



**BOTSWANA NEGLECTED TROPICAL
DISEASES MASTER PLAN**

2015-2020

MINISTRY OF HEALTH



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ACRONYMS

ADR -	Adverse Reaction
AIDS-	Acquired Immunodeficiency Syndrome
ALB-	Albendazole
BNTP-	Botswana National Tuberculosis Programme
CM -	Case Management
CMS-	Central Medical Store
CSO -	Central Statistical Office
DHMT -	District Health Management Team
DRU-	Drug Regulatory Unit
EDC -	Epidemiology and Disease Control
FECT -	Formal Ether Concentration Technique
GDP-	Gross Domestic Product
HAT -	Human African Trypanosomiasis
HIV -	Human Immunodeficiency Virus
ICT-	Immunochromatographic
IDSR -	Integrated Disease Surveillance and Response
IRS -	Indoor Residual Spraying
ITECH-	International Training and Education Centre for Health
ITNs -	Insecticide Treated Nets
KK -	Kato Katz
LF -	Lymphatic Filariasis
MB -	Multibacillary
MDA -	Mass Drug Administration
MDT -	Multi-Drug Therapy
MO -	Medical Officer
MOH-	Ministry of Health
NGO -	Non Governmental Organization
NTD -	Neglected Tropical Diseases
PB -	Paucibacillary
PCT -	Preventive Chemotherapy
PHC -	Primary Health Care
PI-	Principal Investigator
POA -	Plan of Action
QC-	Quality Control
SAE-	Severe Adverse Events
STH -	Soil transmitted helminths
TA-	Technical Advisor
TRA -	Trachoma Rapid Assessment
UFT -	Urine filtration Technique

UN -	United Nations
UNICEF -	United Nations Children's Fund
VIP -	Ventilated Improved Pit latrine
WASH-	Water, Sanitation and Hygiene
WFP -	World Food Programme
WHO -	World Health Organization

FOREWORD

Neglected tropical diseases are diseases of the socio-economically disadvantaged and neglected people living in abject poverty. They include schistosomiasis, soil transmitted helminths (STH), trachoma, Human African Trypanosomiasis (HAT), leprosy, rabies, chagas disease, leishmaniasis, lymphatic filariasis, onchocerciasis, anthrax and plague to mention but a few. Some of these diseases are transmitted through contamination of the environment (schistosomiasis and STH). Others are zoonotic, being transmitted from animals to humans (anthrax, plague, rabies).

Neglected tropical diseases are of major public health importance as they cause devastating morbidities and death. Some of these cause permanent disabilities resulting in disfigurement of the affected individuals (leprosy, trachoma, and Lymphatic filariasis). As a result the affected people are segregated in the communities, lose or fail to get employment and their lives in general are compromised. Some of the NTDs are chronic in nature whilst others cause death (rabies and anthrax) if cases do not receive health care management until the onset of clinical symptoms and can also spread rapidly if left uncontrolled.

Other NTDs including schistosomiasis and STHs cause exacerbating morbidities especially in pre-school and primary school age children leading to impaired cognitive potential and reduced school performance, high unemployment rates and reduced socio-economic development of adults in the affected communities. Reduced growth as a result of impaired nutrition in pre-school and primary school age children is commonly associated with NTDs. Reproductive women with schistosomiasis are at greater risk of contracting HIV from their infected partners. Neglecting NTDs therefore results in deaths, unemployment, failed economy, compromised reproductive health and failure of any endemic country or region to achieve the Millennium Development Goals.

Neglected tropical diseases specified in Botswana include schistosomiasis, STH, trachoma, leprosy, anthrax, and rabies. HAT was endemic in the country but for over two decades now, no single case has been report leading to a suspicion that the disease has been eliminated. Hence the only currently known NTDs of public Health Importance in Botswana are schistosomiasis, STH, trachoma, LF and leprosy and following WHO strategic agenda for the elimination of NTDs by 2020, these diseases will be targeted for elimination in the country's master plan.

All the suspected NTDs in the country including Schistosomiasis, STHs, Trachoma and LF have not been mapped although cases are reported from some areas in the country. The government of Botswana through the Ministry of Health and the Ministry of Education and Skills Development currently prioritize the control of all NTDs of Public Health Importance in the country and hence the two Ministries collaborated in developing this Master plan. The strategy is to map out the disease distribution and initiate effective control measures until the disease are eliminated in Botswana. The development of this Master plan involved inputs from the Ministry of Health, Ministry of Education and Skills Development, the Health

Research Unit, Institute of Health Sciences, University of Botswana, Central medical stores and expert advice from the World Health Organization. This tool will be used in conjunction with the NTD control policy in prevention and control of NTDs by all stakeholders throughout the country, thereby contributing to an effective national NTD control program. The document will be reviewed and revised as and when necessary to align it with any new developments.

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PART 1: SITUATION ANALYSIS

1.1 COUNTRY PROFILE

Botswana is a landlocked country in Southern Africa, sharing borders with South Africa to the south and south-east, Namibia to the west and north-west, Zimbabwe to the north-east and Zambia to the north. The country has a mean altitude of 1,000 meters above sea level, with a total land area of approximately 582,000 km², of which only 5% is arable. Most of the land consists of semi-desert scrubland, with the Kalahari Desert to the west. The mean annual rainfall ranges from 250 mm in the South-west to 650 mm in the North-east.

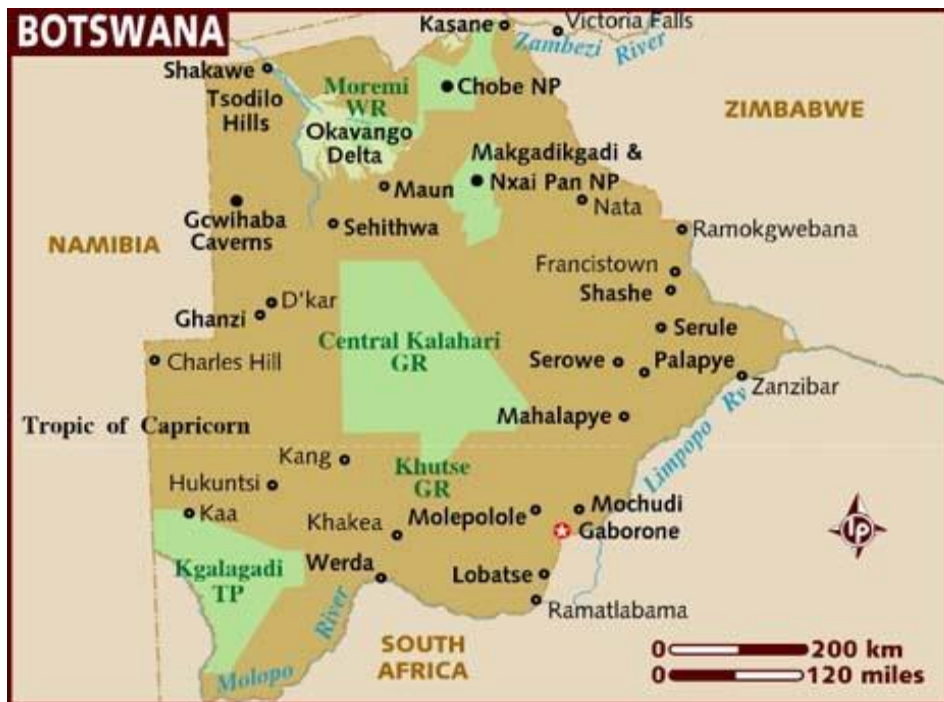


Fig.1:Map of Botswana showing its geographical location, cities, main towns, rivers and selected archaeological sites.

1.1.1 Administrative, Demographic and Community Structures

1.1.1.1 Demography

Based on the latest census (2011) Botswana registered a population of 2 038 228 persons, an increase of 1.9% from the 2001 census. The population density increased from 3 persons per square kilometre in 2001 to 3.5 persons per square kilometre in 2011 indicative of diminishing growth rate over time. The percentage of the population living in cities and towns dropped from 23% to 22% between 2001 and 2011. This drop in the urban population may be attributable to a housing shortage in cities that pushed people to live in surrounding villages. Regarding age distribution, 34% of the population is under the age of 15 years and 6% is over the age of 65 years. Gender distribution shows 90 males to 100 females. Just over 27% of the population comprises of women of childbearing age while children aged under 5 years constitute 12% of the population. The annual population growth rate stands at 2.4% and the total fertility rate is 2.9%. The majority of the population lives in the eastern part of the country. In 2001, 54.2% of the population lived in urban

areas. In 1998, life expectancy at birth was 64.3%. The advent of the HIV/AIDS pandemic had an adverse impact which saw a significant decline to 55.6 years by 2006.

Are you able to draw a population pyramid for the country's demographic data? If you can, please you may add it here.

Table 1. National population data, schools and health facilities at District Level

Region	District	No. of villages or communities *	Total population	Under fives	5-14 years	No. of primary schools	No. of peripheral health facilities
North	Bobirwa	17	71936	127039	15682	31	23
North	Boteti	16	66907	118158	14586	28	26
North	Chobe	9	23347	41231	5090	11	16
North	Francistown	1	98961	174765	21573	23	20
South	Gaborone	1	231592	408991	50487	45	28
South	Gantsi	17	43355	76565	9451	23	14
South	Goodhope	49	54831	96832	11953	27	37
South	Southern	32	160944	284227	35086	57	25
South	Kgalagadi North	14	20476	36161	4464	17	16
South	Kgalagadi South	21	30016	53008	6543	25	23
South	Kgatleng	22	91660	161872	19982	38	31
South	Kweneng East	33	256752	453424	55972	73	52
South	Kweneng West	24	47797	84410	10420	28	25
South	Lobatse	1	29007	51226	6324	21	9
North	Mahalapye	37	118875	209933	25915	54	45
North	Ngamiland	19	90334	159530	19693	48	36
North	North East	43	60264	106426	13138	43	41
North	Okavango	32	61950	109404	13505	24	28
North	SelibePhikwe	1	49411	87260	10772	15	13
North	SerowePalapye	44	180500	318763	39349	72	55
South	South East	5	85014	150135	18533	23	11

North	Tutume	41	150975	26662 2	3291 3	65	33
South	Mabutsane	11	11323	19996	2468	11	9
South	Jwaneng	1	6545	11558	1427	10	13

Sources: Botswana Central Statistics, Master Health Facility list and MoESD primary school registration list

1.1.1.2 Administrative structure of Botswana

The Republic of Botswana has been independent since 1966. The constitution upholds universal adult suffrage, a legislature, an independent judiciary and an executive presidency. There are 12 administrative districts and 28 health districts. Local authorities (districts) receive grants from the central government as their main source of income, but are autonomous bodies.

Botswana is administratively divided into 2 regions namely Northern region and Southern region. The northern region is subdivided into 17 districts namely Okavango, Ngami, Chobe, Ghanzi, Boteti, Tutume, North East, Greater Francistown, Tonota, Selibe-Phikwe, Bobirwa, Palapye, Mahalapye, Serowe, Charleshill, Mabutsane, Jwaneng, Kgalagadi. The southern region is subdivided into 11 districts namely South, Kgalagadi North, Kanye, Moshupa, Goodhope, Lobatse, South East, Kweneng East, Kweneng West, Greater Gaborone, Kgatleng. Total Botswana has 28 districts.

1.1.1.3 Social Organization of Communities

Settlement pattern

The rural population is characterized by permanent settlements that are nucleated or linear type and are normally organized into ethnic groups normally nucleated around a water body.

Community leadership

The community leadership is two pronged consisting of the traditional and political leadership. Under the traditional leadership, the Chief is the leader of a tribe or defined settlement that includes several wards and villages. Under the chief the Village Headmen who are responsible for presiding over matters arising at village level. Political leadership in the rural communities is provided by ward councillors. However there are also Members of Parliament (MP) that are elected every five years by people in delineated constituencies.

Main Occupation of the community

The economy of the country is mainly agro- based. Farming activities, ranging from subsistence to commercial farming are therefore the main occupation of communities in rural and farming areas. Communal activities peak in summer and autumn when crops are grown and harvested both for consumption and for sale. In some settlements market gardening and irrigation is practiced all year round.

Preferred channel of communication

With the advent of modern communication technology, mobile telephones and internet are increasingly being used as a means of communication at the community level. Other means of communication include postal mail, telephone and radio. Radio coverage is throughout the country with different radio stations mainly stationed in the capital city Gaborone. Radio Botswana station which is owned by government covers the whole country. Almost every Botswana owns a radio.

The following is the summary of print and mass media channels in Botswana

The press

- Daily News - government-owned
- Botswana Guardian - Sunday newspaper
- Botswana Gazette - weekly
- Mmegi/The Reporter - private daily
- The Midweek Sun – weekly
- The Voice- weekly private
- Sunday Standard private
- Weekend Post private
- Ngami Times private
- Naledi private
- And local magazines

Television

- Botswana TV - state-run
- e-Botswana Television – private, commercial
- Multi-Choice Botswana - pay-tv

Radio

- Radio Botswana - state
- Radio Botswana 2 (RB2) - state
- Ya Rona FM - private
- Gabz FM - private
- Duma FM - private

News agency

- Botswana Press Agency (BOPA) - state-owned

Existing active association groups in the community

The existing association groups in the community include cooperatives and various church organizations that bring people together on a regular basis. In most districts, ward health teams, health centre committees and community health clubs exist to address local health problems. There are also youth and women groups usually for purposes of income generation.

1.1.2 Geographical Characteristics

Botswana is around 581 730 square kilometres. It is about the size of France or Texas, the southern state of the United States of America. It is relatively flat with an average elevation of 1000m. Most of the country is covered by the Kalahari Desert which occupies 70% of the country. The Largest inland delta in the world, the Okavango Delta lies in the northwestern

part of Botswana. It fills Lake Ngami and Thamalakane River (Ngamiland District) as well as Chobe River (Chobe District). These are the two districts most burdened by NTDs. Another geographical feature of Botswana is the Makgadikgadi pan; a large salt pan that is located in the northern part of the country.

Botswana's climate ranges from mild to semi-arid. The rainfall season is usually from October to April. The average annual rainfall is about 500mm per annum in the north eastern part of the country, to less than 250mm per annum in the other parts of the country. Some areas like Kasane can experience maximum rainfall of 650 mm. These climatic conditions in the north make it an ideal environment for the transmission and spread of NTDs.

Temperatures range from 32 degrees Celsius to 42 degrees Celsius in the summer and can fall to below 7 degrees Celsius in the winter. The lowest temperature occurs over the southern and south-western parts of the country. Occasionally, the country experiences early morning frost during winter season.

1.1.3 Socio- Economic status and indicators

Botswana is classified as an upper middle-income country. The mainstay of the economy is mining, particularly diamond mining. Other sources of foreign exchange are tourism and beef export. Tourism is increasingly becoming important in the country's economy, accounting for 10% of gross domestic product. The proportion of people living under US\$1 per day in 2003 was estimated at 23.5% (A). Income poverty is trending downwards sharply. Between 1993/94 and 2002/03, the poverty headcount ratio fell from 47% to 30.6% and is estimated to have fallen further to 23% by 2009. For the majority of Botswana, basic needs are met. The country's expansive social safety net regime ensures that the food needs of those with heightened vulnerability to hunger and malnutrition, e.g. destitute persons, orphans, and people living with HIV and AIDS, are met. Unemployment however, estimated at 26.2% of the labour force in 2008, up from 17.6% in 2005, is quite high, especially amongst the youth. Furthermore, a significant proportion of the population, 19%, depends on one type of welfare scheme or another, this being despite the high levels of literacy. Adult literacy and school enrolment ratios have risen rapidly since independence: the adult literacy ratio was 81% in 2003 whilst primary school age children are virtually assured access to 10 years of basic education.

1.1.4 Water and Sanitation

The Water Utilities Corporation (WUC) is a government-owned corporation that provides water and waste water management services in Botswana. WUC is responsible for delivery of water and wastewater services country-wide. The main source of water in rural-areas is from standpipes, which are either free or covered by a flat monthly service rate. In urban areas water is supplied through pipe borne water system.

In the urban setting, the water closet is the most common sanitary facility, whilst pit latrines are common in rural areas.

1.1.5 Transport and Communication

A national network of tarred roads connects all urban and major village settlements. Most urban roads, including those joining urban area settlements, are tarred. Most roads in remote areas are undeveloped. Botswana has got 888 kilometers of rail which serves various towns and connects the country to her neighbors. Botswana has rail links with Zimbabwe, South Africa and a proposed rail line to connect Botswana to Zambia and DR Congo was proposed. Most of the country's highways are paved and as a result, the unpaved highways in the country total up to 4.500 kilometers.

There are private transport companies which provide services throughout the country. Domestic flights to main cities in Botswana are provided for by the national airline *Air Botswana* and so are international flights which are timely scheduled by different airlines to various destinations from *Sir Seretse Khama International Airport* in Gaborone.

The current all-digital network comprising of 5300 km of microwave radio and fibre optic cables provide links for 13 main processors over a layout that allows for alternative routing of traffic should faults on direct routes occur.

1.2 Health System Situation Analysis

1.2.1 Health System Goals and Priorities

Botswana has universal health coverage, with free access to care for its citizens. The Ministry of Health (MOH) has oversight of national health care in Botswana. It sets broad policy directions, goals and strategies for health development and delivery.

Currently, Botswana does not have a comprehensive NTD programme. NTDs are housed within other programmes in the Ministry of Health; for example Leprosy is included under the Botswana National Tuberculosis Programme; Schistosomiasis and Soil-Transmitted Helminths are under Malaria Programme; Trachoma is under Prevention of Blindness Division; and Intestinal Worms are covered by Child Health Division.

Morbidity and mortality for all ages are dominated by infectious diseases that, together with AIDS and tuberculosis, account for 45% of all deaths. However, deaths due to AIDS have declined during the past few years following effective antiretroviral therapy. Life expectancy at birth m/f (years, 2012) was 61/63 respectively.

Maternal mortality rate remains high, increasing from 140 per 100 000 live births in 2005 to 193 per 100 000 live births in 2007. However, HIV-specific maternal mortality has shown a decline from 43 per 100 000 in 2006 to 19 per 100 000 in 2007. A review of progress towards the Millennium Development Goals (1990–1994 and 2002–2006) showed significant progress in reducing the number of underweight children aged under 5 years and in increasing access to safe drinking water (see table). However, during the same period, mortality rate for infants and for children aged less than 5 years increased from 48 to 56 per 1000 and from 63 to 74 per 1000, respectively.

Although morbidity and mortality of non-communicable diseases in Botswana is not well documented, they are estimated to account for 31% of all deaths in the country. The most common ones are cardiovascular disease, hypertension, cancer, chronic obstructive pulmonary disease and diabetes. Their increasing prevalence has been attributed to changing lifestyles associated with urbanization.

Table 2: Major causes of Mortality of Public Health Concern – 2006 replace with recent data

Diseases/Conditions	Numbers	%
TB	731	6%
HIV	1985	17%
Other Infectious Diseases	2474	22%
Cancers	553	5%
Anaemia	401	4%
Endocrine, Metabolic & Nutritional	874	8%
Cardiovascular Diseases	1233	11%
Respiratory Diseases	1448	13%
Digestive System Diseases	400	3%
Nervous System Diseases	420	4%
Injuries/Trauma	324	3%
All other Diseases	603	5%

MOH, Health Statistics Report, 2006

2.2 Analysis of the overall Health system

Botswana health services are delivered in public, private for-profit, private non-profit and traditional medicine practice settings. The public sector is the main provider of services delivered through a network of health facilities using the primary health care approach. Other health care providers complementing the public sector are faith-based organizations (two district hospitals), mining companies (three hospitals) and a few nongovernmental organizations. The health facilities are spread over 29 health districts operated by the district health management teams.

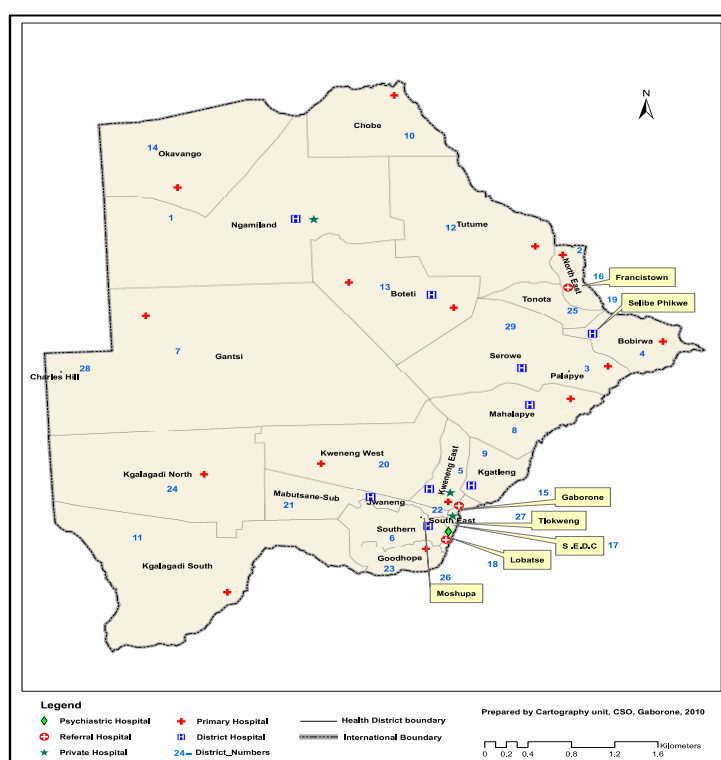


Figure 2: Administrative Map Botswana showing distribution of Health Care Facilities by District

The health care delivery system is based on the primary health care model with health care being accessible and affordable to all people at a highly subsidized fee. Through a network of health facilities ranging in sophistication from referral hospital at the highest level through district and primary hospitals at the middle level, to health posts and mobile stops at the lowest level, 96% of the urban population lives within 8 km of a health facility. In addition to the network of health facilities, there are over 800 mobile services to populations in remote areas or those outside the 8 km radius of a health facility.

Table 4: Percentage of population with access to primary care services.

	Between 8 and 15 km	Between 5 and 8 km	Within 5 km
Urban	n.a.	4	96
Rural	11	17	72
Total population	5	11	84

Source: Statistics in brief. Gaborone, Government of Botswana, Central Statistics Office, August 2007

1.2.2.1 Health Work force

Shortage of trained and qualified staff remains one of the major bottlenecks towards the availability of quality healthcare in Botswana. There are also increasing demands on the already over-stretched skilled workforce as a result of the additional programmes and projects, in particular those related to HIV/AIDS. Although the rate of attrition is negligible, there is high turnover of staff at all levels of the health sector. Other challenges relate to inequitable deployment and failure to optimise the existing skill mix. The training of health care professionals is provided by a combination of in-country and out-of-country institutions,

with heavy reliance on out-of-country arrangements. There are eight training institutes for nurses and some areas of health technologies only. In addition, the University of Botswana produces limited number of nurses and some health technologists. One achievement has been the establishment of a medical school in 2007 with the first intake of students in 2009. The school will slowly relieve the acute shortage of doctors. Due to this limited production of skilled health professionals, a large number of expatriates are deployed in the health sector. The inequitable distribution of human resources particularly affects NTD endemic areas that are generally hard-to-reach and hard-to-stay in for health workers. Due to this, use is made of VHT /community medicine distributors for MDA for control of some NTDs. However, the shortage of health workers remains a huge challenge for case management NTDs that require qualified health workers.

1.2.2.2. Health Information

A well-functioning Health Information Management System (HIMS) is critical for monitoring and evaluation of the performance of the health sector. Currently, there are various challenges related to timely data collection, collation, analysis, interpretation and dissemination. Not all the health systems data are captured and stored in a database. The weak referral and supervisory framework for health facilities and management units are contributing to a failure to ensure timely reporting, cleaning, analysis, interpretation and use of data.

Currently data use for planning purposes or programme improvement is limited, as different information systems (epidemiological, logistics, human resource, health statistics and finance) are incompatible and poorly coordinated. Lack of use of the information also undermines the quality of information. The existing monitoring and evaluation processes are fragmented.

The lower level health facilities within a district collect health related information which is later consolidated and submitted to the DHMT. The DHMT in turn consolidate the information received and thereafter send it to the National Office. At the DHMT the information received from the health facilities is consolidated and subsequently submitted to the Integrated Disease Surveillance Response (IDSR). NTDs are reported as notifiable diseases and subsequently the appropriate division takes further steps. This system can be strengthened by composing an NTD database and consolidating all NTDs under one division.

1.2.2.3 Medical products

The Botswana National Drug Policy (BNDP) and its implementation plan were appraised in 2002. Medicines regulation and control is mostly based on the provisions of the Drugs and Related Substance Act (DRSA) of 1992 and regulations there to of 1993 which are currently being amended to align them with the BNDP 2002 and other health related Acts and policies. There is a National Drug Quality Control Laboratory that tests medicines, condoms and gloves for conformity to specifications, but it is resource- constrained and not capable of satisfying public and private sector testing needs. The major challenge in the area of medicine regulation has been shortage of staff at the Drugs Regulatory Unit to register medicines and conduct drug control activities; inadequate legislation to deal with importation and distribution of counterfeit medicines; prescribing and dispensing by unqualified people contrary to provision of the DRSA; and in adequate regulation and control of traditional medicines.

Supply chain management system at all hospitals and clinics are weak leading to erratic availability as well as shortage of essential drugs. There are attempts to reform the Central Medical Stores to improve its performance and ensure universal accessibility of essential medicines to all people living in Botswana.

1.2.2.4 Health Financing

According to the National Health Accounts Report, Government contributed about 68.1% of Total Health Expenditure (THE) in 2009, which represented about 17.8% of total government budget. The percentage of Gross Domestic product (GDP) spent on health, was 4.3% in 2009. The share of out of pocket spending declined from 16% to 4.4% between 1995 and 2009 and the share of donor support increased from 4% to 11% mainly due to increased funding for HIV/AIDS. A nominal cost recovery system is in place for services in the public facilities, with exemption for vulnerable population. Other additional charges include admission fees, ambulance charges and other charges for private patients and non-citizens.

1.2.2.5 Leadership and Governance

The government of Botswana is committed to ensuring quality health care service, which is affordable and accessible, to all people living in Botswana. The government's focus is on improving health status and reducing health inequalities through expanding access to social safety networks and promoting affordable services for every household. The Ministry of Health in Botswana has the responsibility for the overall improvement and maintenance of national health. It sets broad policy directions, goals and strategies for health development and delivery.

The Ministry of Health is headed by the Minister, who provides political leadership. He is assisted by the Assistant Minister. The Permanent Secretary is the head of the executive arm of the Ministry. Under the Permanent Secretary there are four Deputy Permanent Secretaries one being the Director of Health Services and the remaining three heading Clinical Services, Preventive Services and Corporate Services. The Ministry has 11 departments led by Directors (see figure).

The departments are:

- Policy, Planning, Monitoring and Evaluation
- Health Sector Relations and Partnership
- Ministry Management
- AIDS Prevention and Care
- Clinical Services
- Public Health
- Health Inspectorate
- Health Hub
- Corporate Services
- The Office of Strategy Management,

Most of the NTDs are housed under divisions in the department of Public Health, there is no specific unit managing NTDs. There no NTD Focal person both at the National and District Levels. Furthermore, there is no mechanism of coordination between the different divisions that have an NTD component. The divisions run independent of each other, hence the reason why there is a need to develop a more cohesive and comprehensive integration of NTDs for reporting and monitoring and evaluation purposes.

The responsibility for all public health facilities is taken care by the 28 district health management teams, each of which has a designated geographical area. District health management teams are organized into curative, preventive and corporate services and have a mandate of developing plans that are aligned to the national strategy and negotiate a budget with the Ministry of Health annually. Entrusting all health care delivery to district health management teams ensures decentralization of the delivery of services to communities.



Figure 3: Organogram of the Ministry of Health and the NTD Coordination

1.3 NTD SITUATION ANALYSIS

1.3.1 EPIDEMIOLOGY AND BURDEN OF DISEASE

Neglected tropical diseases of public health significance in Botswana include Schistosomiasis, Soil Transmitted Helminthiasis (STHs) and Trachoma. Human African Trypanosomiasis (HAT) used to be in the country but it is no longer of public health importance. Leprosy is known to exist and a programme to control it is in existence, but like other NTDs, its nation-distribution and magnitude of the problem has yet to be determined. The routine health information system records cases of those seen at health facilities. A few other tropical diseases than those mentioned are have been recorded in various parts of Botswana but are of a magnitude that does not warrant deliberate control programmes. Such diseases tend to be concentrated in the northern part of the country where the moisture conditions of the 20 000 km² Okavango delta present a favourable environment for their proliferation and transmission.

The routine health information system provides data on all conditions and diseases seen both in outpatient and inpatient departments of the public health system network. The prevalence and distribution of the diseases therefore vary from time to time, depending on the rainfall and water flow pattern.

The control of such diseases has been integrated into the primary health care services of the districts in which they occur but monitoring of, and vigilance for, such diseases are continued. With the envisaged expansion of irrigation farming in the Okavango delta, prevalence rates for waterborne diseases may increase

1.3.1.1 Schistosomiasis

The invading parasites in Botswana are *Schistosoma mansoni* and *S. haematobium*. Prevalence rates fluctuate depending on rainfall and have been as high as 80% or as low as 20% in defined geographical areas. Since 1983, schistosomiasis control has been integrated into the primary health care services and this has kept the disease under control though there is no data to verify this claim.

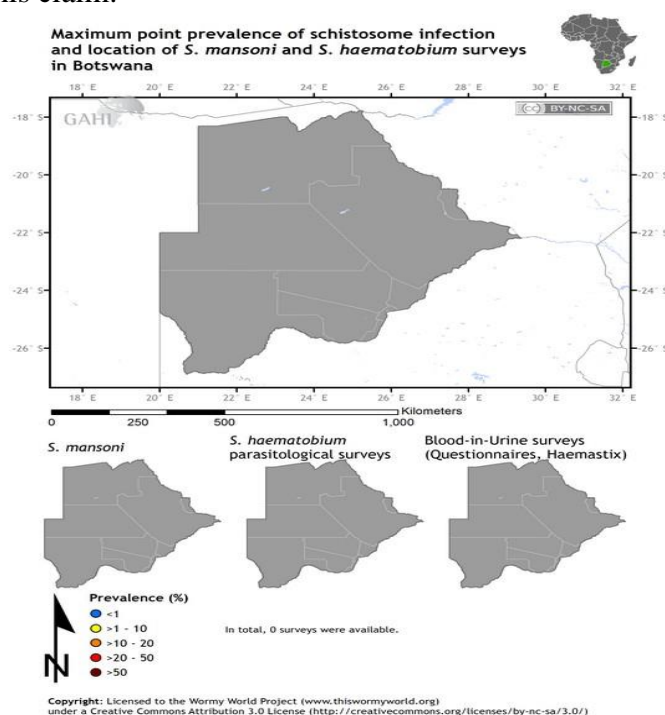


Figure 4: Map of Botswana showing historical mapsSchistosomiasis distribution in Botswana.

Table 5: The Currently known Schistosomiasis distribution in the Country

District	Location/ Site	Prevalence (numbers/ rate/proport ion)	Study method	Year of survey and reference	GPS coordinates of study location
Okavango	Okavango	5%	Kato Katz and urine filtration	2010 MoH Report (unpublished)	Not Done
Ngami	Ngami	5%	Kato Katz and urine filtration	2010 MoH Report (unpublished)	Not Done
Chobe	Chobe	5%	Kato Katz and urine filtration	2010MoH Report (unpublished)	Not Done
Francistown	Francistown	5%	Kato Katz and urine filtration	2010 MoH Report (unpublished)	Not Done

1.3.1.2 Trypanosomiasis

Trypanosomiasis has been a public health problem in the past in Chobe and Ngami districts. However, there have been no recent cases since a control programme based on treatment of infected people was successfully implemented between 1985 and 1993, when the prevalence reduced from 28.7% to 6.7%. Since then, notification has been relaxed and it is possible the disease has been eliminated.

Table 6: Trypanosomiasis disease distribution in the Country

District	Location/ Site	Prevalence (numbers/ rate/proportion)	Study method	Year of survey and reference	GPS coordinates of study location
Ngami	Ngami	6.7%	Unknown	1985 -1993 WHO - Botswana: diseases Analytical_summary	Not Done
Chobe	Chobe	6.7%	Unknown	1985 -1993 WHO - Botswana: diseases Analytical_summary	Not Done

1.3.1.3 Leprosy

Due to low endemicity, the country adopted the Suspect and Refer policy for leprosy control in the year 2000. Awareness of leprosy is maintained among peripheral health workers who refer any suspected leprosy cases to the provincial hospital for diagnosis and management. In a survey carried out in 1991 on 8235 school children and 799 contacts of 127 index cases of leprosy, a point prevalence of registered leprosy cases on multidrug therapy in five districts in northern Botswana was 0.18 per 1000. Forty-four cases of active leprosy were identified and 32% of those were newly identified during the survey. The majority of leprosy cases were found in Ngami and Chobe districts other districts affected include Boteti, Tutume, Mahalapye and Palapye. A steady decrease in case finding of leprosy has been observed over the last decade. The 1999 leprosy review showed that prevalence was less than one case per 100 000 population. In 2010 and 2011, only four and six cases respectively were notified.

Table7: The Currently known Leprosy distribution in the Country

District	Location/ Site	Prevalence (numbers/ rate/proportion)	Study method	Year of survey and reference	GPS coordinates of study location
Okavango	Nxamasere Seronga Ikoga Jao Flats	6	Microscopy	2013 Leprosy Manual 2013	Not done
Ngami	Maun Shorobe	8	Microscopy	2014 Leprosy Manual 2013	Not done
Southern	Kanye	1	Microscopy	Leprosy Manual 2013	Not done
Tutume	Dukwi Tsokotshaa Dzoroga	3	Microscopy	2011 – 2013 Leprosy Manual 2013	Not done
Palapye/Ma halapye	Lerala	3	Microscopy	2013 Leprosy Manual 2013	Not done

1.3.1.3.1 Challenges to the leprosy control programme in Botswana

There was an enormous amount of pressure on the combined TB and Leprosy control programme. This has resulted in more concentration being on tuberculosis and HIV/AIDS control strategies. As a result their participation in leprosy control programme/activities such as follow up and case detection is limited. Other challenges include:

- **Loss of Clinical Skills** - There are very few health workers with the skills of diagnosing and managing leprosy patients because of low cases detected per given time and staff attrition and high attrition of experienced health workers.
- **Late diagnosis** - Many cases of leprosy are diagnosed late, when they are already in grade two leprosy disability grading, because health workers have limited information on leprosy diagnosis.

1.3.1.4 Trachoma

Trachoma is among the PCT diseases listed in Botswana. Although the disease used to be suspected be endemic in most areas with inadequate safe water, there is no data reported specifically on trachoma in Botswana. The disease is included under Blindness unit, Public Health department; currently the statistics do not specify trachoma. Thus there is no specific statistical data for its existence. Mapping is needed to rule out the disease in the country. The map below shows the districts in which trachoma used to be suspected.

Suspected trachoma endemic areas in Botswana.

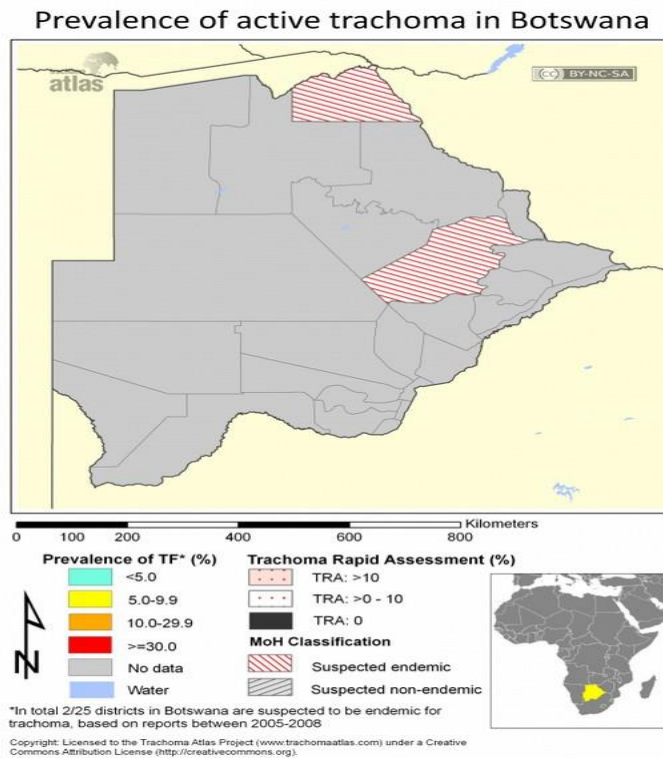


Figure 5: Map of Botswana showing previous mapping of Trachoma

Map courtesy of the Global Atlas of Trachoma

1.3.1.4 Soil-Transmitted Helminths

Although the disease used to be suspected in some areas, there is no statistics reported specifically for Soil-transmitted Helminths in Botswana.

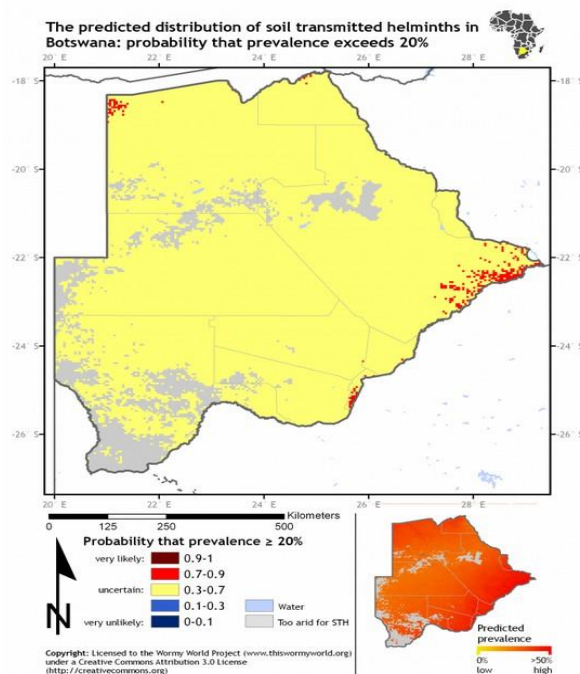


Figure 6: Map of Botswana showing previous mapping of Soil Transmitted Helminths

Based on the known disease distribution presented in the above tables (table 3), Table 4, shows co-endemicity distribution of the NTDs in Botswana.

Table 8: NTD co-endemicity

Region	District	Diseases				
		Preventive Chemotherapy				Case management
		SCH	STH	TRACHOMA	LF	LEPROSY
North	Bobirwa	M	M	M	M	+
North	Boteti	M	M	M	0	-
North	Chobe	M	M	M	M	-
North	Francistown	M	M	M	0	-
South	Gaborone	M	M	M	0	-
South	Gantsi	M	M	M	M	-
South	Goodhope	M	M	M	0	-
South	Southern(Moshupa/Kanye)	M	M	M	0	+
South	Kgalagadi North	M	M	M	0	-

South	Kgalagadi South	M	M	M	0	-
South	Kgatleng	M	M	M	0	-
South	Kweneng East	M	M	M	0	-
South	Kweneng West	M	M	M	0	-
South	Lobatse	M	M	M	0	-
North	Mahalapye	M	M	M	0	+
North	Ngamiland	M	M	M	0	+
North	North East	M	M	M	M	-
North	Okavango	M	M	M	M	+
North	SelibePhikwe	M	M	M	0	-
North	Serowe-Palapye	M	M	M	0	-
South	South East	M	M	M	0	-
North	Tutume	M	M	M	M	+
South	Mabutsane	M	M	M	0	-
South	Jwaneng	M	M	M	0	-

Key: M= Not mapped 0=Not endemic += At risk - = Not at risk

The mapping needs for the identified NTDs in Botswana are summarized in table 5, based on the known distribution of the NTDs and the programme activities.

Table 9: NTD Mapping Status

Endemic NTD	No. of districts suspected to be endemic	No. of districts mapped or known endemicity status	No. of districts remaining to be mapped or assessed for endemicity status
Schistosomiasis	7	0	28
Soil Transmitted Helminthiasis	28	28	28
Trachoma	2	2	26
Leprosy	6	22	6
LF	6	0	6

1.3.2 NTD PROGRAMME IMPLEMENTATION

The NTD status in Botswana is currently not known and is suspected to be very low. For this reason, this plan is intended for all the districts in the country for all the suspected NTDs including Schistosomiasis, STH, LF and Trachoma. However, ahead of the mapping, site visits will be carried out to establish any known transmission areas and identify ecological zones that are likely to be supporting transmission. The identified areas will be given special attention during mapping.

Table 6, shows summary of past and ongoing interventions to control specific NTDs in the country. There is some historical evidence that in 1985, SCH programme existed in four districts. The Control efforts were sustained up to 1991, when Botswana reached elimination status. In 2013, the Child Health Division initiated regular deworming of school age children and this on-going programme is implemented in all twenty-eight districts. Currently, The programme targets mainly under five children aged 1-5 years, and it has been incorporated in the vaccine and child wellness programme. As illustrated in Table 6, information on the proportion of targeted population covered is still missing even in the programmes that are established, highlighting the need for operational research in NTDs and the need for mapping in the country.

Table 10: Summary of intervention information on existing PCT programme

NTD	Date programme started	Total districts targeted	No. of districts covered (geographical coverage*)	Total population in target district	No. (%) Covered	Key strategies used	Key partners
SCH	1985	4	100		Not Known	MDA	MoH, MLG, WHO
STH	2013	28	0		Not known	MDA	
LF	Not started	6	0		Not known		
Trachoma	Not started	28	0		Not known		

Leprosy is the only case management program in the country and is managed under the Botswana National Tuberculosis Programme (BNTP). This programme is well established, with 100% coverage of all targeted districts, which are mainly in the northern part of the country.

Table 11: Summary of intervention information on existing CM programme

NTD	Date programme started	Total districts targeted	No. of districts covered (geographical coverage*)	No. (%) Covered	Key strategies used	Key partners
Leprosy	2003	6	100	6	Passive and active Case finding, health facility treatment	MOH, WHO

1.3.3 GAPS AND PRIORITIES

An analysis of the Botswana's country profile, health service and delivery systems and the implementation status has identified the following gaps and priorities that need to be addressed in order to achieve the country's NTD goals.

1.3.3.1 Gaps

- Non-existence NTD programme
- Inadequate coordination of the NTD control activities. Lack of coordination between the different divisions that house different NTDs
- Inadequate sectorial collaboration,
- Inadequate advocacy for NTDs among relevant Government officials, bilateral organisations, NGOs and private sector, Low community awareness of NTDs
- Lack of budgetary line for NTDs at National and District levels hence there inadequate funds for implementation of planned NTD activities
- No M&E framework for tracking progress made by programs
- Poor Sanitation and low latrine coverage hence high re-infection rates
- Cross border transmission remains a challenge.
- Inadequate Surveillance in districts, hence underreporting of some NTDs
- Some suspected endemic districts not mapped for NTDs
- Inadequate specialized eye care and other NTD morbidity management skills
- Majority of the District Level Health workers are not oriented on NTDs (misdiagnosis)

1.3.3.2 Priorities

- Accelerate advocacy to relevant officials especially in Ministries of Health, Education, to parliament, and district officials for community mobilization and sensitization & for creation of NTD budgetary lines, Development of an effective advocacy strategy for NTDs
- Development of an effective communication strategy for NTDs
- Strengthen social mobilization for greater impact on communities
- Need for country-wide mapping of all NTDs to identify distribution, magnitude and overlap of different NTDs.
- Hasten completion of the M&E framework
- MoH should establish inter-sectoral collaboration with relevant ministries
- Design alternative strategies for delivery of services in the post conflict districts (e.g. NTD program should work with organizations working in the conflict areas such as Red Cross)
- Strengthen the Community Directed Interventions
- Improvement of NTD coordination in the country
- Consolidation or improvement of collaboration of the different departments that house NTD control programmes,
- Conduct operational research as part of NTD program implementation
- Advocate for cross border intervention Intensify PTS and integrate with the HMIS.
- Conclude all mapping before end of 2015
- MoH should ensure that hospital based drugs for NTDs especially Trachoma are available in the basic drug kit
- Budget adequately for implementation of the SAFE strategy
- Build capacity across the board for effective NTD program implementation
- Develop guidelines for cessation of MDAs where impact assessment has been done

Table 12: SWOT ANALYSIS

Weakness	Strengths counteracting	Opportunities counteracting
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	weaknesses	Weaknesses
<ul style="list-style-type: none"> • Nonexistence NTD programme • Lack of coordination between the different divisions that house NTD components • Health workers not sensitized • Low community awareness of NTDs • Inadequate data collection, handling, management and reporting on NTDs 	<ul style="list-style-type: none"> • NTDs housed under other units within Public Health Department • Staff available to coordinate NTDs activities • Health workers willing to manage • Available information on distribution of most of the targeted disease at program level • Individual Unit that housed NTDs collect data 	<p>Establishment of an NTD unit</p> <ul style="list-style-type: none"> • appointment of a single NTD coordinator to harmonize NTD control efforts • Appointment of NTD focal person • Training /sensitizing Health Workers on NTD control • Conduct mobilisation campaigns, • Harmonization of NTD data collection tools • Creation of a Single NTD Data handling&harmonization with HMIS
Threats	Strengths counteracting threats	Opportunities counteracting threats
<ul style="list-style-type: none"> • Inadequate funding due to competing interests from other activities within Units that house NTDs • Inadequate support to CSOs 	<ul style="list-style-type: none"> • Little funding available • CSO willing to support NTDs activities 	<ul style="list-style-type: none"> • Creation of NTD budgetary line at the National and district levels • Harmonized incentive schemes for community support/participation in NTD Programs

PART TWO: NEGLECTED TROPICAL DISEASES STRATEGIC AGENDA

2.1 Overall NTDs Programme Mission and Goals

2.1.1 Mission

To develop and implement sustainable integrated national NTD programme leading to elimination and eradication of targeted NTDs in Botswana by 2020 in line with WHO AFRO strategic plan.

2.1.2 Vision

To successfully implement an integrated NTDs programme for the elimination of NTDs to ensure that the people of Botswana are free of NTDs.

2.1.3 Strategic Goal

To eliminate Neglected Tropical Diseases in Botswana by 2020.

2.2. Guiding principles and strategic priorities

There are four PCT diseases: Schistosomiasis, STHs, trachoma and LF and a single case management disease (leprosy). However the burden of these diseases is not fully known because mapping has not been done. In the next 5 years, the program intends to ensure that all school age children and high risk communities are free of schistosomiasis and STHs, and that communities are free of trachoma, LF and Leprosy. This will be a consultative process involving all stakeholders in transparent, inclusiveness and community engagement in line with the World Health Organization (WHO) African region. Four strategic priorities, listed below and summarized in table 9, have been included in the National NTD control strategic framework.

1. Strengthen government ownership, advocacy, coordination and partnerships for the management and control of NTDs.
2. Enhance planning for results, resource mobilization and financial sustainability of the national NTDs control programme.
3. Scale up access to interventions, treatment and systems capacity (service delivery).
4. Enhance NTD monitoring and evaluation, surveillance and operational research.

Table 13: Strategic Framework Summary

Strategic Priorities	Strategic objectives
Strengthen Government, Ownership, Coordination and Partnerships	Establish and Strengthen coordination mechanisms for the NTDs control at national, and district levels in Botswana
	Strengthen and foster partnerships for the control, elimination and eradication of targeted NTDs at, national, district and community levels.
	Enhance regular reviews of NTDs performance and the use of lessons learnt to enhance advocacy, awareness and effective implementation of targeted interventions.
	Strengthen advocacy visibility and profile of NTDs for the control, elimination, and eradication interventions at all levels in Botswana
Enhance Planning for Results, resource mobilization and financial sustainability of National NTD control.	Develop a comprehensive and integrated multi-sectoral, multi-year strategic plan for the control, elimination and eradication of the targeted NTDs.
	Enhance resource mobilization approaches and strategies at national and district levels for NTD control interventions
	Strengthen the integration and linkages of NTDs control and financial plans into sector –wide and national budgetary and financing mechanisms
	Develop a national NTD policy and elaborate guidelines, job aides and tools to guide effective policy implementation
Scale up access to interventions, treatment and systems capacity (service delivery).	Scale up an integrated preventive chemotherapy program, including access to STHs, Schistosomiasis, LF and Trachoma interventions
	Scale up integrated case-management-based diseases interventions, especially for leprosy and other zoonotic diseases
	Strengthen capacity at national and district levels for NTD management and implementation and accelerate implementation of integrated mapping of NTDs
	Establish integrated vector management for targeted NTDs
Enhance NTD Monitoring,	Enhance monitoring of the national NTDs control performance and outcome

Strategic Priorities	Strategic objectives
Evaluation, Surveillance and Operations Research	Strengthen the surveillance of NTDs and strengthen the response and control of epidemic prone NTDs
	Support operational research, documentation and evidence to guide innovative approaches to NTD control interventions
	Establish integrated data management systems and support for NTDs at national and districts level as part of the global NTDs data management system and Global NTDs Plan

2.3 National Programme Goals, Objectives, Strategies and Targets

The following table provides global and national goals, objectives, strategies and delivery channels to achieve the elimination of NTDs.

Table14: Summary of NTDs diseases specific goals and objectives

NTD PROGRAMME AND GLOBAL GOAL	NATIONAL GOALS	OBJECTIVES	INTERVENTIONS	DELIVERY CHANNELS	TARGET POPULATION
Schistosomiasis Control GOAL: To eliminate Schistosomiasis by the year 2020	MAP the whole country by 2015 To reduce prevalence and morbidity of schistosomiasis by 80% by 2017 through MDA	To use MDA to regularly treat 75% of primary-school aged children every year To treat high risk communities at least once each year. To prevent and manage disability	MDA; School-based schistosomiasis health education Advocate for safe water and sanitation Vector control	School-based distribution of drugs in conjunction with existing health-care infrastructure Community based	Primary and Secondary school-aged children High transmission (risk) foci

NTD PROGRAMME AND GLOBAL GOAL	NATIONAL GOALS	OBJECTIVES	INTERVENTIONS	DELIVERY CHANNELS	TARGET POPULATION
		due to severe infection from schistosomiasis			
STH Control GOAL: Treat at least 75% of all school aged children at risk by 2020	To reduce prevalence and morbidity of STHs by 80% by 2016 through MDA	To use MDA to regularly treat 75% of primary-school aged children every year To prevent STH transmission through health, sanitation improvement and safe water supply, manage of disability due to severe	MDA; School-based STH education Health education and promotion, Advocate for safe water and sanitation Community hygienic practices	School-based distribution of drugs in conjunction with existing health-care infrastructure Community, radio, TV	Primary and Secondary school-aged children All age groups

NTD PROGRAMME AND GLOBAL GOAL	NATIONAL GOALS	OBJECTIVES	INTERVENTIONS	DELIVERY CHANNELS	TARGET POPULATION
		infection from STHs			
Leprosy GOAL: Early detection and early treatment for effective control; increasing surveillance and control	Identify and manage all cases of leprosy in Botswana	To accurately find, diagnose, and manage all cases of leprosy	Train health personnel to diagnose and manage leprosy Provide diagnostic equipment to health facilities and appropriate and prompt medication to patients. Mass communication to sensitize the community	Health facility-based case detection and management	All Batswana with leprosy
Trachoma GOAL: To eliminate trachoma as a blinding disease by 2020.	To eliminate trachoma as a public health problem through the SAFE	Determine the distribution of trachoma in Botswana Implement an	Implement an effective SAFE strategy Gather trachoma data from district and central hospital records Conduct interviews/KAP studies	SAFE Approach: Hospital based management of	All Batswana with trachoma

	strategy	effective SAFE strategy especially appropriate treatment strategies (MDA, education) in affected communities	<p>to survey the community in regard to trachoma</p> <p>Monitor prevalence and trachoma risk behaviours</p> <p>Train health personnel in trachoma surveillance and management</p> <p>Advocate for hygienic practice in communities and for provision of sanitary facilities</p> <p>Ensure hospitals are equipped to provide appropriate surgeries</p> <p>Enact necessary MDA with azithromycin in endemic communities</p>	<p>surgical cases</p> <p>Community-based promotion of hygiene and health education</p>	
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NTD Programme	Objective	Key Indicator	Baseline	Target	Milestones				
					Year1	Year2	Year3	Year4	Year5
Schistosomiasis	<p>To achieve 100% Mapping of schistosomiasis</p> <p>Achieve 100% coverage of integrated MDA in endemic</p>	<p>Number of endemic districts implementing MDA</p> <p>% of treated people among the target communities, districts & at National level</p>	Nil	28 Districts	35%	72%	100%	100%	100%

NTD Programme	Objective	Key Indicator	Baseline	Target	Milestones				
					Year1	Year2	Year3	Year4	Year5
	<p>districts</p> <p>To interrupt transmission via vector control and improved water and sanitation</p> <p>Effective Health Education messages in 100% of affected communities</p>								
STHs	<p>To achieve 100% mapping for STH in Botswana</p> <p>To achieve 100% treatment coverage of in endemic districts</p> <p>To interrupt transmission through improved water and sanitation</p>	<p>Number of endemic districts implementing MDAs</p> <p>Results of treatment coverage rate in each district,</p>	Nil	28 Districts	35%	72%	100%	100%	100%

NTD Programme	Objective	Key Indicator	Baseline	Target	Milestones				
					Year1	Year2	Year3	Year4	Year5
Trachoma	To achieve 100% mapping of Trachoma in Botswana, To achieve 100% MDA in Endemic communities, districts.	MDA coverage in targeted at-risk populations Number of cases treated Number of trichiasis surgeries made	N/A	100%	20%	40%	60%	80%	100%

NA = Not Available

2.4 National Milestones

The table below shows the proposed milestones for each of the targeted NTDs in Botswana for 2015-2020.

2.4.1 LF ELIMINATION MILESTONES, 2015-2020

Indicators	2015	2016	2017	2018	2019	2020
1 Completed mapping of LF and determined LF endemic areas and the population at risk	6 (100%)					
2 Collection of baseline data in selected sentinel communities (ICT & night bleeding)	1(100%)	1(100%)				
3 Begin implementation of LF MDA in districts requiring LF MDA Before MDA endemic areas will be checked for absence of loasis	0 (0 %)	1(100%)	1(100%)	1(100%)	1(100%)	1(100%)
4 achieving 100% geographical treatment coverage in LF endemic districts	0 (0%)	1(100%)	1(100%)	1(100%)	1(100%)	1(100%)
5 Major urban areas with evidence of LF transmission under adequate MDA (Regional/State coverage is at least more than 65%)	0 (0%)	1(100%)	1(100%)	1(100%)	1(100%)	1(100%)
6 Conducted more than 5 rounds of MDA in all endemic IUs with regional/State effective treatment coverage is at least more than 65% and stopped MDA in at least 50% of LF endemic IUs under WHO criteria	0%	0%	0%	0%	0%	1(100%)
7 Conducted first TAS activities in at least 50% of LF endemic IUs after at least 5 rounds of MDA	0%	0(0 %)	0(0 %)	0(0%)	1(100%)	1(100%)
8 Conducted and Passed at least 2 TAS activities in 75% of IUs	0%)	0%	0%	0%	0(0%)	100%

9	Started passive surveillance and vector control activities in at least 75% of IUs.	1(100%)	1(100%)	1(100%)	1(100%)	1(100%)	1(100%)
10	Present “the dossier “ for in-country verification of absence of LF transmission	0%	0%	0%	0%	0%	28(100%)
11	Proportion and number of IUs where there is full coverage of morbidity-management services and access to basic care	0 (0%)	1 (100%)	1(100%)	1(100%)	1(100%)	1(100%)
12	Proportion and number of IUs where 75% of hydrocele cases benefitted from appropriate surgery	0(0%)	1(100%)	(100%)	1(100%)	1(100%)	1(100%)

2.4.2 SCH ELIMINATION MILESTONES

Indicators	2015	2016	2017	2018	2019	2020
1 Completed mapping of SCH and determined areas above intervention threshold and the Endemic population	28 (100%)	28(100%)	28 (100%)	28 (100%)	28 (100%)	28 (100%)
2 Data collection in selected sentinel schools only	28(100%)	28(100%)	28(100%)	28(100%)	28(100%)	28(100%)
2 Begun implementation of school-based/community-based treatments in Endemic districts	0(0%)	28 (100%)	28 (100%)	28 (100%)	28 (100%)	28 (100%)
3 achieving 100% geographical coverage in SCH Endemic districts	0 (0%)	28 (100%)	28 (100%)	28 (100%)	28 (100%)	28 (100%)
4 Conducted 3-5 years of consecutive treatments in all Endemic districts with regional/State coverage more than 75%	0%	28 (100%)	28 (100%)	28 (100%)	28 (100%)	28 (100%)

5	Conducted first impact assessment activities in at least 50% of SCH Endemic districts after at least 3 years of consecutive treatments	0%	0%	(0%)	14 (50%)	14 (50%)	
6	Endemic districts achieving moderate morbidity control	0 (0%)	(10%)	14 (50%)	28 (100%)	28 (100%)	
7	Endemic districts achieving advanced morbidity control	0%	0%	(20%)	14 (50%)	28 (100%)	
8	Endemic districts achieving elimination of transmission			0 (0%)	(0%)	14 (50%)	28 (100%)

2.4.3 STH ELIMINATION MILESTONES,

	Indicators	2015	2016	2017	2018	2019	2020
1	Completed mapping of STH and determined areas above intervention threshold and the Endemic population	28 (100%)	28(100%)	28 (100%)	28 (100%)	28 (100%)	28 (100%)
2	Data collection in selected sentinel schools only	28(100%)	28(100%)	28(100%)	28(100%)	28(100%)	28(100%)

3	Begun implementation of school-based/community-based treatments in Endemic districts	0(0%)	28 (100%)	28 (100%)	28 (100%)	28 (100%)	28 (100%)
4	achieving 100% geographical coverage in STH Endemic districts	0 (0%)	28 (100%)	28 (100%)	28 (100%)	28 (100%)	28 (100%)
5	Conducted 3-5 years of consecutive treatments in all Endemic districts with regional/State coverage more than 75%	0%	28 (100%)	28 (100%)	28 (100%)	28 (100%)	28 (100%)
6	Conducted first impact assessment activities in at least 50% of STH Endemic districts after at least 3 years of consecutive treatments	0%	0%	(0%)	10 (100%)		10 (100%)
7	Endemic districts achieving moderate morbidity control	0 (0%)	(10%)	14 (50%)	28 (100%)	28 (100%)	28 (100%)
8	Endemic districts achieving advanced morbidity control	0%	0%	(20%)	14 (50%)	28 (100%)	28 (100%)

2.4.4 TRACHOMA ELIMINATION MILESTONES

Indicators	2015	2016	2017	2018	2019	2020
Completed mapping of trachoma and determined areas above intervention threshold and the target population	28 100%	28 100%	28 100%	28 100%	28 100%	28 100%
Begun implementation of community-based treatments in target districts	14 50%	75%	28 100%	28 100%	28 100%	28 100%
Achieved 100% geographical coverage in trachoma target districts	0%	75%	28 100%	28 100%	28 100%	28 100%
Conducted 3-5 rounds of treatments in all target districts with regional/State coverage more than 75%	0%	0%	75%	28 100%	28 100%	28 100%
Conducted first impact assessment activities in at least 50% of trachoma target districts after at least 3 rounds of treatments	0%	0%	0%	14 100%	14 100%	14 100%
Started passive surveillance in at least 75% of IUs.	28 100%	28 100%	28 100%	28 100%	28 100%	28 100%
Proportion and number of target districts where there is full coverage of case-management services	0%	2 50%	4 100%	4 100%	4 100%	4 100%
Target districts achieved elimination of blinding trachoma	0%	0%	50%	75%	28 100%	28 100%

2.4.5 IDM CONTROL/ELIMINATION MILESTONES,

Indicators	2015	2016	2017	2018	2019	2020
Active Case detection in 100% of Highly endemic districts	100%	100%	100%	100%	100%	100%
Passive case detection in 100% of other endemic districts	100%	100%	100%	100%	100%	100%
Manage all patients in peripheral health facilities	100%	100%	100%	100%	100%	100%
Refer severe and complicated cases for management at district hospitals and reference centres	100%	100%	100%	100%	100%	100%
Achieved 100% geographical coverage of SAFE in trachoma target districts	0%	100%	100%	100%	100%	100%
Achieved 100% treatment coverage of identified leprosy cases	100%	100%	100%	100%	100%	100%
Achieved 100% treatment coverage of identified cases for other CM-NTDs	0%	100%	100%	100%	100%	100%
Started passive surveillance in at least 50% of target districts for CM-NTDs targeted for elimination (HAT, Leprosy)	0%	100%	100%	100%	100%	100%
Started sentinel site surveillance in at least 50% of target districts for CM-NTDs targeted for elimination (HAT, Leprosy)	0%	0%	100%	100%	100%	100%
Target districts that sustained elimination of leprosy and achieved elimination.	20%	40%	50%	100%	100%	100%

PHASE ACTIVITIES

P- Preventive chemotherapy

H-Health Education

A-Access to clean water

S- Sanitation improvement

E- Environmental manipulation

2.4.6 PHASE MILESTONES, 2015-2020

Indicators	2015	2016	2017	2018	2019	2020
1 Proportion and number of Endemic districts with adequate* Health education & access to clean water for SCH control	2 (8%)	5 (20%)	7 (30%)	12 (50%)	24 (100%)	24 (100%)
2 Proportion and number of Endemic districts with adequate** sanitation manipulation for SCH control	2 (8%)	5 (20%)	7 (30%)	12 (50%)	24 (100%)	24 (100%)
3 Proportion and number of Endemic districts with adequate*** environmental manipulation for SCH control	2 (8%)	5 (20%)	7 (30%)	12 (50%)	24 (100%)	24 (100%)
4 Proportion and number of Endemic districts with adequate* access to clean water and health education for STH control	2 (8%)	5 (20%)	7 (30%)	12 (50%)	24 (100%)	24 (100%)
5 Proportion and number of Endemic districts with adequate** sanitation for STH control	2 (8%)	5 (20%)	7 (30%)	12 (50%)	24 (100%)	24 (100%)
6 Proportion and number of Endemic districts with adequate*** environmental manipulation for STH control	2 (8%)	5 (20%)	7 (30%)	12 (50%)	24 (100%)	24 (100%)
7 Proportion and number of Endemic districts with adequate Health education	2 (8%)	5 (20%)	7 (30%)	12 (50%)	24 (100%)	24 (100%)

PART THREE: OPERATIONAL FRAMEWORK

3.1 SCALING UP ACCESS TO NTD INTERVENTIONS AND TREATMENT AND SERVICE DELIVERY CAPACITY

3.2.1 SCALING UP OF PREVENTIVE CHEMOTHERAPY PREVENTION INTERVENTIONS

Depending on the types of diseases targeted and their overlaps, there would be variations in types and variations of drugs distributed at a particular time. The following table summarises the packages of PCT intervention, in accordance with WHO Preventative Chemotherapy manual to describe the types of mass drug administration.

Table 15: Types of mass drug administration

Cross-cutting MDA types	Delivery channels	Timing of treatments	Disease combination	Requirements	Target	Other mass disease control interventions
MDA1, MDA4 & T1 One annual round of MDA ivermectin/DEC and albendazole; One annual round of MDA with azithromycin; How about T2=PZQ?	Community-based campaigns/CDTI; School-based campaigns.	Month 1 and month 6	Lymphatic filariasis, Onchocerciasis, Schistosomiasis, STH, trachoma	Training of health personnel; Training of teachers & community volunteers; Social mobilization; Supervision ;	Chobe	EPI campaigns, ITN distribution and re-treatment. 'Health education

Legend

MDA1 = Ivermectin + Albendazole T1 = Praziquantel + Albendazole or Praziquantel + mebendazole

MDA2 = DEC+ Albendazole

T2 = Praziquantel only

MDA3 = Ivermectin only (CDTI)

T3 = Albendazole or mebendazole only

MDA4 = Azithromycin only

Preventative Chemotherapy (PCT) is the administration of drugs to targeted populations who qualify under a certain scientific criteria, according to WHO guidelines. PCT activities in this master plan will be guided by the mapping results of the various NTDs to be carried in the country. However, baseline surveys in sentinel sites will be performed before implementation of MDA for monitoring purposes. These activities are outlined below;

TABLE 16: Activities for PCT intervention

Activity	Details(Sub-activities)	Timeframe/Frequency	Resources needed
Strategic Objective 1: Scale up an integrated preventive chemotherapy program, including access to LF, STHs, Schistosomiasis, and Trachoma interventions.			
Map for PCT NTDs	Develop integrated mapping plan	Year 1 – Year 2	Personnel, Logistics Funds, Stationery
	Conduct integrated mapping for LF, Trachoma	Year 1 – Year 2	Personnel, Logistics Funds, Stationery
	Conduct integrated mapping for schistosomiasis and STH	Year 1 – Year 2	Personnel, Logistics Funds, Stationery
Procure & Distribute MDA medicines	Procurement of MDA medicines and commodities	Year 1 - Year 5	
	Distribution of MDA medicines through existing channels	Year 1 - Year 5	Personnel, Logistics Funds, Stationery
	Development of IEC materials,, advocacy strategy &communication strategy	Year 1 – Year 5	Personnel, Logistics Funds, Stationery
Capacity Building for PCT Interventions	Development of training manuals	Year 1 – Year 5	Personnel, Logistics Funds, Stationery
	Training of identified key personnel (national officers)	Year 1 to Year 5	Personnel, Logistics Funds, Stationery
	Conduct training of trainers (provincial and district officers)	Year 1 to Year 5	Personnel, Logistics Funds, Stationery
	Conduct training of school health masters, and nurses	Year 1 to Year 5	Personnel, Logistics Funds, Stationery
	Training of village health workers	Year 1 to Year 5	Personnel, Logistics Funds, Stationery
	Training of community volunteers	Year 1 to Year 5	Personnel, Logistics Funds, Stationery

Conduct MDA campaigns	Conduct community sensitization & mobilization	Year 1 to Year 5	Personnel, Logistics Funds, Stationery
	Distribution of PCT drugs	Year 1 to Year 5	Personnel, Logistics Funds, Stationery

Recall for MDA, you need a row for MDA supervision, a row for post MDA data correction to get treatment coverage data, a final row for data analysis and report writing.

Botswana has got only one case management disease and the case management packages will include identification (Active and Passive case finding and management of leprosy patients) as summarised in the table below.

Table 17:Activities for case management interventions.

Activity	Details(Sub-activities)	Timeframe/ Frequency	Resources needed
Strategic Objective 2: Scale up integrated case-management- interventions, for leprosy.			
Conduct mapping for case management diseases	Intensify active case finding for Leprosy	Year 2	Personnel, Logistics Funds, Stationery
Build capacity for integrated case management	Training of health staff for improved case detection and management	Year 2 – Year 5	Personnel, Logistics Funds, Stationery
	Training on health education and prevention	Year 2 – Year 5	Personnel, Logistics Funds, Stationery

Case management diseases and chronic care may involve cross-cutting interventions such as surgery and therefore we will need training of health workers and equipping health facilities with appropriate basic surgical equipment.

I believe under case management diseases you also need to do community sensitization and mobilization. You may however integrate this activity under PCT diseases but then it should be mentioned.

Table 18: Package 3.2: Case management and chronic care.

Cross-cutting interventions	NTDs targeted	Requirements	Other non-NTD opportunities for integration
<p>Surgery</p> <p>Hydrocele surgery (hydrocelectomies);</p> <p>Trichiasis surgery;</p>	<p>Lymphatic filariasis hydrocele;</p> <p>Trachoma trichiasis.</p>	<p>Training of medical doctors and nurses;</p> <p>Surgical kits, dermatome and mesh graft (for skin grafting);</p> <p>Hospital facilities or appropriate basic facilities with good surgical facilities;</p> <p>Follow-up and supervision.</p>	<p>Capacity building for basic surgery skills at the district level.</p>

3.4.3. TRANSMISSION CONTROL INTERVENTIONS

NTD transmission control activities are cross-cutting for both vector-borne diseases and other diseases. Transmission control interventions are complementary to preventive chemotherapy and case management and, as such, they need to be conducted in all NTD endemic areas. These activities include vector control, health education and environmental measures which are described as PHASE activities;

- **P** - Preventive chemotherapy
- **H** - Health Education
- **A** - Access to clean water
- **S** - Sanitation Improvement
- **E** - Environmental manipulation

Table 19: Intervention packages for transmission control

Intervention packages	Targeted NTDs	Methods of intervention delivery	Requirements	Other non-NTD opportunities for integration
Vector control	-Schistosomiasis, LF & trachoma	-Mollusciciding -Environmental management	Pesticides, pesticide equipment,skilled /trained personnel and funds	Integrated vector management
Health Education	Schistosomiasis, STH, LF & Trachoma	Insecticide spraying and environmental management	Pesticides, pesticide equipment,skilled /trained personnel and funds	
Safe water supply and sanitation	-Schistosomiasis -Soil transmitted helminths -Trachoma	-Increased access to safe, quality water supply -Improved Sanitation facilities -Health education -Environmental management	-safe water supply such as: - Boreholes Protected wells - Improved sanitation	

The table below indicates interventions for transmission control activities which are mostly cross-cutting and provide opportunities for integration in NTDs control.

Table 20: Intervention packages for Transmission control

Cross-cutting interventions	Targeted NTDS	Requirements	Other non-NTD opportunities for integration
<p>Mosquito and and control of house flies and snails through insect spraying and environment management</p> <ul style="list-style-type: none"> · Insecticide treated nets; · Indoor residual spraying; · Environmental management. 	<p>Lymphatic filariasis, , schistosomiasis, trachoma, Dengue, Malaria</p>	<p>ITNs</p> <p>Pesticides sprays indoors and in breeding sites in the environment</p> <p>Plastering of walls</p>	<p>Malaria vector control;</p> <p>Integrated vector management (IVM).</p>

Table 21. Activities for disease transmission control.

Activity	Details(Sub-activity)	Timeframe/Frequency	Resources needed
Strategic Objective 3: Establish integrated vector management for targeted NTDs.			
Improve access to safe water and sanitation for communities	Advocate for increased access to safe water ,basic sanitation and hygiene	Year 1 to Year 5	Personnel, Logistics Funds, Stationery
	Strengthen inter-sectoral collaboration for water supply and sanitation	Year 1 to Year 5	Personnel, Logistics Funds, Stationery
Vector control	Development of Guidelines for Integrated Vector Management (IVM)	Year 2	Personnel, Logistics Funds, Stationery
	Capacity Building for integrated vector control including community members to adapt IVM measures	Year 1 to Year 5	Personnel, Logistics Funds, Stationery
Carry out environmental measures to control targeted NTD vectors (Schistosomiasis, trachoma and LF)	Development of training materials	Year 1 to Year 5	Personnel, Logistics Funds, Stationery
	Training of Environmental Health Technicians and environmental modification where necessary and feasible.	Year 1 to Year 5	Personnel, Logistics Funds, Stationery
	Procurement of equipment & selected pesticides	Year 1 to Year 5	Personnel, Logistics Funds, Stationery
Community campaigns on IVM	Community training on integrated vector management,	Year 1 to Year 5	Personnel, Logistics Funds, Stationery
	Mobilize and support communities to carry out IVM measures	Year 1 to Year 5	Personnel, Logistics Funds, Stationery

3.5.2. PHARMACOVIGILANCE IN NTD CONTROL ACTIVITIES

Pharmacy-vigilance system and NTD programme management to ensure satisfactory reporting and management of side effects and adverse events that may be linked to NTD interventions under the programme setting. The table below explains how pharmacy-vigilance in NTDs programme will be strengthened.

Table 22: Activities for strengthening pharmaco-vigilance in NTD programmes.

Activity	Details(Sub-activity)	Timeframe/Frequency	Resources needed
Strategic objective: To strengthen functional Pharmaco-vigilance for NTD programme			
Build capacity for schools & communities (volunteers) and clinic personnel in the pharmaco-vigilance (management and reporting) program (integrate with PCT training)	Train school personnel and community volunteers on pharmaco-vigilance	Year 1 to Year 5	Personnel, Logistics Funds, Stationery
	Train health personnel at all levels on pharmaco-vigilance management % reporting	Year 1 to Year 5	Personnel, Logistics Funds, Stationery
Raise community awareness about reporting of adverse events following treatment (broadcasted during the NTD launch event)	Mobilize communities for reporting adverse events	Year 1 to Year 5	Personnel, Logistics Funds, Stationery

3.4.3. STRENGTHEN CAPACITY AT NATIONAL LEVEL FOR NTD PROGRAMME MANAGEMENT AND IMPLEMENTATION

Table 3.4.4.1: Activities for strengthening capacity at national level and programme management

Overview of existing capacity at national level for NTDs

The control of NTDs is scattered among different divisions in the Department of Public Health. There is need to harmonise & strengthen coordination and operational capacities of NTDs at various levels in order to scale-up and achieve elimination goals.

Improvements required

Activity	Details(Sub-activities)	Timeframe/Frequency	Resources needed
There is a need to train health workers at various levels on the case detection, diagnosis and case management, including MDA where these are indicated. NTD focal persons need to be identified at national and district levels to spearhead NTDs control activities including integrated data management on some NTDs that were			

previously not included in the routine reporting. There is need to identify and train community volunteers who can participate in supervision of NTD activities within their communities			
Strategic Objective 4: Strengthen capacity at national and district levels for NTDs management and implementation and accelerate implementation and integrated mapping of NTDs			
Capacity building	Development of standardized training materials	Year 2	Personnel, Transport& Stationery and allowances
	Support country exchange visits	Year 1 – Year 5	Personnel, Logistics Funds, Stationery
	Conduct Management training for national NTD managers	Year 2 – Year 5	Personnel, Logistics Funds, Stationery
	Training health workers at various levels and school teachers on MDA	Year 1 – Year 5	Personnel, Funds, logistics
	Train community volunteers	Year 1 – Year 5	Personnel, Funds, logistics
	Training of NTD secretariat composed mainly of disease specific managers on Monitoring and Evaluation of the NTD programme	Year 2 – Year 5	Personnel, Funds, logistic

	Training of Technicians for parasitological surveys	Year 2 – Year 5	Personnel, Funds, logistic
	Provision of a national NTD office and equipment	Year 1 – Year 5	Personnel, Funds, logistics
	Provision of a vehicles	Year 1	Funds, logistics
	Training of TOTs	Year 1 – Year 2	Funding, stationery, human resources
	Incorporation of NTD in national IDSR routine reporting system	Year 2 – Year 3	Human resources
	Appointment of NTD focal persons at national and district levels	Year 2 – Year 3	Human resources
	Training of various levels of health workers on diagnosis, management and rehabilitation of NTD cases	Year 1 to Year 5	Funding, stationery, human resources
	Engagement of high level Government officials for support on NTD control	Year 1 to Year 5	Human resource , stationery

3.3. ENHANCE PLANNING FOR RESULTS, RESOURCE MOBILIZATION, AND FINANCIAL SUSTAINABILITY

It is essential for the programme to generate adequate resources as well as establishing an enabling environment that will suit resource mobilization for the multiyear comprehensive NTD plan and therefore the existing and planned systems for planning NTD activities at all levels will continuously observe the prevailing trends in health priorities, financing and donor strategies

Table 24: Activities to enhance planning for results, resource mobilization and financial sustainability of national NTDs.

Activity	Details(Sub-activities)	Timeframe/Frequency	Resources needed
Strategic Objective 1: Develop a comprehensive and integrated multi-sectoral multiyear strategic plan for the control, elimination and eradication of the targeted NTDs.			
Develop NTD Strategic and annual plans	Develop & review national NTDs strategic and annual plan	Year 1 to Year 5	Transport & Stationery Teas, Lunches (funds)
	Integrate NTD plans into existing service delivery plans	Year 1 to Year 5	-
Develop guidelines for implementation	Develop and disseminate a national NTD policy, & communication and mobilisation strategies	Year 1	Personnel, Logistics Workshop funds, Stationery,
Strategic Objective 2: Enhance resource mobilization approaches and strategies at national and district levels for NTD interventions.			
Resource mobilization for NTDs	Present national strategic plan to government	Year 1	Teas, lunches Stationery
	Apply for budgetary allocation from the WHO-AFRO, BW, development partners.	Year 1 – Year 5	Stationery, Personnel

	Presentation of annual plan to partners, donors and funding agencies	Year 1 – Year 5	Personnel, Logistics Funds, Stationery
Advocate for resource mobilisation with district local administration, MoH, and stakeholders as well as external partners	Plan national launch. Include high government officials to launch MDA & other interventions.	Year 1	Personnel, Logistics Funds, Stationery
Strategic Objective 3: Strengthen the integration and linkages of NTDs and financial plans into sector –wide and national budgetary and financing mechanisms.			
Share the NTD multi-year plan (master plan) with Ministers of Health, Finance, education, Parliamentarians, district administration	Hold advocacy & sensitization meetings with key and line Ministries for the success of the NTDs with budgetary support	Year 1 to Year 5	Personnel, Logistics Funds, Stationery
	Follow up with key Ministries	Year 1-5	Personnel, Funds
	Disseminate the NTD multi-year plan at national, and district levels	Year 1	Personnel, Logistics Funds, Stationery

3.2. STRENGTHENING GOVERNMENT OWNERSHIP, ADVOCACY COORDINATION AND PARTNERSHIPS

Botswana aims at having NTD programme owned by the government through establishing multi-sectoral involvement at various operating levels as well as to be responsive to the larger national goals. This entails sufficient advocacy for NTD control programmes so that their relevance is kept high on national agenda.

Table 3.2.1: Activities to Strengthen government ownership, advocacy, coordination and partnership

TABLE 25: Activities for strengthening government ownership, advocacy, coordination and partnership.

Activity	Details(Sub-activities)	Timeframe/frequency	Resources needed
Strategic objective 1: Strengthening coordination mechanisms for the NTD control programme at national and district levels in Botswana			
Strengthening of NTD Technical working group, steering committee and focal persons for NTDs at national and district levels	Identify suitable technical working group and steering committee members	Year 1	Stationery, Personnel, Logistics, Funds
	Convene a meeting with Technical working group/Task force (at least 3 each year) and steering committee (at least 1 or 2 @ year) and focal persons	Year 1 to Year 5, regularly	Personnel, Logistics Funds, Stationery
	Develop terms of reference for TWG/Task force and steering committee	Year 1	Stationery, Logistics, Funds
	Procure equipment and operational support for the NTD program	Year 1 to Year 5	Equipment, Personnel, Logistics, Funds, Stationery

	Hold National Task Force committee meetings	Year 1 (2sittings) Year 2 -Year 5 (Quarterly)	Personnel, Logistics Funds, Stationery
	Hold TWG meetings once every other month/year (6 sittings)	Year 1 to Year 5	Logistics Funds, Stationery
	Appoint National NTD Manager, National Disease Specific Managers and district NTD focal persons	Year 1	Stationery, Logistics, funds, Personnel
Hold consensus meetings/stakeholders meeting	Convene consensus meeting with stakeholders bi-annually	Year 1 to Year 5	Funds for meals, Logistics Stationery, transport refund & or fuel -Accommodation
Establish coordination mechanisms at national and district levels	Hold national stakeholders' meetings bi-annually	Year 1 to Year 5	-Human resources -Fuel -Stationery -perdiem

	Hold District stakeholders'(TAC) meetings (quarterly)	Year 1 to Year 5	Human resources -Fuel -Stationery -perdiem
Strategic objective 2: Strengthen and foster partnerships for the control, elimination and eradication of targeted NTDs at, national, district and community levels.			
Hold donors and partners meeting on NTDs	Conduct donors and partners mapping for those within and outside the country	Year 1	Stationery, Communications Logistics, Per diem
	Convene a donor's meeting on NTDs (Yearly)	Year 1 to Year 5	Meals
	Disseminate reports to partners and stakeholders	Year 1 to Year 5	Stationery, Communications
Hold Community Leaders & NGOs forum	Mobilize community leadership & Community Based Organizations (Yearly)	Year 1 to Year 5	Personnel, Logistics Funds, Stationery
Strategic objective 3: Enhance regular reviews of NTD control performance and the use of lessons learnt to enhance advocacy, awareness and effective implementation of targeted interventions.			
Conduct high level reviews of	Hold National reviews	Year 1 to Year 5	Personnel, Logistics

NTD control at national, and district levels			Funds, Stationery, fuel
	Hold District reviews	Bi-annually	Personnel, Logistics, funds, fuel Funds, Stationery
Strategic objective 4: Strengthen advocacy visibility and profile of NTDs for the control, elimination, and eradication interventions at all levels in Botswana			
Strengthen linkages with line Ministries and other sectors to increase profile of NTD control	Formalize relationship with MoESD.	Year 1	Transport & Stationery
	Engage Ministry of Transport and Infrastructure, Local Government, WUC and other relevant entities to improve water and sanitation.	Year 1 – Year 5	Transport & Stationery
	Identify and engage NTD ambassadors from all relevant government and non-government organizations and departments	Year 1 – Year 2	Personnel, Logistics Funds, Stationery
Conduct advocacy and visibility events for NTD interventions	Develop communication strategy for NTDs*	Year 1	Personnel, Logistics Funds, Stationery
	Develop advocacy/social mobilization and communication materials	Year 1 – Year 2	Personnel, Logistics Funds, Stationery
	Disseminate IEC and advocacy materials	Year 1 to Year 5	Personnel, Logistics Funds, Stationery
	Engage the various media vehicles (Print, radio, television etc.)	Year 1 to Year 5	Personnel, Logistics Funds, Stationery
	Input into other relevant meetings Environmental Health department, WUC and DEA, Water Affairs Dept.	Year 1 to Year 5	Personnel, Logistics Funds, Stationery

3.5. MONITORING AND EVALUATION

3.5.1. ENHANCE MONITORING & EVALUATION, SURVEILLANCE AND OPERATIONAL RESEARCH

Monitoring is the process of continuous observation and collection of data on the NTD programme to ensure that the programme is progressing as planned.

Evaluation is the systematic and critical analysis of the adequacy, efficiency, and effectiveness of the programme and its strategies as well as progress. Evaluation refers to long, mid-term and annual analysis of a performance in relation to the goals, objectives and set targets.

Monitoring and Evaluation contains information on monitoring and evaluation considerations, including the indicators to be monitored for each disease, a logical framework, and the major M&E activities to be conducted. Also include the supervision required and the importance of baseline, impact surveys, dossiers and other evaluations; and include the elimination process for the different NTDs.

Table 26: Activities for enhancing NTD monitoring and evaluation, surveillance and operations research.

Activity	Details(Sub-activities)	Timeframe/Frequency	Resources needed
<i>Strategic Objective 1:</i> Enhance monitoring of the national NTDs programme performance and outcome.			
Conduct baseline assessment	Assess already available M&E systems and resources	Year 1 – Year 2	Personnel, Logistics Funds, Stationery
	Plan the integration of NTD M&E	Year 1 – Year 2	Stationery, Funds
	Integrate NTDs in surveillance system	Year 1 – Year 2	Transport & Stationery

Build capacity at all levels on M&E on NTDs	Develop/Review M&E guidelines & Tools which assist in data collection	Years 1, 3 and 5	Personnel, Logistics Funds, Stationery
	Develop/Review M&E training manuals	Years 1, 3 and 5	Personnel, Logistics Funds, Stationery
	Train responsible health personnel on M&E	Years 1, 3 and 5	Personnel, Logistics Funds, Stationery
	Establish and conduct sentinel surveillance in sites for NTDs	Year 1 to Year 5	Personnel, Logistics Funds, Stationery
Monitoring & Evaluation	Conduct regular evaluation of NTD programme	Years 3 and 5	Personnel, Logistics Funds, Stationery
	Conduct post-MDA surveys for PCTs	Year 1 to Year 5	Personnel, Logistics Funds, Stationery
	Conduct routine monitoring for PCTs	Year 1 to Year 5	Personnel, Logistics Funds, Stationery
	Conduct routine monitoring for case management diseases	Year 1 to Year 5	Personnel, Logistics Funds, Stationery
Strategic Objective 2: Strengthen the surveillance of NTDs and strengthen the response and control of epidemic prone NTDs			

Integrate the NTDs M&E indicators into the national integrated disease surveillance system (IDSR)	Incorporate NTD indicators into existing reporting forms (including pre-testing the form)	Year 1 – Year 2	Personnel, Logistics Funds, Stationery
	Training of responsible health personnel and M&E officers in identifying and reporting appropriate indicators (combined with M&E training)	Year 2	Personnel, Logistics Funds, Stationery
	Establish Sentinel site and conduct sentinel surveillance studies including drug monitoring studies for STH and schistosomiasis	Year 1 to Year 5	Personnel, Logistics Funds, Stationery
	Conduct national surveys on impact and KAP of treatment for schistosomiasis and STHs - every 3 years	Years 3 and 5	Personnel, Logistics Funds, Stationery
	Assess environmental (vectors) and human behaviour risk factors	Years 3 and 5	Personnel, Logistics Funds, Stationery
Strategic Objective 3: Support operational research, documentation and evidence to guide innovative approaches to NTD s interventions.			
Document and disseminate good practices and innovative approaches derived from operation research	Conduct operational research on NTDs	Year 1 to Year 5	Personnel, Logistics Funds, Stationery
	Publish findings of operational research in national and international scientific bulletins	Year 1 to Year 5	Funds & Stationery
Activities to liaise with Botswana Drug Regulatory Board to establish a system	Develop PV protocol, reporting tools and database with Botswana Drug Regulatory Board	Year 2	Personnel, Logistics

for NTD PV system			Funds, Stationery
<p>Strategic Objective 4: Establish integrated data management systems and support impact analysis for NTDs in the Districts as part of the national and global NTDs data management system and Global NTDs Plan</p>			
Report and provide required information and data on NTDs to the NTDs program at the Ministry of Health HQ	Develop/Review data-reporting structures e.g. database	Year 2 and Year 4	Personnel, Logistics Funds, Stationery
	Produce reporting tools	Year 2	Logistics Funds, Stationery
	Build capacity at all levels for data management	Years 2 and 3	Personnel, Logistics Funds, Stationery
	Coordinating data collection and compilation	Year 1 to Year 5	Personnel, Logistics Funds, Stationery
	Quarterly support and supervision of data-reporting activities (ensuring quality control of data collection and compilation)	Year 1 to Year 5	Personnel, Logistics Funds, Stationery

3.8.

3.9 *Perdium*

BUDGET JUSTIFICATION AND ESTIMATES

A budget is a plan for future activities and is a key management tool. It is essential for the national NTD

Programme to have a simple yet comprehensive budgetary plan in line with the NTD master plan. The budget of the master plan should be:

- Comprehensive;
- Concise;
- Cost-effective;
- Accurate and persuasive to stakeholders.

WHO/AFRO recommends the use of the Tool for Integrated Planning and Costing (TIPAC) for the developing comprehensive and realistic budget estimates. The budget summary based on the TIPAC tool can be summarized as shown in the table below.

Table 28: Budget

Activities and Sub-activities	Total budget	Contribution		Gap
		Country	Development Partners	
1. Coordination, Partnership & Advocacy				
2. Planning and Resource Mobilization				
3. Scale-up Interventions				
Mapping				
Mass drug administration				
Drug (CM) supplies and procurement				
Morbidity management & disability prevention				
Vector control				
Trainings/Capacity Strengthening				

Infrastructure				
Laboratory equipment & support				
Total 3				
4. M&E, Research				
Monitoring surveys				
Disease surveillance				
Operational research				
Program monitoring				
Data management				
Total 4				
GRAND TOTAL				

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