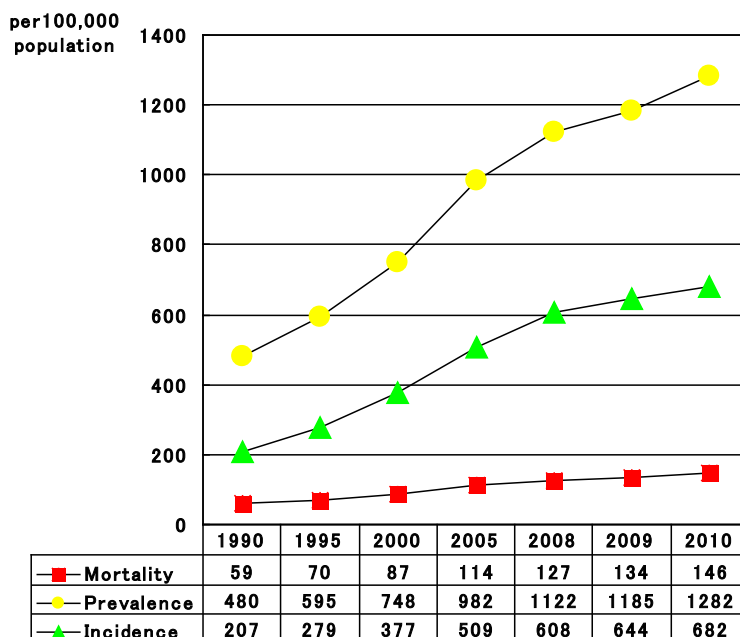
Table 3-2 shows the current situation of TB in Sierra Leone, and Figure 3-8 indicates the number of TB deaths, incidence, and prevalence from 1990-2010.

The country reported 13,195 new TB cases in 2010. Although the provision of service has been expanded with the emergence of multi-drug resistant tuberculosis, the TB/HIV co-infection¹⁴ still pose a concern on the health care system. By age group, the number of TB cases among children aged 0-50 months accounted for 12% and among children aged 5-14 years was 5% [29] [30] [31].

Table 3-2 Situation of Tuberculosis (2010)

Incidence rate incl. HIV (per 100,000 population)	682
Prevalence rate (per 100,000 population)	1,282
Mortality rate (per 100,000 population)	146
TB/HIV co-infection (%)	10%
Treatment success rate (%) (2009)	79% (Government figure 86%)
Case detection rate (%)	32%

Sources: Sierra Leone Tuberculosis Profile, WHO (9 May 2012) [32]
NLTCP 2010 Annual Report, MOHS (7 November 2011) [29]



Source: Tuberculosis Control Report 2011, WHO (October 2011) [30]

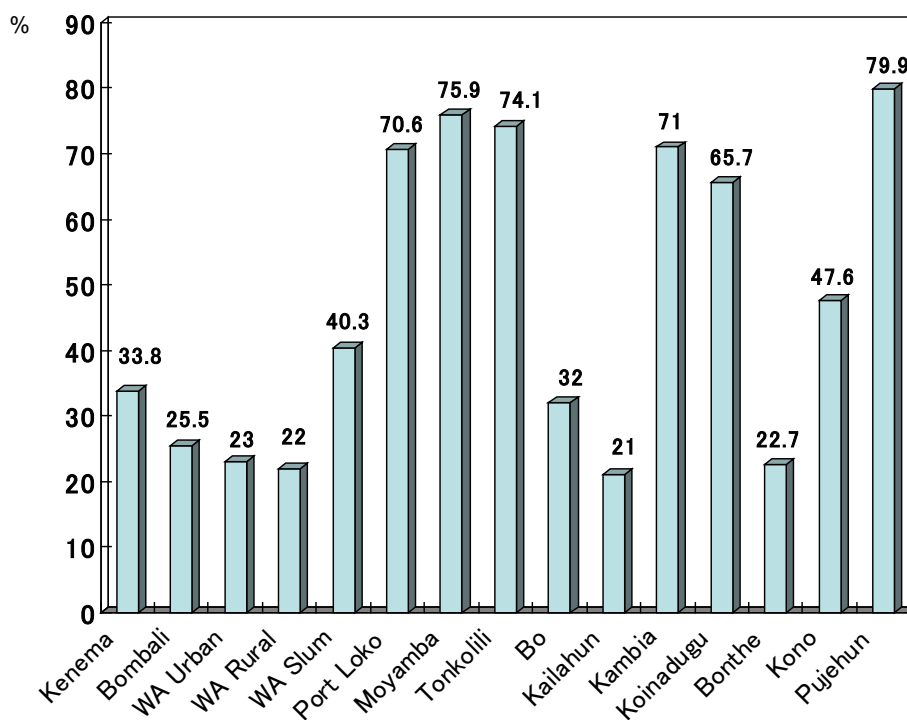
Figure 3-8 Trend in TB Mortality, Morbidity, and Prevalence Rates (1990-2010)

3.3.4 Nutrition and Health

While some improvement is being made in food production after the civil war, food insecurity and malnutrition continually pose a serious problem for great majority of people in Sierra Leone. Food security decreases drastically during the lean season from June to August, and more than 45% of the population

¹⁴ The rate of TB/HIV co-infection was estimated at 10% in 2010.

experienced food insecurity. The Comprehensive Food Security and Vulnerability Survey (CFSVA) 2011 reported that rural areas are more affected by food insecurity (54.1%) than urban areas (29.1%). As shown in Figure 3-9, over 70% of the population in the districts of Pujehun (79.9%), Moyamba (76%), and Tonkolili (74.1%), were affected by food insecurity. On the average, households spend 63% of the total expenditure on food, and three-quarter of the population buy their food in the markets as community's main source of fresh produce. Consequently, the households are directly affected by the increase of food prices [33].

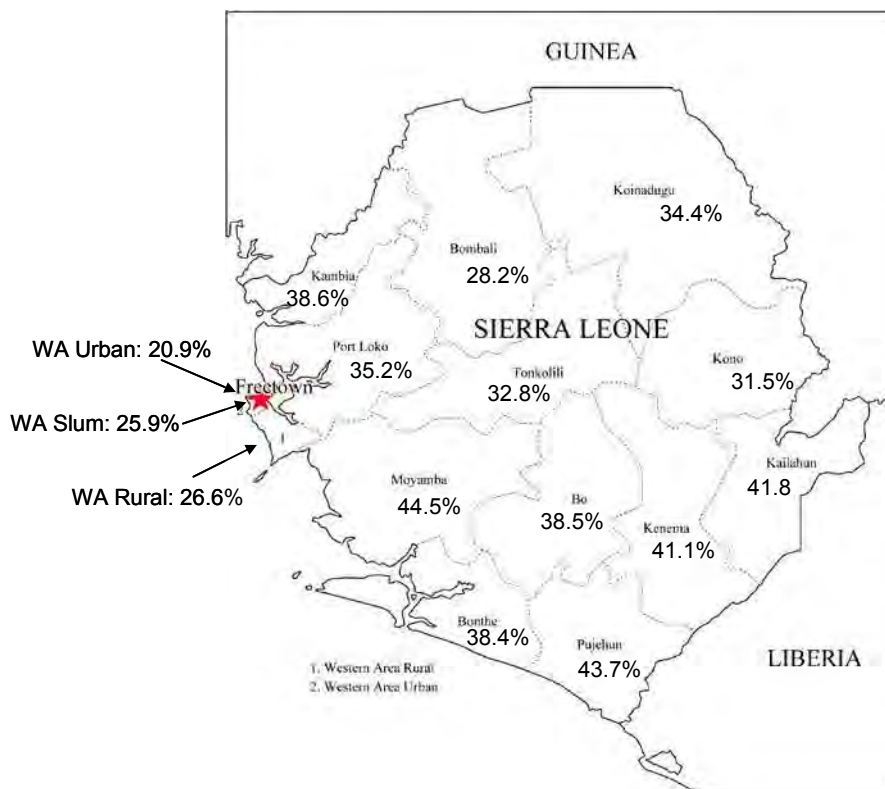


Note: WA: Western Area

Source: CFSVA, GOSL et al. (15 September 2011) [33]

Figure 3-9 Prevalence of Food Insecurity by District (2010)

Malnutrition is closely linked to the morbidity and mortality of children. According to WHO, malnutrition accounts for 57% of the child mortality in Sierra Leone. As shown in Figure 3-10, while chronic malnutrition is pervasive throughout the country, four districts (Moyamba, Pujehun, Kailahun, and Kenema) exceeded the WHO's critical threshold level of 40% chronic malnutrition [33].



Source: CFSVA, GOSL et al. (15 September 2011) [33]

Figure 3-10 Prevalence of Chronic Malnutrition Among Children Aged 6-59 Months by District

The 2010 Measurement and Assessment of Relief and Transition (SMART) Survey also revealed that 34.1% of children aged 6-59 months were stunted (9.5% severely stunted), 18.7% were underweight (4.3% severely underweight), and 6.9% experienced acute malnutrition (0.9% severely wasted)[34]. Vitamin deficiencies were found in 75% of pregnant women and 18% of preschool aged children. Likewise, 83% of pregnant women and 60% of pre preschool aged children became anemic. Furthermore, 89% of infants under six months were not exclusively breastfed [35] [36].

Chapter 4 Health Services

4.1 Maternal and Child Health

4.1.1 Maternal Health

In 2008, 89% of women received antenatal care; however, only 43% of birth deliveries were assisted by skilled birth attendants, and 28% of women in the poorest quintile received such assistance. Fertility remains high, with total fertility rate (TFR) of 5.1 in 2008. Women in rural areas have higher TFR (5.8) compared to those living in urban areas (3.8). Use of modern contraceptives was low at 7% in 2008; 18% of wealthier women use modern contraceptives, compared to only 3% of women in the poorest quintiles. Unmet need for contraception was 28%. Adolescent fertility rate was high at 146 per 1000 women aged 15–19 years, resulting in higher risk of newborn and infant mortality as well as maternal mortality [18]. Due to the initiation of the Free Health Care Initiative (FHCI), access and utilization of health facilities are reported to be improving. However, most of the health facilities are still poorly equipped and health personnel with specialized skill are limited; thus the availability of emergency obstetrics (EmOC) services is extremely scarce. Moreover, in many districts, functional referral systems are not in place, resulting in the delay in providing necessary services.

Availability of transportation means is extremely limited especially in rural areas. Almost the entire road network in the country is underdeveloped, and many of the roads connecting to the district headquarter towns, where district hospitals are located are not accessible. Consequently, pregnant women have no choice but to walk hundreds of meters to reach the nearest town to be able to get a ride, unfortunately, there are many cases in which women die on the way. There were also reports that even after reaching the health facility, pregnant women often wait long hours for treatment or worst not having receive care and treatment at all, ending up dying due to different reasons such as shortage of health workers, lack of money to pay their bills, pre-payment policies (before FHCI), and shortage of blood for transfusions[37]. Problems in accessing health care due to poverty and lack of transportation means hinder the reduction of maternal mortality. In this respect, women reported that lack of financial resources for treatment (80%), distance of health facility (52.9%), and lack of transportation means (50%) [24] are major problems they faced in accessing health services.

4.1.2 Basic Package of Essential Health Services (BPEHS)

The goal of the National Health Sector Strategic Plan (NHSSP) (2010-2015) is to improve the health of people by providing the Basic Package of Essential Health Service (BPEHS). BPEHS was announced in March 2010, with an objective to ensure a functional national health system which will efficiently deliver high quality health care services that are equitable to everybody in Sierra Leone. As shown below, BPEHS focuses on the reduction of unacceptably high maternal and child mortality. BPEHS initially had an objective to achieve a reduction rate in maternal and child mortality of 30% in 2010.

The following are the characteristics of BPEHS:

- Services which have the greatest impact on major health problems especially for maternal and child health;
- Services that are cost-effective and evidence-based; and
- Services which could be delivered to give equal access to both rural and urban populations.

BPEHS aims to provide integrated services and interventions prioritizing maternal and child health. Table 4-1 presents the list of services to be offered by BPEHS.

Table 4-1 Components and Services of BPEHS

Components	Services
Maternal and Newborn Health	Antenatal Care, Delivery and Perinatal Care, Postnatal Care, Family Planning, Emergency Obstetric Care
Child Health and Immunization	Expanded Programme on Immunization (EPI) Services, Integrated Management of Childhood Illness (IMCI)
Infant and Young Child Nutrition	Community Nutrition, Micronutrient Supplementation, Treatment of Clinical Malnutrition, especially Sever Acute Malnutrition (SMA)
School and Adolescent Health Services	Information, Education, and Communications (IEC) on Preventive, Curative, Rehabilitative, and Promotional Health Services
Communicable Diseases Control	Control of Tuberculosis, Control of Malaria, Control of STI/HIV/AIDS, Control and Management of Other Diseases with Epidemic Potential
Essential Drugs and Supplies	Supply of Essential Drugs, Supply of Essential Equipment, Supply of Vaccines
Emergency Care	Accidents, Disasters, Epidemic Outbreaks
Mental Health/Non-communicable Disease	Community Management of Mental Problems, Health Facility Based Treatment of Outpatients and Inpatients
ENT and Audiology Services	Provision of Ear Care and Audiological Services, Conduct Outreach Mobile Clinic Services, Process and Repair Ear Moulds, Train Technicians, Nurses, and Auxiliaries
Environmental Health	Vector Control (Malaria Control), Supply of Safe Drinking Water, Improve Sanitation, Mitigation of Indoor Pollution, Hygiene Promotion
Health Education	Development and Dissemination of IEC Teaching Materials, Airing of Radio Programmes, Community Sensitization Meetings, Conduct Health Talks in Clinics, Community Volunteer Training on IEC, M&E Education of Radio Program, Health Care Educations in Health Facilities, Training of Community-based Volunteer of IEC and M&E

Source: Basic Package of Essential Health Services for Sierra Leone, MOHS (March 2010) [15]

Although the vision for the health care delivery service is stated in BPEHS, the health system in Sierra Leone is still fragile and factors such as budget constraints, shortage of skilled personnel, underdeveloped infrastructure, and unavailability of drugs limit the accessibility to quality health care, especially in the rural areas. The poorest quintile of the population utilizes both primary and secondary care less frequently than the wealthier quintiles, and receives only around 14% of the public spending [38]. The major problem in accessing health care service is the financial constraint [1], and NHSSP also recognizes that even modest charges tend to discourage over 50% of the population from seeking health care services [11].

4.1.3 Free Health Care Initiative (FHCI)

Under this situation, the President of Sierra Leone launched a free health care initiative (FHCI) in April 2007, with intention to increase people's access to health care service, and promised to deliver free care including free consultations to all under-five children, pregnant women, and lactating women (up to 12 months after delivery) ¹⁵. Under FHCI, salaries of doctors and health workers were increased two- to five-fold, and the

¹⁵ FHCI provides, among others, free consultations, antenatal care, postnatal care, deliveries, basic and comprehensive EmOC, neonatal care, x-ray, laboratory services, and provision of drugs.

government has undertaken the supply-side reform that includes revision of the overall payroll system, a large scale procurement of essential drugs, and improvement of drug supply system. With free health care provision through FHCI, increase in accessibility, and unitization of health facilities reported an improved health indicators. Some of the outcomes are listed below:

- Outpatient consultations increased to 2.5-4 times;
- Increased in antenatal and postnatal care;
- Institutional delivery increased by 45%;
- Maternal complications handled at health facilities increased by 150%;
- Under-five children consultations increased by 214%;
- Under-five children diagnosed for malaria increased by 89%;
- Under-five children diagnosed for malaria and treated with Artemisinin-based Combination Therapy (ACT) increased by 233%; and
- Hospital malaria deaths among children decreased by 90% [19] [39] [40].

On the other hand, in spite of the above outcomes, challenges will continue to stay for the health sector. As pointed out some of the challenges include; people will continue to be charged for health services and drugs, frequent shortage and stock-out of drugs and medical supplies in the health facilities due to weak management capacity, and improper distribution of drugs and medical supplies, which creates opportunities for corruption¹⁶, work overloaded among health personnel due to increasing demand for services [41].

The government needs to oversee the overall activities of FHCI, including procurement and management of drugs and medical supplies by building and strengthening a system of monitoring FHCI. There are also a number of areas to be improved such as appropriate distribution of health personnel, reducing regional inequality, development of electricity and water supply system, and effective referral system [19] [41].

At the time of the initiation of FHCI, 230,000 pregnant women and 950,000 under-five children were eligible for the services. The government committed only about 13% of the total cost required for the provision of FHCI to the target population. Although a long-term financing is essential to meet the expanding demand in FHCI, the government spending in the health sector is low, and concerns will remain regarding the financial feasibility of the FHCI without depending on donor funding. The government is planning to increase the access to health care by building a national health insurance scheme; however the detailed discussion on the plan is still stalled[17] [40].

4.2 Infectious Disease Control

4.2.1 HIV/AIDS Control Program

(1) Implementation Structure and Strategy

In 1987, the National AIDS Committee (NAC) was established and the HIV/AIDS program was initiated with the support of WHO. Later on, the National AIDS Secretariat (NAS) established in 2002 was

¹⁶ To prevent loss of FHCI drugs, UNICEF delivers FHCI drugs and medical supplies directly to health facilities without passing through DMHT, which is the routine mechanism. (Interview survey with the Western Areas DMHT, February 2012)

transformed to the National AIDS Control Programme (NACP) within the Ministry of Health and Sanitation (MOHS), and presently, is tasked to implement and manage HIV/AIDS activities in the health sector. At the district level, the District AIDS Commission (DAC) coordinates HIV/AIDS activities. The Chiefdom AIDS Commission (CAC) is also being established in line with the decentralization plan.

In addition, there are over 300 partner agencies from the government, the United Nations, NGOs, the civil society, and the media involved in the HIV/AIDS activities; however, coordination is not regularly carried out. Some of the major network groups involved in the HIV/AIDS response are: the Coalition of Public Sector against HIV and AIDS in Sierra Leone (COPSAASL); Business Coalition against AIDS in Sierra Leone (BCAASL); the Network of HIV positives in Sierra Leone (NETHIPS); and HIV/AIDS Reporters Association (HARA) [42].

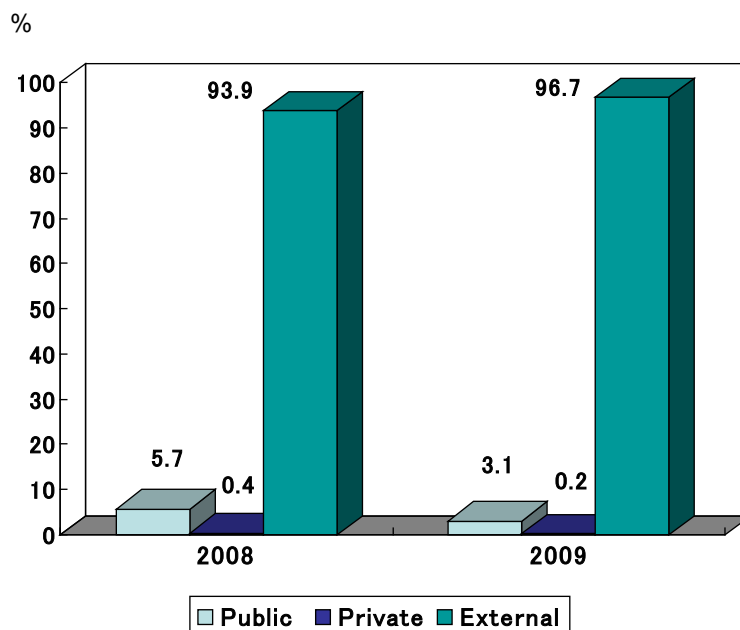
The National HIV/AIDS Strategic Plan (2010-2015) intends to achieve zero new infection on HIV by 2015 through evidence-based approach. The following are six program areas addressed in the strategic plan:

- Coordination, decentralized responses, resource mobilization and management,
- Policy, advocacy, human rights, and legal environment,
- Prevention of new infections,
- Treatment of HIV and other related health conditions (laboratory facilities, logistics management information system (LMIS) etc.),
- Care and support to people living with HIV/AIDS (PLWHA), and
- Research, monitoring and evaluation (M&E) [42].

(2) HIV/AIDS Program Budget

According to the National AIDS Spending Assessment (NASA) Report, the HIV/AIDS program in Sierra Leone is highly dependent on external funding, mainly on the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM)¹⁷ as shown in Figure 4-1. In 2009, 43% of the program budget was allocated for prevention activities.

¹⁷ Please refer to Chapter 6 for the GFATM support.



Source: Country Progress Report, NAS (31 March 2012) [26]

Figure 4-1 Funding Sources of the HIV/AIDS Program (2008 and 2009)

Besides funding from the GFATM, Germany, United States of America (USA), EU, and the United Nations are supporting the national program. Although the government commitment to control the spread of HIV/AIDS is strong, the program cost relies almost solely on GFATM, there are concerns over the financial sustainability of the program [43].

(3) HIV/AIDS Control Programme Performance

The establishment of NAS has facilitated the program activities and coordination. Table 4-2 presents the outcomes of the recent activities. The number of sites for voluntary and counseling and testing (VCT), prevention of mother to child transmission (PMTCT), and anti-retroviral therapy (ART) increased. Also the prevention and treatment services have expanded. FHCI may be the reason for the increased PMTCT coverage among pregnant women. All blood are screened for HIV, syphilis, and hepatitis C in conformity to national guidelines [26].

Table 4-2 HIV/AIDS Service Indicators (2010 and 2011)

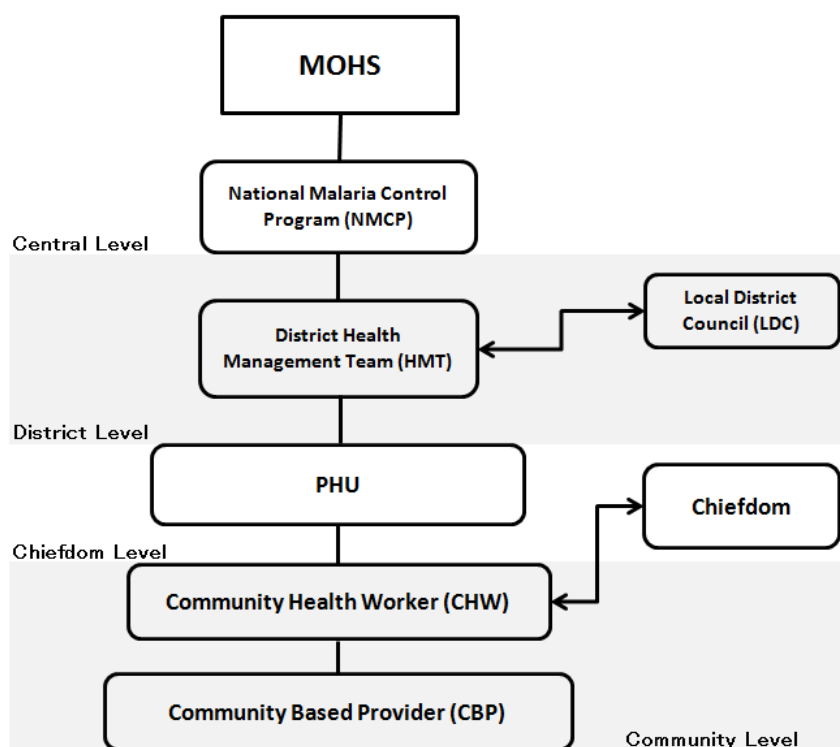
Service Indicator	2010	2011
VCT site	497	556
Number received VCT	232,452	347,567
Number of ART site	113	131
ART coverage	33%	42%
PMTCT site	495	515
PMTCT coverage	58%	74%
Number treated for STI	99,592	80,770
Number of blood safety sites	24	24
Number of male condoms distributed	1,973,640	4,715,224

Source: Country Progress Report, NAS (31 March 2012) [26]

4.2.2 Malaria Control

(1) Implementation Structure and Strategy

The National Malaria Control Program (NMCP) has started in 1994. The Director of Disease Prevention and Control (DDPC) of MOHS oversee the program. The responsibility of NMCP includes formulation of policy guidelines and strategic plans, coordination with the Roll Back Malaria (RBM) partnership and donors, and development of training materials. Within NMCP, there are divisions for specific interventions, and there are also sub-committees under each division [44]. Figure 4-2 shows, NMCP is an integrated program from the community¹⁸, district to the central levels.



Source: National Malaria Control Policy Document, MOHS (December 2010) [44]

Figure 4-2 Implementation Structure of the Malaria Control Program

The general objective of the National Malaria Control Programme (NMCP) (2010-2015) is to reduce the current levels of malaria morbidity by 50% and to reduce mortality by 25% in 2015. As stated earlier, malaria accounted for 30-50% of hospital admissions and 50% of outpatient visits in Sierra Leone, and this has a tremendous adverse impact on the already fragile national health system [14].

In order to make an effective use of limited resources and to maximize opportunities of interventions for children under-five and pregnant women, who are the most vulnerable to the disease, the malaria program is integrated in the maternal and child health (MCH) programme (e.g., intermittent preventive treatment in pregnancy (ITPp) in antenatal care (ANC), distribution of long lasting insecticide-treated nets (LLITN) to

¹⁸ As the access to the health facilities is generally poor and unitization of the public health facilities is low, an expectation for community case management (CCM) for malaria control is increasing. However, the government has no allocated budget for this initiative, and there are issues such as training, management, and incentives for community based health works.

mothers at the time of delivery and to children in EPI, Vitamin A supplementation, IMCI, and nutritional education).

(2) Malaria Program Budget

The malaria control programme is mainly funded by the Government of Sierra Leone and GFATM¹⁹. Among others, WHO, UNICEF, DFID, and NGOs also provided financial and technical support to the programme.

Table 4-3 Funding Sources of Malaria Control Programme (2005-2010)

	2005	2006	2007	2008	2009	2010
Government	151,492	166,641	164,138	180,552	198,586	1,198,629
GFATM	2043498	3,985,298	927,301	4,840,240	2,794,509	799,743
WHO	-	-	-	778,590	-	-
UNICEF	-	-	650,000	-	-	-
EU	-	1,047,500-	-	-	-	-

Source: World Malaria Report 2011, WHO (13 December 2011)[28]

(3) Malaria Control Programme Performance

In 2010, 215,859 ACT treatments were administered for all suspected cases of malaria in the peripheral health units (PHU). Similarly, community health workers (CHW)/community based providers (CBP)²⁰ administered 119,972 ACT treatments for suspected cases of malaria [45]. The number of diagnosed and confirmed cases of malaria have significantly increased; yet only 56% of the laboratories in the country are functioning, and the laboratory function for malaria diagnoses is not adequate[44]. Intermittent Preventive Treatment in Pregnant Women (IPTp) services were integrated into the ANC basic package and the coverage has been satisfactory. However, the shortage of Sulfadoxine-Pyrimethamine (SP) drugs for IPTp in the health facilities is a serious problem.

Table 4-4 Number of Confirmed and Probable Cases of Malaria (2005-2010)

year	Probable and Confirmed	Diagnosed with Microscopy	Confirmed with Microscopy	Diagnosed with RDT	Confirmed with RDT
2005	224,584	10,605	3,702	3,452	1,106
2006	148,625	12,298	3,945	4,675	987
2007	653,987	-	-	-	-
2008	851,478	471,600	154,459	235,800	154,459
2009	646,808	770,463	273,149	544,336	373,659
2010	934,028	718,473	218,473	1,609,455	715,555

Source: World Malaria Report 2011, WHO (13 December 2011) [28]

A large-scale distribution of mosquito nets was carried out through campaigns²¹ and health facility services. However, the 2010 Survey reported that only 33% of the children under-five and 44% of pregnant women used mosquito nets when sleeping, and the low utilization was pointed out as a major problem. A regional

¹⁹Please refer to Chapter 6 for the GFATM support.

²⁰Volunteers who provided malaria community case management (CCM) are generally called community health workers (CHW).

CHWs include volunteers and newly trained volunteers who are already providing specific services such as diarrhea and onchocerciasis control, TBA,. CHWs are in some cases named as community based providers (CBPs) depending on the programmes (e.g. NMCP) and NGOs who support CCM.

²¹320 million nets were distributed during the campaign from November –December 2010.

strategic approach to increase the use of mosquito nets will be designed based on the results of the survey ²²[46].

4.2.3 Tuberculosis Control Programme

(1) Implementation Structure and Strategy

Tuberculosis (TB) control is one of the priority concerns in NHSSP, and the National Leprosy and Tuberculosis Control Programme (NLTCP) (2008-2012) is currently being implemented. The strategic objectives are to detect 70% of the estimated new sputum smear-positive pulmonary TB cases and to raise the TB treatment success rate to 85% and maintain that level. The strategic activities are the following:

- Integration of TB control into the general health services;
- Promotion of the community services; and
- Free services.

The NLTCP under DDPC of MOHS is responsible for TB control activities. At the district level, District TB/Leprosy Supervisors are placed in DHMT. In 2011, the Centers for Disease Control and Prevention (CDC) provided technical assistance to establish a National Reference Laboratory (National Infectious Disease Public Health Laboratory), and 50 district health officers were trained on epidemiology and outbreak investigation [47].

(2) Financial Sources of Tuberculosis Control Programme

The program cost was US\$2million each for 2011 and 2012. GFATM provides most of the funding, while the government contribution was minimal at 2% of the total budget [32].

(3) TB Control Program Performance

The DOTS strategy was adopted in 1992 in Sierra Leone; however, the services were expanded only after the civil war ended in 2002. Although TB services were integrated in the general service of health care, trained staff were assigned in 160 DOTS centers [48] [49].

Table 4-5 shows the outcomes of the treatment of sputum smear-positive cases.

Table 4-5 Outcome Indicators for Treatment of Sputum Smear Positive Cases (2002-2010)

(%)	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cure Rate	59.7	75.4	74.2	75.9	76.9	75.4	76.7	73.3	68.5
Treatment Success Rate	80.5	83.1	81.7	84.1	85	87.1	89.2	86.1	78.6
Failure Rate	1.3	1.3	1.5	1.3	1.3	1.2	0.8	0.9	1.0
Mortality Rate	4.9	5.6	5.5	6.1	6.0	5.9	3.7	3.8	5.8
Defaulter Rate	12.9	9.2	9.0	5.8	5.8	7.0	4.8	6.9	11.0

Source: 2010 Annual Report, NLTCP (26 May 2011) [48]

The treatment success rate was 86% in 2008 and Sierra Leone achieved the global target rate of 85%; however, the rate dropped to 78.6% in 2010. In 2010, the TB detection rate for new cases was 48%, which is far below the WHO recommended rate of 70%. The DOTS centers are located in almost every chiefdom

²² Interview survey with NMCP (January 2012)

main town, yet more than half of the population have not reached the services [30] [31]. The programme needs to improve the TB detection rate of smear positive and reduce the defaulter rate. The capacity building of NLTCP staff is also required to meet the increasing demand for services [1].

4.3 Nutrition Improvement

The 2009 National Food and Nutrition Policy aims to promote appropriate nutrition and feeding practices for family at the facility and community levels. The policy also promotes multi-sectoral efforts and coordination, and plans to establish nutrition technical committees at the national and district levels. Furthermore, a national nutrition information system will be developed by strengthening the surveillance and monitoring system for the nutrition program [50].

Since the introduction of FHCI, the number of children screened for nutritional status has increased. The following areas need to be improved:

- Increase nutrition capacity within the Ministries of Health and Agriculture;
- Improve infant and young child feeding through effective education and counseling services;
- Increase coverage of deworming and Vitamin A supplementation²³ for young children;
- Iron supplementation for pregnant women; and
- Fortification of staple foods²⁴ [35].

With regards to the donor support, the United States government (USG) and Irish Aid are co-chairing the Nutrition Technical Working Group under the global framework of Scaling Up Nutrition (SUN) principles with the ultimate goal of reducing under-nutrition among children under-five. USG and Irish Aid support the government's efforts to harmonize nutrition activities and provide technical assistance to build the government capacity.

Further, USG will partner with the Gates Foundation to support the REACH initiative²⁵ implemented through UNICEF. USG also supports the capacity building of DHMT in community based nutritional management. In addition, as a multi-sectoral approach, USG provide support to agricultural activities, safe water supply, and sanitation. Irish Aid funds NGOs to implement community management of acute malnutrition and school feeding programs through the World Fund Program (WFP), and also supports introducing food fortification [51] [16]. Besides, AfDB, EC, WHO and the World Bank²⁶ provide support for the food security and nutrition activities.

²³ Vitamin A supplementation is carried out at the time of immunization with mass campaign for promotion.

²⁴ 55% of households consume iodized salt. High price of iodized salt is a problem in increasing coverage.

²⁵ The REACH initiative, under which the UN agencies WFP, UNICEF, FAO and WHO have committed to a renewed effort against child hunger and undernutrition

²⁶ The World Bank support nutrition activities in the health facilities and at home through the Child and Reproductive Health Project (US\$20 million)

Chapter 5 Health System

5.1 Human Resources for Health (HRH)

5.1.1 Situation of Human Resources

The shortage of health personnel presents one of the major constraints to the health service delivery including Basic Package of Essential Health Services (BPEHS). As Table 5-1 shows, Sierra Leone has an acute shortage of health personnel. In addition, the distribution of health personnel is not equitable; for instance, 46% of the health personnel are concentrated in the Western Area where the capital city is located. Especially, midwives are only found in the Western Area. Consequently, maternal health care (MHC) aides who are trained to assist delivery at the community level are also providing services in the health facilities; yet there are concerns over their technical skills. According to WHO, over 80% of maternal deaths take place in the rural areas. There is a need to review the strategy to redistribute health personnel to the rural and remote areas. Moreover, among the graduates of 250 State Enrolled Community Health Nurse (SECHN) in 2011, only 98 of them worked in the public facilities. The issue of retention in the public sector also needs to be urgently addressed. [52].

Table 5-1 Health Worker Distribution by Category and Region

Specialization	Number	Region				Required Number	Shortfall (%)
		WA	South	North	East		
Surgeon	5	3	0	1	1	26	81
Physician	3	3	0	0	0	26	88
Neuro-surgeon	0	0	0	0	0	8	100
Gastro-enterologist	0	0	0	0	0	8	100
Neurologist	0	0	0	0	0	8	100
Pediatrician	2	2	0	0	0	30	93
Obstetrician/Gynecologist	5	4	1	0	0	26	81
Anesthesiologist	1	1	0	0	0	12	92
ENT	1	1	0	0	0	8	88
Dentist	6	4	1	0	1	30	80
Medical Officer	115	97	5	8	5	150	23
Radiologist	1	1	0	0	0	30	97
Psychiatrist	0	0	0	0	0	12	100
Midwives	95	95	0	0	0	300	68
Nurse (SECHN)*	635	425	60	80	70	1,500	58
MCH Aide	825	225	200	200	180	1,500	45
Laboratory Technician	14	8	2	2	2	150	91
Pharmacist	33	32	1	0	0	52	37

Note:* SECHN: State Enrolled Community Health Nurse

Source: National Health Sector Strategic Plan 2010-2015, MOHS (November 2009) [11]

5.1.2 Human Resources Plan

The 2006 Human Resource for Health Development Plan intends to increase the number of health personnel to deliver enough services by 2015. The Ministry of Health and Sanitation (MOHS) is at present finalizing the new National Human Resources for Health (HRH) Policy and Strategic Plan for Sierra Leone. The National HRH Country Profile was developed before the Policy and Strategic Plan. The profile provides the detailed information on the current state of the human resources and services delivery and will be used as the basis for the HRH planning for the next ten years [11] [53].

5.1.3 Human Resource Supply System

Training programs are more organized now after the HRH Training Policy was developed. However, health training institutions still do not have capacity to meet the required service demand due to understaffing and inadequate learning and teaching models and materials. In order to meet the shortfalls, the Ministry of Education, Science, and Technology, in collaboration with MOHS, the University of Sierra Leone, and NGOs provided training in health training institutions. However, their intake capacity was limited and the dropout rate was about 30% [11] [1]. Besides, Njala University has the School of Community Health Sciences (nursing, community studies, and environmental health sciences) and Institute of Health and Medical Research²⁷.

5.1.4 Human Resource Information

The health workforce is monitored mainly through the payroll, but at the same time, through the different existing sources such as district staffing list, health facility staffing list, and health training institution list. Combining and compiling fragmented multiple sources on a timely basis is a major challenge. As such, the existing HRH information system could not be able to support adequately the development, implementation and M&E of evidence-based health policies and plans. To improve the situation, MOHS is working on building a computer-based integrated human resources information system (HRIS) with the support coming from WHO [12] [54].

5.2 Health Information System

5.2.1 Health Management Information System (HMIS)

After the assessment on health information conducted in October 2006, the Director of Policy, Planning and Information (DPPI) in MOHS, Director of Disease Prevention and Control (DDPC), and Statistics Sierra Leone (SSL) (former Central Statistics Office) were established. While DPPI oversees the Health Management Information System (HMIS) and District Health Information System (DHIS), the role of DDPC is to collect epidemiological information through active surveillance, especially information on outbreaks of infectious diseases for emergency purposes. SSL is responsible for all health surveys including DHS, Multiple Indicator Cluster Survey (MICS), and Core Welfare Indicators Questionnaire (CWIQ)²⁸ [12] [54].

Subsequently, the Health Information Systems Strategic Plan (2007-2016) was developed. The objective of the plan is to optimize the performance of health services at all levels of the administration through the provision of necessary and sufficient information needed for planning and M&E of services [55]. Specifically, with the introduction of DHIS²⁹ in 2007, the capacity of MOHS in gathering and using health information has improved for planning, implementation, and monitoring. However, because of the delays and deficiencies in data gathering, each vertical health program still has its own reporting system, running parallel to HMIS.

²⁷ Njala University was established in 1964 as part of the University of Sierra Leone. By virtue of the University Act of 2005, the University became an independent entity. The campuses are located in Bo (District Bo) and Njala (District Moyamba).

²⁸ Interview survey with DDPC (January 2012)

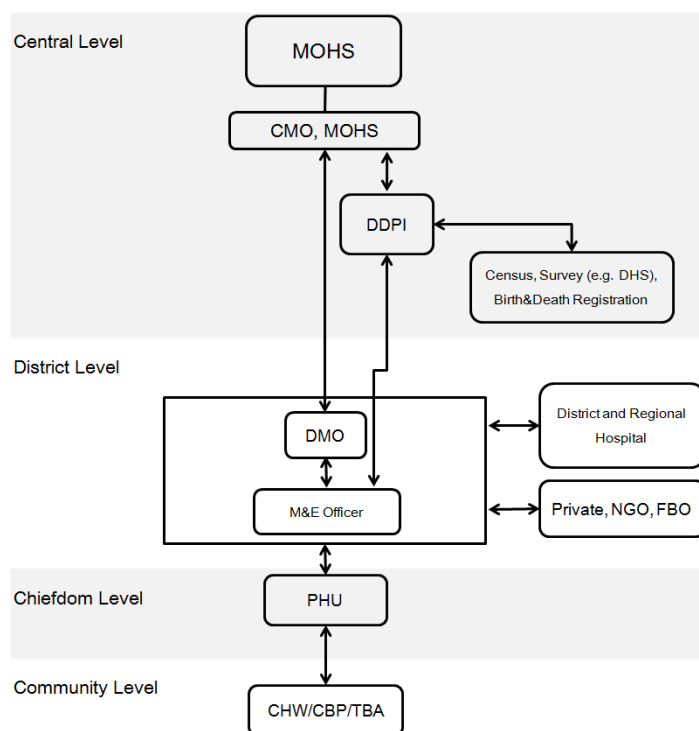
²⁹ DHIS is a tool for the collection, validation, analysis, and presentation of aggregate statistical data. The system allows the user to design the contents of a specific information system without the need for programming. At present, DHIS 2.0 Version is used in Sierra Leone.

Currently, integration of all data systems on health programs into HMIS is in progress ³⁰[45].

Figure 5-1 describes the HMIS data flow. Peripheral health unit (PHUs) and hospitals submit their information in paper-based reporting forms to the M&E Officer in the District Health Management Team (DHMT) on a monthly basis. Information on community-based activities is submitted by the community health workers (CHWs)/community-based providers (CBPs) and traditional birth attendants (TBAs) to the M&E Officer through the PHUs in charge. After the approval of the District Medical Officer (DMO) who supervises DHMT, the M&E Officer send the electronic data to the integrated data warehouse (IDW) in DPPI. DMO also has the responsibility to report to the Chief Medical Officer (CMO) in MOHS³¹ [54].

HMIS is also complemented with the following data sources:

- Census : The next census is scheduled in 2016
- Population Survey : MICS (scheduled in 2015), DHS (scheduled in 2013), CWIQ etc.
- Vital Statistics³² : Even if registration or issuance of medical certification on the cause of death in civil registration and hospitals is strengthened, it will take several decades before the vital statistics will record more than 90% of deaths [11] [54].



Source: Proposal Form Round 10-Sierra Leone Malaria, GFATM (2010) [56]

Figure 5-1 HMIS Data Flow

³⁰ Interview survey with DPPI and WHO (February 2012)

³¹ Interview survey with DPPI (February 2012)

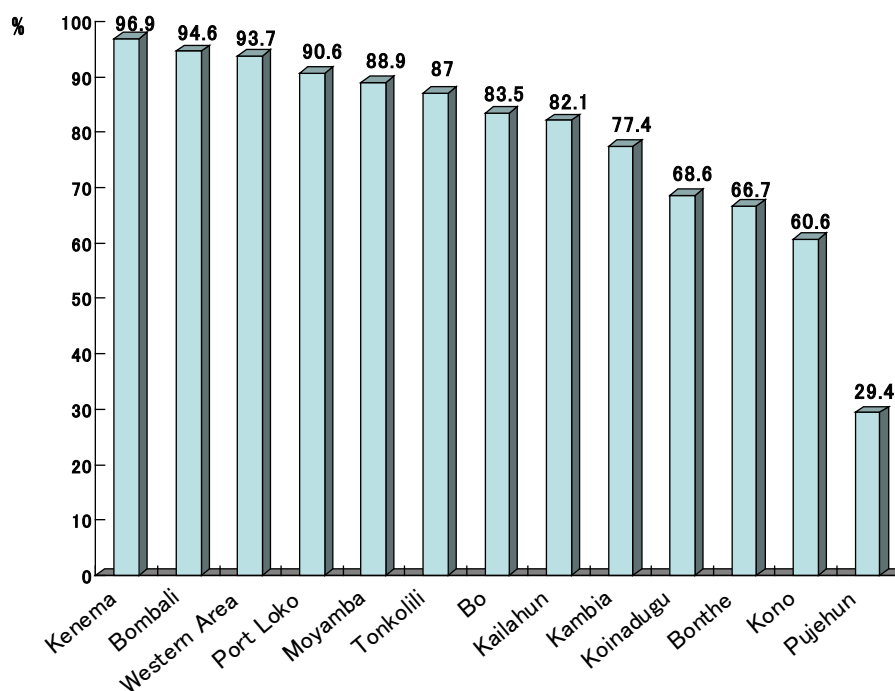
³² Although vital statistics is an important input for health information system (HIS), the 2004 assessment reported that total statistics on death represent less than 1% or 2%. The coverage according to the 2008 National Public Services Survey was 48.2% of births and 24.7% of deaths; however, an evaluation conducted by the UNICEF questioned the credibility of these data. At present, practical use of the vital statistics to complement HMIS is uncertain [12].

On the other hand, integrated disease surveillance and control (IDSC) is under the responsibility of DDPC. The disease report on the 21 epidemic prone diseases is sent to DHIS on a monthly basis. Reporting to WHO occurs on a weekly and monthly basis [12] [54].

The future project is to integrate all information sources including HIS (information on routine services and health programs), other information sources (census, population-based survey, vital statistics, etc.), and other information systems (HRH, drug supply, etc.) into IDW managed by DPPI. For this initiative, DPPI has asked for assistance from the World Bank and University of Oslo to interlink DHIS with Human Resource Management Information System (HRMIS) and Logistics Management Information System (LMIS)³³.

5.2.2 Situation of Health Information Management at the District and Facility Level

DHMT supervises PHUs in gathering information regarding health services at the district level. PHUs use a separate form for each health program and DHIS forms (There are six forms for DHIS: each form contains around 40 indicators on the average) in collecting information. In addition, PHUs have obligation to submit a weekly surveillance report, supervise the activities of CHWs/CBPs and TBAs, supply drugs and other medical products, and compile an activity report; thus, the reporting burden on health facilities should be highlighted. Figure 5-2 shows the reporting rates of DHIS by each district (January-June 2010). The overall rate was over 80%. Although the reporting rates of four districts (Koinadugu, Bonthe, Kono, and Pujehun) were less than 70%, the reporting performance has greatly improved compared to the rate of 30% in 2007³⁴.



Source: Health Information Bulletin (Vol2. No1), MOHS (January-June 2010) [19]

Figure 5-2 DHIS Reporting Rate by District (January to June 2010)

The introduction of Free Health Care Initiative (FHCI) shows an increasing demand for high-quality data concerning distribution and consumption of drugs and other medical products and performance outcomes.

³³ Interview survey with DPPI and WHO (February 2012)

³⁴ Interview survey with DHMT (February 2012)

Similarly, the performance-based financing (PBF) introduced by the World Bank in several areas will demand more comprehensive information regarding service delivery [12].

5.2.3 Facility Network

The ten-year civil war destroyed most of the health infrastructure, and the health service system also collapsed. In May 2006, three tertiary hospitals, namely, Connaught, Princess Christian Maternal, and Ola During Children were rehabilitated, and by 2007, 867 PHUs were rehabilitated or reconstructed. Maternity wards and hospitals were also constructed in Kenema, Koinadugu, and Kono. Quality control laboratories for pharmaceutical products were established at Jenner Wright Clinic in Freetown and a Lassa Fever Laboratory was constructed in Kenema [9].

Health services are provided through the health facility network. Table 5-2 shows the list of the health facilities by cadre and type.

Table 5-2 Health Facilities by Cadre and Type

Cadre	Type	Staff and Service	Catchment Population Coverage Area
Primary level (PHU)	Maternal and Child Health Post (MCHP)	<ul style="list-style-type: none"> • MCH Aides antenatal and postnatal care, supervised deliveries, family planning, growth monitoring and promotion for under-five children, immunization, health education, management of minor ailments, and referral of cases to the next level	500-5,000 within 5 km
	Community Health Post (CHP)	<ul style="list-style-type: none"> • State Enrolled Community Health Nurses (SECHNs) • MCH Aides • Pharmacist In addition to the services provide in MCH, prevention and control of communicable diseases, rehabilitation, and referral of cases to CHCs.	5,000-10,000 within 8 km
	Community Health Center (CHC)	<ul style="list-style-type: none"> • Community Health Officer (CHO) • SECHN • MCH Aides • Epidemiological Disease Control Assistant • Environmental Health Assistant In addition to the services provide in CHP, environmental sanitation	10,000-20,000 within 15 km
Secondary	District Hospital	<ul style="list-style-type: none"> • Doctors (Obstetrician/Gynecologist, Surgeon, Anesthetist, Pediatrician, Dentist) • Midwives • Laboratory Technician, X-ray Technician, Dental Technician • Pharmacist Services for referred cases from PHUs, preventive services, major surgery, inpatient and diagnostic services, X-rays, comprehensive emergency obstetric care, including caesarean sections, family planning, accidents and emergencies, and technical support to PHUs	500,000 -
Tertiary	Regional and National Hospital	Although the details are unclear, their expected function is to provide tertiary care services as the top-referral hospitals. For instance, a tertiary hospital in Freetown is staffed with doctors (Physician, Surgeon, Ophthalmologist, Pediatrician, Gynecologist etc.). Their facilities are better maintained, and there are more advanced equipment used for mammography and ultrasound.	-

Sources: National Health Sector Strategic Plan-2010-2015, MOHS (November 2009) [11]
Basic Package of Essential Health Services for Sierra Leone, MOHS (March 2010) [15]
Sierra Leone-Health and Medical Situation, JICA (28 December 2010) [57]

The Directorate of Primary Health Care in MOHS oversees primary health care (PHC) services. In the districts, DHMTs supervise the PHC services at the facility and community levels. Hospitals are supervised by hospital superintendents. There are three types of peripheral health units (PHU): Community Health Center (CHC), Community Health Post (CHP), and Maternal and Child Health Post (MCHP) [15]. Currently, tertiary level facilities are not adequately functioning. Table 5-3 shows the number of health facilities. Public facilities accounted 88% of the total.

Table 5-3 Number of Health Facilities (2010-2011)

Government Facilities	1,105
Private Facilities	53
Faith Based Organization/NGO Facilities	100
Total	1,258

Source: Country Progress Report, NAS (31 March 2012) [26]

Africa Development Bank (AfDB) assisted the assessment of the 25 health facilities in five districts in 2009/2010. A nation-wide assessment is planned every two years with regards to maternal and child health, and reproductive health services. SSL has developed the GPS database of public facilities; however the data needs to be widely disseminated. The database should be linked to the DHIS, so that updating information including information on private facilities will be more feasible [12] [54].

5.2.4 Drug and Medical Products Supply System

The National Health Sector Strategic Plan (NHSSP) aims to ensure adequate and timely provision of essential drugs and other medical supplies to improve services to the people. The strategies include the following:

- To review and update existing policies and guidelines with respect to drugs, medical supplies and equipment, vaccines, health technologies, and logistics;
- To improve access to good quality, efficacious, and safe drugs;
- To set up an independent National Pharmacy Board;
- To establish the National Pharmaceutical Procurement Unit (NPPU);
- To strengthen the supply chain management system;
- To establish monitoring and surveillance system for drugs and medical supplies; and
- To build a database on the status of medical equipment in the health facilities [11].

Currently, there are a number of issues concerning the procurement of drugs, quality control, management of medical equipment, and supply chain. Stock-outs of drugs and other medical supplies are frequently reported. For instance, a survey conducted in December 2010 reported that 27% of PHUs had stock-out of Artemisinin-based Combination Therapy (ACT) for children under-five and 45% of PHUs had stock-out of Rapid Diagnostic Test (RDT) for seven consecutive days of the month [45]. Furthermore, after the introduction of FHCI, missing drugs due to weak drug management system became a problem.

Therefore, capacity building of the government agencies in charge of procurement of drugs and other medical supplies is a priority area. The state of some of the agencies is briefly explained below.

- The Procurement Unit in MOHS: undertakes procurement of drugs and medical supplies. Their capacity is weak, and since 2009, UNICEF has been supporting the unit through the Health Research

for Action (HRA), and procurement and supply chain models (PSM) are planned to be developed.

- National Pharmacy Board: is not adequately functioning. Their capacity of regulation and monitoring of pharmaceuticals need to be increased. WHO is in the process of certifying them [1].
- Central Medical Store (CMS): lacks appropriate human resources and their logistics capacity is weak. GFATM, the World Bank, and EU plan to support the strengthening of logistics and management system. There is shortage of storage facilities. In this regard, EU renovated 13 district stores. Stock managers will be supported with training of LMIS [56].

WHO supports the updating of the national drug policy, essential drug lists, and clinical guidelines [1].

Given this situation, there is a great demand for uninterrupted supply of essential drugs, minimization of stock-outs, and Logistic Management Information System (LMIS) to minimize the loss of FHCI drugs. UNICEF has developed a standard recording system for essential drugs; that includes stock keeping records, transaction records such as requisition and issue vouchers, and consumption records. This system contains 389 medicines and commodities. Compliance with this paper based system is less than 1% of the health facilities due to heavy burden of the staff. In addition to the above, UNFPA has introduced a software (CHANNEL) for management of contraceptives. This system is relatively simple, and currently being used for other drugs; however its coverage is limited, as it is not yet used effectively for consumption data and it is not interoperable with the DHIS 2.0. There is a need for the main partners (MOHS, DFID, UNICEF, UNFPA, WHO, GFATM, the World Bank) to agree on a common workplan to establish a sustainable LMIS system, not just as a temporary tool in Sierra Leone. To link morbidity and medicine supplies, building a LMIS component into DHIS 2.0 will be the best approach; yet this will require considerable resources and technical support [12][54].

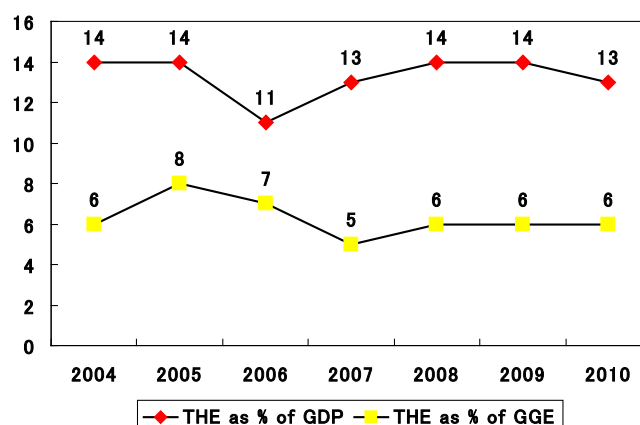
5.3 Health Financing

5.3.1 Overview

According to the estimates of the Global Health Expenditure Data, as shown in Figure 5-3, the government spending in the total health expenditure accounted for 13% of GDP, while the percentage of total health expenditure accounted for 6% of the government general budget in 2010. Table 5-4 presents the government spending as 11% of the total health expenditure, external resources is 21% and out-of-pocket expenditure is 79%. The private expenditure, especially out-of-pocket expenses is about 70% which remain as the highest among the countries in Africa ³⁵[11]. The per capita government expenditure on health was US\$22 in 2009³⁶, which does not meet the level of at least US\$34 as recommended by the WHO Commission for Macroeconomics and Health (CMH).

³⁵ The average of out of pocket expenditure is 65.1% for the Sub-Saharan Africa (NHP data)

³⁶ NHP data



Note: THE-Total Health Expenditure, GGE-Government General Expenditure
Source: Global Health Expenditure Database, WHO[58]

Figure 5-3 Total Health Expenditure as Percentage of GDP and Government General Expenditure (GGE) (2004-2010)

Table 5-4 Health Sector Expenditure by Financing Agent (2004-2010)

	2004	2005	2006	2007	2008	2009	2010
Public Expenditure as % of THE	11	13	12	7	10	11	11
External Resources as % of THE	12	14	21	17	17	20	21
Private Expenditure as % of THE	89	87	88	93	90	89	89
Out-of-Pocket Expenditure as % of THE	82	74	78	83	81	80	79

Note: THE-Total Health Expenditure

Source: Global Health Expenditure Database, WHO [58]

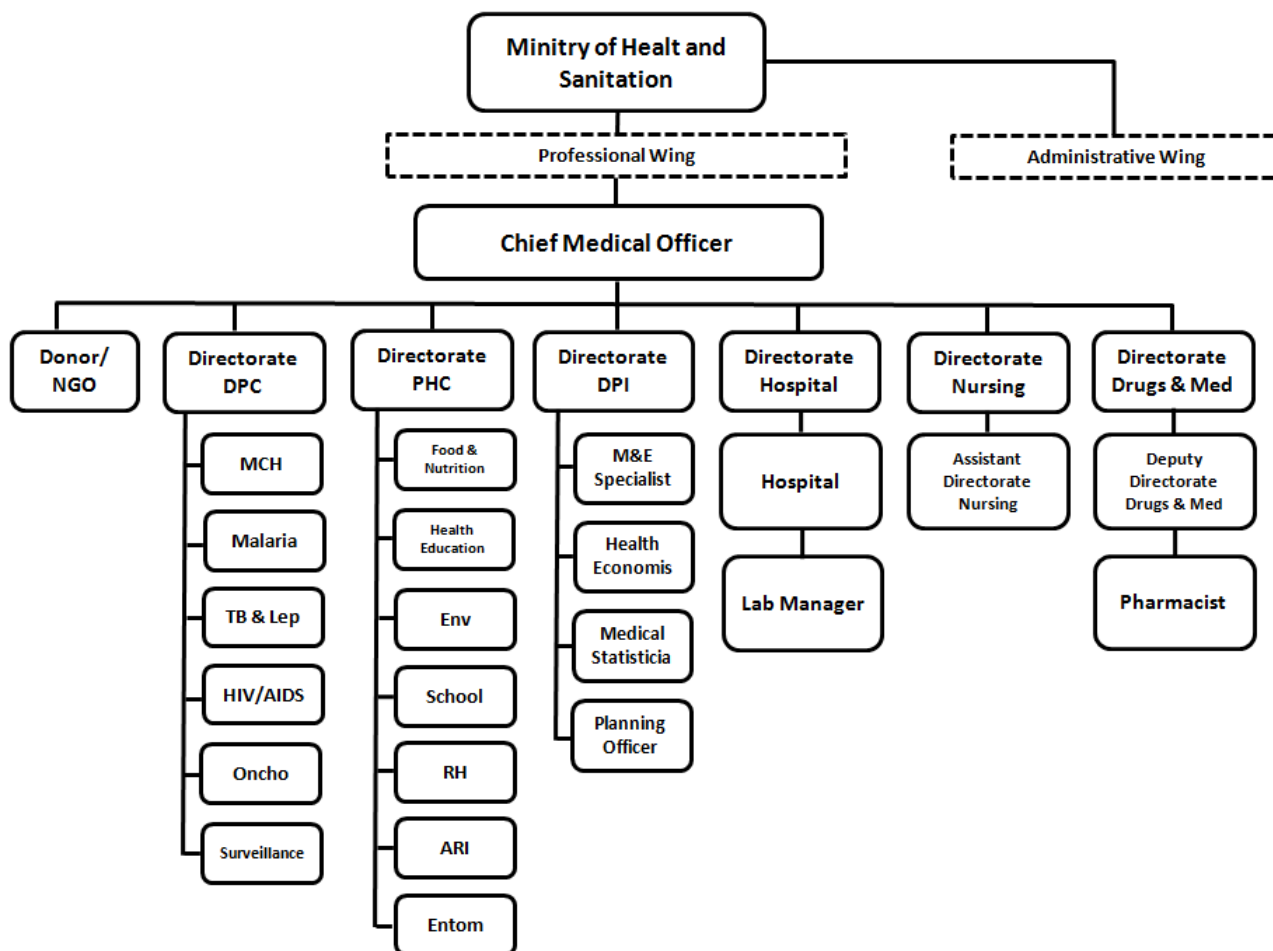
Resource allocation and financing in the health sector is a challenging issue in Sierra Leone. NHSSP intends to ensure that at least 15% of national budget is allocated to health sector, to strengthen financial and procurement management systems and to establish a national and sub-regional health sector accounting system to oversee the overall financial flow [11]. Presently, district financial reports have been submitted to the local councils; yet these reports should be submitted to the Director of Policy, Planning and Information (DPPI), MOHS on a monthly basis to improve the completeness of the information at the central level [12].

As stated in 4-1, FHCI is being implemented since April 2010 to improve the access and quality of the public health sector services. The estimated cost to implement the FHCI for 2010 was US\$35,840,173, of which US\$31,016,801 was provided by donor agencies. DFID, ADB, The World Bank, UNFPA, and UNICEF are the major contributors to FHCI, of whom DFID is the largest donor, contributing almost 50% of the 2010 cost [59]. The government will review the following approaches to broaden the financing base of the health sector; revolving fund for non-free health care medicines, social health insurance scheme, other potential funding sources, and National Health Accounts (NHA) every two years [13].

5.4 Health Administration

5.4.1 Organization and Role of Health Hygiene Ministry

The Ministry of Health and Sanitation (MOHS) consists of the professional wing and administrative wing. Figure 5-4 shows only the professional wing of MOHS.



Source: MOHS Homepage [60]

Figure 5-4 Ministry of Health and Sanitation (MOHS) Organizational Chart

Under the auspice of MOHS, there are 13 district health management teams (DHMT) supervised by district medical officers (DMO). DHMTs are the focal points which oversee implementation and management of the district health plans, and through its PHU. The DHMTs will also supervise and manage primary health care activities in the district level. Each PHU supervises the activities of CHW including traditional birth attendants in the areas under its responsibility. DHMT is also obligated to submit the data from the PHUs including reports from CHWs to MOHS³⁷.

5.4.2 Decentralization

Sierra Leone is administratively constituted of the central government, local councils, and chiefdom councils. Local Government Act-2004 is the only legislation that provides the legal framework for local councils. In accordance with the act, the health service is one of the devolved functions to local councils during the transition period (2004–2008), and since 2008, 19 local councils are mainly responsible for budget allocation and management of district hospitals and PHUs. The specific responsibilities of the districts include primary and secondary health service delivery, health promotion, procurement of drugs for peripheral health units and district hospitals, environmental health care, and safe drinking water. DHMTs developed a health plan and

³⁷ Interview survey with the Western Area DHMT (February 2012)

budgets that are reviewed by the local councils, and then approved by both the local council and MOHS. Subsequently, the budget requests are submitted to MOHS and the Ministry of Finance.

On the other hand, MOHS has an overall role in the formulation of health sector policies, mobilization of resources, capacity building, technical support, provision of nationally coordinated services, epidemic control, and monitoring and evaluation of the overall sector performance and training. Tertiary health care services have not yet been decentralized and are being managed by MOHS [11] [41] [61].

Chapter 6 Development Assistance and Partnership

6.1 Framework of Donor Coordination

6.1.1 Current Situation

As stated in Subsection 2.3, the Government of Sierra Leone and major health sector partners signed the Health Compact (HC) in December 2011 and discussions on aid alignment and efficient coordination through a sector-wide approach have been initiated. However, up to the present, a significant share of health sector support remains off-budget in the form of project aid, except the support to Free Health Care Initiative (FHCI), general budget support by the African Development Bank (AfDB) and a small-scale budget support to the health sector by the Department for International Development (DFID), the European Union (EU) and the World Bank. It is also pointed out that support to health system strengthening is provided within the project framework and often lacks a long-term vision. At present, the World Bank, the DFID and the Irish Aid have committed to provide financial support to the Government's Reproductive and Child Health Strategy, and an option to pool their contributions under the said strategy is being discussed [1] [16] [38].

Under the Ministry of Finance, the Development Aid Coordination Office (DACO) is assigned for general aid coordination, while the Donor/NGO Liaison Office of the Ministry of Health and Sanitation (MOHS) is tasked with promoting aid coordination in the health sector. Although both DACO and the Liaison Office are working on mapping aid flows, coordination has not been effectively made, resulting in duplications and incoherence in activities between the central and sector levels. Further, assistance from the international NGOs, the faith based organizations and the UN agencies are not adequately reported and as a result, this hinders government efforts to realize the overall aid flow in the health sector [38].

6.1.2 Donor Coordination Meeting

The Health Development Partners (HDP) Group meeting is chaired by DFID and UNICEF and is held every month but MOHS is not a member of this group. Meetings with MOHS are chaired by the Chief Medical Officer, and held on an irregular basis. In addition, several sub-sector groups have been set up, and some groups hold frequent meetings. WHO technically leads meetings on the Health Compact and Joint Programme of Work and Funding (JPWF)³⁸. The HDP Group has an activity plan (6/2011-5/2012) to discuss priority areas. Strategies on a new activity plan will be discussed among HDP group. Table 6-1 presents the areas of donor contribution among the six pillars of the National Health Sector Strategic Plan (NHSSP) (2010-2015).

Table 6-1 Donor Contribution by NHSSP Pillar

1. Leadership and Governance	DFID, WHO, EU, The World Bank, Irish Aid
2. Service Delivery	DFID, UNICEF, EU, GFATM, USG
3. Human Resources	DFID, WHO, UNICEF, GFATM, EU, AfDB, USG
4. Health Financing	The World Bank
5. Medical Products and Technologies	DFID, UNICEF, GFATM, UNFPA, USG
6. Health Information	WHO, UNICEF, GFATM, DFID, USG, JICA

Source: GHI Strategy for Sierra Leone, US Embassy Free Town (2011) [16]

³⁸ MOHS is developing the first JPWF, a three-year plan to align all interventions linking to the long-term policies and development strategies as defined in NHSSP.

6.2 Activities of Major Development Partners

Table 6-2 summarizes the major donor support. All listed donors provide support to maternal and child health. Malaria control is also a priority area of assistance. The Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) gives Sierra Leone the greatest priority for malaria control (Partial Prioritization Score 12). In addition, all donors provide assistance to the health service system.

Table 6-2 Donor Assistance and Areas of Support

	Country Strategic Plan	Areas of Support						
		Child Health	Maternal Health	Nutrition	HIV/AIDS	Malaria	TB	HSS
UNICEF	Country Program Document (2008-2012)	○	○	○		○		○
WHO	Country Cooperation Strategy (CCS) (2008-2013)	○	○	○	○	○	○	○
DFID	Country Operational Plan (2011-2015)	○	○	○		○		○
USG · USAID	Global Health Initiative Strategy for Sierra Leone (2011-2015)	○	○	○	○	○	○	○
EU	Country Strategy Paper (2008-2013)	○	○					○
The World Bank	Joint Assistance Strategy of AfDB and the World Bank (2010-2013)	○	○	○	○			○

Sources: Operational Plan 2011-2015-Sierra Leone, DFID (April 2011) [4]
Global Health Initiative for Sierra Leone, US Embassy Freetown (2011) [16]
Country Strategy Paper and National Indicative Programme for Period of 2008-2013, Sierra Leon-EC (December 2008) [62]
Country Cooperation Strategy-2008-2013, WHO (2009) [1]

The GFATM support is listed in Table 6-3. Although Sierra Leone is a low HIV prevalence country and malaria is the leading cause of morbidity and mortality, the total signed amount for HIV/AIDS programs is the highest (USD 63,787,710), and it exceeds the amount of malaria programs (USD 46,581,326).

Table 6-3 GFATM Support for HIV/AIDS, TB, and Malaria Programs

Grant Type	Round	Period	Total Signed Amount (USD)	Principal Recipient
HIV/AIDS	R4	6/2005-8/2010	17,820,803	NAS
	R6	2/2008-8/2010	9,674,319	NAS
	SSF	9/2010-12/2012	36,292,588	NAS
Tuberculosis	R2	1/2004-12/2008	5,030,837	Red Cross
	R7	11/2008-10/2013	7,154,572	MOHS
Malaria	R4	5/2005-4/2007	6,956,097	Red Cross
	R7	11/2008-10/2013	12,317,290	MOHS
	SSF	8/2011-12/2013	5,632,236	Catholic Relief Services (CRS)
	SSF	8/2011-12/2013	21,675,703	MOHS

Source: Sierra Leone-Grant Portfolio, GFATM (3 April 2012) [43]

6.3 Outline of Japanese Cooperation

The Government of Japan suspended its bilateral assistance to Sierra Leone during the civil war (1991-2002) and only provided assistance through international organizations. In 2005, Japan pledged to resume its bilateral assistance and currently, provides grant aid and technical cooperation. The guiding principle of the assistance to Sierra Leone is promoting “consolidation of peace” and “rural agricultural development” in line with “Human Security” approach. Table 6-4 summarizes health sector assistance by the Japanese government.

Table 6-4 Health Sector Support by the Japanese Government

Grant Aid and Multilateral Cooperation				
Assistance Period	Scheme	Project Name	Assistance Amount	Objective/Summary
FY 2004	Grant Aid	The Project of Infectious Disease Prevention for Children (through UNICEF)	JPY 133 million	Financial support for the procurement of vaccines, cold chain equipment, and mosquito nets
FY 2005	Grant Aid	The Project of Infectious Disease Prevention for Children (through UNICEF)	JPY 310 million	Financial support for the procurement of mosquito nets, acute respiratory infection (ARI) drugs, and immunization vaccines
FY 2006	Grant Aid	The Project of Infectious Disease Prevention for Children (through UNICEF)	JPY 229 million	Ditto
FY 2007	Grant Aid	The Project of Infectious Disease Prevention for Children (through UNICEF)	JPY 258 million	Financial support for the procurement of LLINT for children under one year old and pregnant women, ACT for children under-five and pregnant women in 6 districts (Bombali, Koinadugu, Kono, Kailahun, Kenema, Pujehun), and BCG vaccines for children under one year old in the country.
FY 2008	ML	Reducing maternal and neonatal mortality and morbidity and the risk of STI/HIV/AIDS and GBV among women and girls in post conflict Sierra Leone (Focus on Freetown Western Area) (through UNFPA)	USD 1 million	-
11/2/2009 ~ 28/2/2010	ML	Infectious disease prevention plan (through UNICEF)	JPY 266 million	Financial support for the procurement of immunization vaccines and malaria control in the country.
4/12/2009 ~ 30/6/2010	Grant Aid	Infant infectious disease prevention meter Picture (with UNICEF)	JPY 122 million	Ditto

Technical Cooperation Project		
Assistance Period	Project Name	Objective/Summary
11/5/2008~10/5/2011	Integrated Project for Rural Health Improvement	Strengthen capacity of the health administration in Kambia District based on the community needs

Note: Technical Cooperation Project "Strengthening Integrated Supportive Supervision System" was adopted in the request survey in FY 2011

Expert		
Assistance Period	Project Name	Objective/Summary
1/6/2011~ 31/3/2012	Strengthening Integrated Supportive Supervision System	Strengthen effective system for integrated supportive supervision from the district to central level and model building

Sources: ODA Country Data Book 2011, Ministry of Foreign Affairs (August, 2010) [63]
Japan's ODA Rolling Plan for Sierra Leone, Ministry of Foreign Affairs (May 8, 2009) [64]
JICA Knowledge Site [65]

Chapter 7 Priority Health Issues and Recommendations

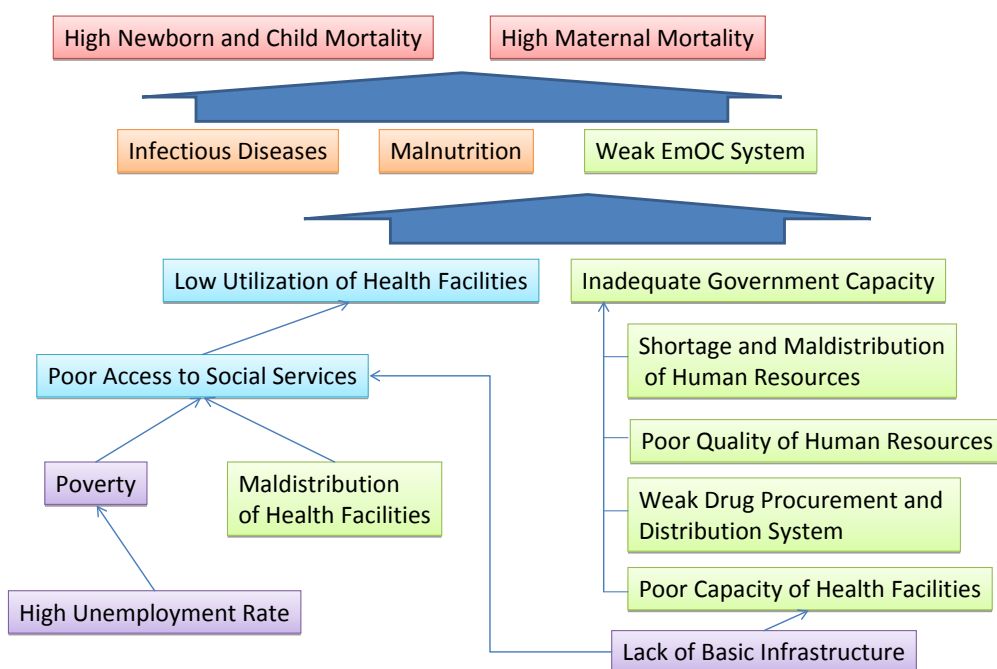
Priority Issues

Health Status of the People

Since the end of the civil war, the health service delivery is gradually improving through the reconstruction and rehabilitation of health infrastructure and service system, and the implementation of different health programs (e.g. malaria, TB, and EPI). However, the economic and social infrastructure is still weak and health service system is not yet up-to the level of the needs of the people. Newborn, child, and maternal mortality rate in Sierra Leone is one of the highest among the African countries. Reducing child and maternal mortality rates are the most urgent priorities in the health sector and at the same time, it is also recognized as one of the government's obligations in the development process.

Factors Attributing to High Newborn, Child, and Maternal Deaths

Based on the situational analysis from Chapters 1 to 6, the underlying factors to the above-mentioned issues can be summarized in Figure 7-1. There are demand-side problems, i.e., inability to access social services due to poverty and supply-side problems, i.e., poor health delivery system and unequal access to health facilities.



(1) Poverty

In Sierra Leone, 60% of the population lives in absolute poverty. Unemployment rate is high and many people live in deteriorated environment with limited access to the basic social services like health, safe drinking water, sanitation, and education. Although the burden of non-communicable diseases is increasing in recent years, the burden of infectious diseases such as malaria, diarrhea, and acute respiratory infections (ARI) are the major causes of morbidity and mortality, especially among children.

(2) Food Insecurity and Malnutrition

The prevalence of food insecurity is high and malnutrition is a serious concern. Malnutrition is one of the leading causes of deaths among children by increasing the risk and severity of morbidity. In addition, iron deficiency and low body weight are factors that increase the risk of maternal mortality.

(3) Weak Health Service System

The priority areas in health are proved to improve infectious disease control, nutritional status, antenatal and postnatal care, facility-based delivery, emergency obstetric care (EmOC), family planning services, and functional referral system. However, the existing health service system is still inadequate to fulfill the provisions of these priority services. There are a number of issues to be addressed in health services such as; severe shortage of health personnel, concentration of the health professionals in the urban areas, especially in the capital city; retention of health personnel in the public health facilities; low technical skills; low level of motivation and moral among health personnel; shortage and stock-out of drugs and other medical supplies in the health facilities due to poor procurement, distribution and management systems; weak infrastructure for water and electricity supply; insufficient medical equipment and laboratory facilities; maldistribution of health facilities in disregard to its availability and accessibility in the rural areas; inadequate referral system from the primary to tertiary level facilities. This situation hinders the service provision to meet the health care needs of the people. Among them, weak referral system for EmOC is a critical factor attributing to high maternal mortality.

(4) Disparities in the Access to Health Services

Under this situation, utilization of the public health facilities on average is low at 0.5 visits per person per year. As a result, out-of-pocket expenses are very high, and health expenses have a significant economic impact on the poorest segment of the population. Besides, economically advantaged group tends to benefit more from subsidized services. The situation proves that health services are not equitable or pro-poor. In fact, the major problems in utilizing health facilities are reported to be accessibility and affordability. It is critical to reduce these barriers in a health sector reform.

7.1.3 Government and Donor's Approach and Problems in the Future to Priority Issue

(1) Government Approach

The National Health Sector Strategic Plan (NHSSP) (2010-2015) identifies a number of key issues and challenges in the health sector, highlighting strategies and actions leading to health system strengthening. The Basic Package of Essential Health Services (BPEHS) was announced as a means that will provide health services. BPEHS prioritizes reduction of maternal and child deaths by providing services including antenatal care, EmOC and infectious disease control like malaria. However, successful implementation of BPEHS is unlikely to be achieved without sufficient improvement in the country's health system.

(2) Issues of Free Health Care Initiative (FHCI)

In response to the above situation, Free Health Care Initiative (FHCI) was launched in April 2010. FHCI is a government emergency initiative that will provide free care to children and pregnant women with the intention to at least remove financial barriers to health services. With the introduction of FHCI, access to the health

facilities and utilization are reported to have improved, while at the same time, a number of issues of concern were revealed; allocation of more human resources and strengthening their capacity, improved drug supply system, adequate management and monitoring in the provision of FHCI. In this respect, strategies to improve FHCI should be evidence-based, by addressing issues already identified and also assessing the impact of FHCI on newborn, child and maternal deaths, and the benefit to the poor and the rural population. Furthermore, as a large portion of FHCI cost is supported by donor funding, financial sustainability of FHCI needs to be carefully assessed.

(3) Long-term Approach

Along with the emergency and immediate service provision stated above, the Government of Sierra Leone is ought to make long-term efforts to strengthen the health system including human resource development, and strengthening the information and supply chain system. Simultaneously, the basic infrastructure needs to be rehabilitated to ensure reliable supply of electricity and water to the health facilities and the road network necessary for functional referral system should be improved as well.

7.2 Recommendations

The Government of Japan is providing grant aid for the procurement of drugs and other supplies required for infectious disease control such as malaria and TB, and technical assistance to strengthen the management capacity of Ministry of Health and Sanitation (MOHS) in service delivery, and also capacity building of the district health management teams (DHMT) who will oversee the primary and secondary health services after decentralization.

(1) Support to Health System Strengthening

A support for the service delivery to improve child morbidity and mortality, and maternal mortality will remain to be the most important priority area. As stated earlier, weak capacity of the overall health system is the factor that will hinder the delivery of quality health services; therefore, assistance should be provided to strengthen the health system (e.g. strengthening human resource capacity) together with the support to the service delivery.

(2) Support to Universal Access

There is a shortage in public health facilities and health workers, especially in the rural areas, where most of the low income population lives. On the contrary, the urban population that has better access to health is more privileged to use public services. As the existing health services do not adequately benefit the poor and rural population, support in improving equity to access and service delivery is essential.

(3) Long-term Strategic Vision

At present, the discussion between the Government of Sierra Leone and the health sector partners through the forums such as the Health Compact and Joint Programme of Work and Funding (JPWF) are taking place to promote more strategic support and effective use of funds with a long-term vision, including a sector-wide approach and pooled fund. Given this situation, the government health sector strategies and donor aid policies need to be well considered in formulating the strategic direction to health sector assistance.

ATTACHMENTS

Attachment 1: Major Health Indicators

Attachment 2: References

Attachment 1: Major Health Indicators (Republic of Sierra Leone)

Republic of Sierra Leone			MDGs	Sources	1990	2000	Latest	Latest year	Latest in Region	(Latest year)	Region	
0 General Information	0.1 Demography	0.1.01	Population, total		WDI	3,981,567	4,143,115	5,867,000	2010	853,434,000	(2010)	Sub-Saharan Africa (developing only)
		0.1.02	Population growth (annual %)		WDI	1.3	2.8	2.2	2010	2.5	(2010)	Sub-Saharan Africa (developing only)
		0.1.03	Life expectancy at birth, total (years)		WDI	38.7	39.7	47.4	2010	54.3	(2010)	Sub-Saharan Africa (developing only)
		0.1.04	Birth rate, crude (per 1,000 people)		WDI	43.6	43.8	38.6	2010	37.4	(2010)	Sub-Saharan Africa (developing only)
		0.1.05	Death rate, crude (per 1,000 people)		WDI	24.5	23.1	15.7	2010	12.6	(2010)	Sub-Saharan Africa (developing only)
		0.1.06	Urban population (% of total)		WDI	32.9	35.5	38.4	2010	37.4	(2010)	Sub-Saharan Africa (developing only)
	0.2 Economic · Development Condition	0.2.01	GNI per capita, Atlas method (current US\$)		WDI	200	150	340	2010	1,188.5	(2010)	Sub-Saharan Africa (developing only)
		0.2.02	GNI growth (annual %)		WDI	-2.1				4.1	(2010)	Sub-Saharan Africa (developing only)
		0.2.03	Total enrollment, primary (% net)	2.1	WDI					76.3	(2009)	Sub-Saharan Africa (developing only)
		0.2.04	Ratio of female to male primary enrollment (%)	3.1	WDI	66.0		92.8	2011	91.6	(2009)	Sub-Saharan Africa (developing only)
		0.2.05	Literacy rate, adult total (% of people ages 15 and above)		WDI			40.9	2009	62.3	(2009)	Sub-Saharan Africa (developing only)
		0.2.06	Human Development Index		HDR	0.06	0.28	0.34	2011	0.46	(2011)	Sub-Saharan Africa
0.3 Water and Sanitation	0.2.07	Human Development Index (rank)		HDR	159/ 160	173/ 173	180/ 187	2011				
	0.2.08	Poverty gap at \$1.25 a day (PPP) (%)		WDI	44.8		20.3	2003	20.6	(2008)	Sub-Saharan Africa (developing only)	
	0.3.01	Improved water source (% of population with access)	7.8	HNP Stats	38	46	55	2010	61.1	(2010)	Sub-Saharan Africa (developing only)	
	0.3.02	Improved sanitation facilities (% of population with access)	7.9	HNP Stats	11	11	13	2010	30.6	(2010)	Sub-Saharan Africa (developing only)	
1 Health Status of People	1.1 Mortality and Morbidity	1.1.01	Age-standardized mortality rate by cause (per 100,000 population) - Communicable		GHO			1,042	2008	798	(2008)	Africa
		1.1.02	Age-standardized mortality rate by cause (per 100,000 population) - Noncommunicable		GHO			763	2008	779	(2008)	Africa
		1.1.03	Age-standardized mortality rate by cause (per 100,000 population) - Injuries		GHO			92	2008	107	(2008)	Africa
		1.1.04	Cause of death, by communicable diseases and maternal, prenatal and nutrition conditions (% of total)		HNP Stats			77.1	2008	64.6	(2008)	Sub-Saharan Africa (developing only)
		1.1.05	Cause of death, by non-communicable diseases (% of total)		HNP Stats			17.7	2008	28.3	(2008)	Sub-Saharan Africa (developing only)
		1.1.06	Cause of death, by injury (% of total)		HNP Stats			5.2	2008	7.1	(2008)	Sub-Saharan Africa (developing only)
		1.1.07	Distribution of years of life lost by broader causes (%) - Communicable		GHO			85	2008	78	(2008)	Africa
		1.1.08	Distribution of years of life lost by broader causes (%) - Noncommunicable		GHO			10	2008	15	(2008)	Africa
		1.1.09	Distribution of years of life lost by broader causes (%) - Injuries		GHO			5	2008	17	(2008)	Africa
	1.2 Maternal and Child Health	1.2.01	Maternal mortality ratio (modeled estimate, per 100,000 live births)	5.1	MDGs	1,300	1,300	970	2008	650	(2008)	Sub-Saharan Africa (developing only)
		1.2.02	Adolescent fertility rate (births per 1,000 women ages 15-19)	5.4	MDGs		146.4	120.0	2010	107.6	(2010)	Sub-Saharan Africa (developing only)
		1.2.03	Mortality rate, under-5 (per 1,000)	4.1	MDGs	276.0	232.8	174.0	2010	121.2	(2010)	Sub-Saharan Africa (developing only)
		1.2.04	Mortality rate, infant (per 1,000 live births)	4.2	MDGs	162.1	141.9	113.7	2010	76.4	(2010)	Sub-Saharan Africa (developing only)
		1.2.05	Low-birthweight babies (% of births)		HNP Stats		23	13.6	2008	13.3	(2010)	Sub-Saharan Africa (developing only)
		1.2.06	Fertility rate, total (birth per woman)		HNP Stats	5.7	5.7	5.0	2010	4.9	(2010)	Sub-Saharan Africa (developing only)
	1.3 Infectious Diseases	1.3.01	a) Prevalence of HIV, male (% ages 15-24)	6.1	MDGs			0.6	2009	1.5	(2009)	Sub-Saharan Africa (developing only)
			b) Prevalence of HIV, female (% ages 15-24)	6.1	MDGs			1.5	2009	3.8	(2009)	Sub-Saharan Africa (developing only)
		1.3.02	Notified cases of malaria per 100,000 population	6.6	MDGs Database			36,141	2008			
		1.3.03	a) Malaria death rate per 100,000 population, all ages	6.6	MDGs Database			103	2008	96	(2009)	Sub-Saharan Africa
			b) Malaria death rate per 100,000 population, ages 0-4	6.6	MDGs Database			99	2008	519	(2009)	Sub-Saharan Africa
		1.3.04	Tuberculosis prevalence rate per 100,000 population (mid-point)	6.9	MDGs Database	480	748	1,282	2010	479	(2009)	Sub-Saharan Africa
		1.3.05	Incidence of tuberculosis (per 100,000 people)	6.9	MDGs	207	377	682	2010	271	(2010)	Sub-Saharan Africa (developing only)
		1.3.06	Tuberculosis death rate (per 100,000 people)	6.9	MDGs	59	87	146	2010	28	(2010)	Sub-Saharan Africa (developing only)
		1.3.07	Prevalence of HIV, total (% of population ages 15-49)		HNP Stats	0.1	0.9	1.6	2009	5.5	(2009)	Sub-Saharan Africa (developing only)
		1.3.08	AIDS estimated deaths (UNAIDS estimates)		HNP Stats	100	1,000	2,800	2009			
	1.3.09	HIV incidence rate, 15-49 years old, percentage (mid-point)		MDGs Database	0.01	0.23	0.14	2009				
	1.3.10	Partial Prioritization Score by the Global Fund (HIV)		GF			8	2012				
Partial Prioritization Score by the Global Fund (Malaria)			GF			12	2012					
Partial Prioritization Score by the Global Fund (TB)			GF			10	2012					
1.4 Nutrition	1.4.01	Prevalence of wasting (% of children under 5)		HNP Stats	10.2	11.6	10.5	2008				
2 Service Delivery	2.1 Maternal and Child Health	2.1.01	Births attended by skilled health personnel, percentage	5.2	MDGs Database		41.7	42.4	2008			
		2.1.02	Birth by caesarian section		GHO			1.5	2008	3.5	(2011)	Africa
		2.1.03	Contraceptive prevalence (% of women ages 15-49)	5.3	MDGs		4.3	8.2	2008	21.7	(2010)	Sub-Saharan Africa (developing only)
		2.1.04	Pregnant women receiving prenatal care (%)	5.5	HNP Stats		67.9	86.9	2008	73.5	(2010)	Sub-Saharan Africa (developing only)
		2.1.05	Pregnant women receiving prenatal care of at least four visits (% of pregnant women)	5.5	HNP Stats			56.1	2008	45.6	(2010)	Sub-Saharan Africa (developing only)
		2.1.06	Unmet need for family planning, total, percentage	5.6	MDGs Database			27.6	2008	24.8	(2008)	Sub-Saharan Africa
		2.1.07	1-year-old children immunized against: Measles	4.3	Childinfo		37	82	2010	75	(2010)	Sub-Saharan Africa
		2.1.08	1-year-old children immunized against: Tuberculosis		Childinfo		74	99	2010	84	(2010)	Sub-Saharan Africa
		2.1.09	a) 1-year-old children immunized against: DPT (percentage of infants who received their first dose of diphtheria, pertussis and tetanus vaccine)		Childinfo		64	96	2010	85	(2010)	Sub-Saharan Africa
			b) 1-year-old children immunized against: DPT (percentage of infants who received three doses of diphtheria, pertussis and tetanus vaccine)		Childinfo		44	90	2010	77	(2010)	Sub-Saharan Africa
		2.1.10	1-year-old children immunized against: Polio		Childinfo		46	89	2010	79	(2010)	Sub-Saharan Africa
	2.1.11	Percentage of infants who received three doses of hepatitis B vaccine		Childinfo			90	2010	74	(2010)	Sub-Saharan Africa	
	2.2 Infectious Diseases	2.2.01	Condom use with non regular partner, % adults (15-49), male	6.2	MDGs			21.5	2008			
		2.2.02	Condom use with non regular partner, % adults (15-49), female	6.2	MDGs			7.4	2008			

Attachment 1: Major Health Indicators (Republic of Sierra Leone)

Republic of Sierra Leone				MDGs	Sources	1990	2000	Latest	Latest year	Latest in Region	(Latest year)	Region	
2.2	2.2.03	Men 15-24 years old with comprehensive correct knowledge of HIV/AIDS, percentage	6.3	MDGs Database				27.6	2008	33	(2005-2010)	Sub-Saharan Africa	
		2.2.04	Women 15-24 years old with comprehensive correct knowledge of HIV/AIDS, percentage	6.3	MDGs Database		15.7	17.2	2008	26	(2005-2010)	Sub-Saharan Africa	
		2.2.05	Ratio of school attendance of orphans to school attendance of non-orphans aged 10-14 years	6.4	MDGs Database		0.7	0.62	2008	0.92	(2005-2010)	Sub-Saharan Africa	
		2.2.06	Use of insecticide-treated bed nets (% of under-5 population)	6.7	HNP Stats		1.5	25.8	2008	34.0	(2010)	Sub-Saharan Africa (developing only)	
		2.2.07	Children under 5 with fever being treated with anti-malarial drugs, percentage	6.8	MDGs Database		60.7	30.1	2008	36	(2008-2010)	Sub-Saharan Africa	
		2.2.08	Tuberculosis treatment success rate under DOTS, percentage	6.10	MDGs Database		77	86	2008	80	(2008)	Sub-Saharan Africa	
		2.2.09	Antiretroviral therapy coverage (% of people with advanced HIV infection)	6.5	MDGs			18.0	2009				
		2.2.10	People aged 15 years and over who received HIV testing and counselling, estimated number per 1,000 adult population		GHO			82.4	2010				
		2.2.11	Testing and counselling facilities, estimated number per 100,000 adult population		GHO			18.1	2010				
		2.2.12	Pregnant women tested for HIV, estimated coverage (%)		GHO			50	2010				
		2.2.13	Percentage of HIV-infected pregnant women who received antiretroviral drugs to reduce the risk for mother-to-child transmission (Mid point)	6.5	MDGs Database			19	2009				
		2.2.14	Tuberculosis case detection rate (all forms)		HNP Stats	7.7	24.0	32.0	2010	60	(2010)	Sub-Saharan Africa (developing only)	
		2.2.15	Tuberculosis treatment success rate (% of registered cases)	6.10	MDGs		77.0	79.0	2009	79	(2009)	Sub-Saharan Africa (developing only)	
		2.3	2.3.01	Vitamin A supplementation coverage rate (% of children ages 6-59 months)		HNP Stats			100.0	2010	85.8	(2010)	Sub-Saharan Africa (developing only)
				2.3.02	Consumption of iodized salt (% of households)		HNP Stats		23.4	58.2	2008	49.8	(2010)
2.4	2.4.01	Estimate of health formal coverage		ILO					11.6		Countries of very high vulnerability		
		2.4.02	Population not covered (%) due to financial resources deficit		ILO			94.3		85.8		Countries of very high vulnerability	
		2.4.03	Population not covered (%) due to professional health staff deficit		ILO			88.3		74.6		Countries of very high vulnerability	
3	3.1	3.1.01	Physicians (per 1,000 people)		HNP Stats			0.02	2008	0.2	(2010)	Sub-Saharan Africa (developing only)	
			3.1.02	Midwives (per 1,000 people)		HNP Stats							
			3.1.03	Nurses (per 1,000 people)		HNP Stats			0.2	2004			
			3.1.04	Dentistry personnel density (per 10,000 population)		GHO			0.04	2008	0	(2007)	Africa
			3.1.05	Density of pharmaceutical personnel (per 10,000 population)		GHO			0.32	2008	1.00	(2007)	Africa
	3.2	3.2.01	Health expenditure, total (% of GDP)		HNP Stats		14.6	13.1	2010	6.5	(2010)	Sub-Saharan Africa (developing only)	
			3.2.02	Health expenditure, public (% of total health expenditure)		HNP Stats		7.3	11.3	2010	45.1	(2010)	Sub-Saharan Africa (developing only)
			3.2.03	Health expenditure, private (% of total health expenditure)		HNP Stats		92.7	88.7	2010	54.9	(2010)	Sub-Saharan Africa (developing only)
			3.2.04	Out-of-pocket health expenditure (% of private expenditure on health)		HNP Stats		94.9	89.5	2010	xz	(2010)	Sub-Saharan Africa (developing only)
			3.2.05	Health expenditure, public (% of government expenditure)		HNP Stats		3.9	6.4	2010	10.0	(2005)	Sub-Saharan Africa (developing only)
			3.2.06	External resources for health (% of total expenditure on health)		HNP Stats		6.6	20.6	2010	10.5	(2010)	Sub-Saharan Africa (developing only)
			3.2.07	Social security expenditure on health as a percentage of general government expenditure on health		GHO			0	2009	7	(2009)	Africa
			3.2.08	a) Health expenditure per capita (current US\$)		HNP Stats		22.0	42.5	2010	84.3	(2010)	Sub-Saharan Africa (developing only)
		b) Per capita total expenditure on health (PPP int. \$)		GHO		57	110	2009	157	(2009)	Africa		
		3.2.09	Per capita government expenditure on health at average exchange rate (US\$)		GHO		3.0	5	2009	41	(2009)	Africa	
3.3	3.3.01	a) Median availability of selected generic medicines (%) - Public		GHO									
		b) Median availability of selected generic medicines (%) - Private		GHO									
		3.3.02	a) Median consumer price ratio of selected generic medicines - Public		GHO								
		b) Median consumer price ratio of selected generic medicines - Private		GHO									
3.3.03	Hospital beds (per 1,000 population)		HNP Stats			0.4	2006	1.2	(1990)	Sub-Saharan Africa (developing only)			

WDI: World Development Indicators & Global Development Finance (<http://databank.worldbank.org/ddp/home.do>) (Accessed 07/2012)

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1.3.10 Partial Prioritization Score is composed of the income level score for the country and the disease burden score for the particular disease in the country. The minimum score is 3 and the maximum score is 12.

2.4.01 Estimate of health formal coverage is indicated as percentage of population covered by state, social, private, company-based, trade union, mutual and other health insurance scheme.

2.4.02 Population not covered (%) due to financial resources deficit (based on median value in low-vulnerability group of countries) uses the relative difference between the national health expenditure in international \$ PPP (excluding out-of-pocket) and the median density observed in the country group with low levels of vulnerability as a benchmark for developing countries. The rate can be calculated using the following formula:

Per capita health expenditure not financed by private households' out-of-pocket payments (PPP in int. \$) [A]

Population (in thousands) total [B]

Total health expenditure not financed by out of pocket in int. \$ PPP (thousands) [C = A x B]

Population covered by total health expenditure not financed by out-of-pocket if applying Benchmark* (thousands) [D = C ÷ Benchmark]**

Percentage of the population not covered due to financial resources deficit (%) [F = (B - D) ÷ B x 100]

*Benchmark: Total health expenditure not financed by out-of-pocket per capita = 350 international \$ PPP.

**This formula was partially modified from the original in the source to suit an actual calculation.

2.4.03 Population not covered (%) due to professional health staff deficit uses as a proxy the relative difference between the density of health professionals in a given countries and its median value in countries with a low level of vulnerability. The rate can be calculated using the following formula:

Total of health professional staff [A = B + C]

Number of nursing and midwifery personnel [B]

Number of physicians [C]

Total population (in thousands) [D]

Number of health professional per 10,000 persons [F = A ÷ D x 10]

Total population covered if applying Benchmark* (thousands) [E = A ÷ Benchmark x 10]

Percentage of total population not covered due to health professional staff deficit [G = (D - E) ÷ D x 100]

Benchmark: 40 professional health staff per 10,000 persons.

Attachment 2 : References (Republic of Sierra Leone)

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