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STATE OF TUBERCULOSIS IN THE SADC REGION, 2009

ORIGINAL IN
ENGLISH

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ACRONYMS AND ABBREVIATIONS

ACSM	Advocacy, Communications and Social Mobilization
ADB	African Development Bank
AIDS	Acquired Immunodeficiency Syndrome
ART	Antiretroviral Therapy
CDC	Centers for Disease Control and Prevention
CPT	Cotrimoxazole Preventive Therapy
DOT	Directly Observed Therapy
DOTS	Directly-Observed Treatment, Short-course: the internationally recommended strategy for TB control
DRS	Drug Resistance Surveillance or Survey
DST	Drug Susceptibility Testing
EQA	External Quality Assurance
FDC	Fixed-Dose Combination (or FDC anti-TB drug)
FIDELIS	Fund for Innovative DOTS Expansion, managed by IUATLD
FIND	Foundation for Innovative New Diagnostics
GDF	Global TB Drug Facility
GLC	Green Light Committee
Global Plan	The Global Plan to Stop TB, 2006–2015
GNI	Gross National Income
HIV	Human Immunodeficiency Virus
HTC	HIV testing and counselling
IPT	Isoniazid Preventive Therapy
MDG	Millennium Development Goal
MDR	Multidrug Resistance (Resistance to, at least, Isoniazid and Rifampicin)
MDR-TB	Multidrug Resistant Tuberculosis
MS	MemberState(s)
NRL	National Reference Laboratory
NTP	National Tuberculosis Control Programme or equivalent
PIHTC	Provider initiated Testing and Counselling (for HIV)
RCE	Regional Centre of Excellence
RISDP	Regional Indicative Strategic Development Plan
SADC	Southern Africa Development Community
SATCI	Southern Africa TB Control Initiative
SNRL	Supranational Reference Laboratory
TB	Tuberculosis
TB CAP	Tuberculosis Control Assistance Program
The Union/IUATLD	International Union Against Tuberculosis and Lung Disease
UNAIDS	Joint United Nations Programme on HIV and AIDS
UNITAID	International Facility for the Purchase of Drugs to Treat HIV and AIDS, Malaria and TB
WHO	World Health Organization
XDR-TB	Extensively Drug Resistant TB: TB due to MDR strains that are also resistant to a fluoroquinolone and at least one second-line injectable agent (amikacin, kanamycin and/or capreomycin)

Executive Summary

1. The tuberculosis burden in the SADC Region remains very heavy. Southern Africa is still the epicentre of the dual epidemic of HIV and AIDS and Tuberculosis, so the tuberculosis epidemic of the last two decades in these Member States has been HIV-associated.Nine Member States of the Southern African Development Community (Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe) account for almost 50% of the global burden of HIV-associated tuberculosis.

2. This TB epidemic appears to have matured in most of the Member States, and these reached their peak TB notifications in the 90s or 2000s. However, four Member States have not yet demonstrated a peak (Lesotho, Mozambique, South Africa and Swaziland,) and therefore still show an upward trend.

3. Seven Member States have notification rates above 300 cases per 100,000 population, while five have rates of between 100 and 200 per 100,000. This categorization is unlikely to change much in the near future as no state is demonstrating a steep decline in notifications.

4. The percentage of TB cases which are co-infected with HIV is also very high in all the Member States except Mauritius and Seychelles. The co-infection rates range from 6% in Mauritius to 83.6% in Swaziland. Nine states have co-infection rates above 50% and seven have co-infection rates above 60%. Of the ten Member States that gave figures on percentage of new TB cases tested for HIV, seven have tested more than 70% and two more than 60%.

5. MDR-TB cases have been reported in all SADC Member States, except Seychelles which has a low TB burden, and two high-burden countries- Angola and Zambia, which have not conducted Drug Resistance Surveys. Most of the high burden Member States have support for 2nd line drugs from donors,with GLC approval, and from their Governments.

6. Only six Member States have ever reported XDR-TB cases,viz. Botswana, Lesotho, Mozambique, Namibia, Swaziland and South Africa. It is doubtful if the figures are reflective of the actual situation on the ground, for both MDR and XDR, because of the limited capacity for diagnosis. While most Member States can do Culture and DST for 1st line TB drugs, only South Africa can do DST for 2nd line drugs.

7. The performance of National Tuberculosis Programmes (NTP's) remains low in most Member States, as measured by successful outcomes based on the DOTS cohort analysis.Only DRC, Malawi, Mauritius, Seychelles and Tanzania, have achieved the required success rate of 85%. Mozambique, Namibia and Zambia have achieved over 80%, but below the required level. The rest of the Member States' performance remains poor in that regard.

8. Default rates remain high.Botswana, Lesotho, and Namibia are border-line with default rates ofbetween 4% and 5%. South Africa and Zimbabwe at 7.5% and Swaziland at 8% all have high default rates of 5% and above. It is important that Member States address this issue as defaulters are probably the most important drivers of drug resistant tuberculosis.Case fatality remains high in some Member States as these figures illustrate; Tanzania and Zambia 5%, Botswana 5.1%, Namibia 6%, South Africa 7.8%, Malawi 8%, Zimbabwe 9.2%, Swaziland 10% and Lesotho 11%. This should not be so with the availability of TB treatment as well as anti-retroviral therapy in all Member States. DRC and Seychelles had figures of 4% and below.

9. Data suggests that with the exception of Angola, Lesotho, Mauritius, South Africa and Zimbabwe the SADC Member States have achieved the microscopy coverage of 1 centre to 100,000 population.Most of the countries have also achieved the required level of one Culture and Sensitivity centre for 5 million population. Only the countries with high population have not achieved that level (Angola, DRC, Malawi, Mozambique, Tanzania and Zimbabwe). However, this report also shows that in quite a number of Member States, a large proportion of pulmonary cases is still not diagnosed by sputum microscopy. This also needs to be attended to.

10. Member States are also actively consolidating their responses to the new challenges of HIV/TB Collaborative activities, and the response to the emergence of MDR/XDR-TB. The report outlines what they are doing in this regard, such as the implementation of the 3i's in the former, and the securing of appropriate 2nd line drugs in the latter.The interventions undertaken by most MS's are intensified TB case finding among people living with HIV, HIV testing and counselling on TB patients and provision of ART to TB patients.

11. With regard to financing, most Member States have shown the political will to fund their National Tuberculosis Programmes, either directly by Government funding or by mobilizing funds from donors. Only DRC has stated the funding gap of its NTP, which is equivalent to 72.8% of the budget.


12. The SADC Secretariat has continued to advance the agenda for the promotion of harmonization and advocacy based on the SADC Regional Indicative Strategic Development Plan. Since Member States have now adopted The SADC Framework for the Control of Tuberculosis which covers the period 2007-2015the Secretariat is in the process of implementing the strategic approaches of the Framework.

13. The recommendations of this report follow up on those of the 2008 report. In line with those recommendations, at Regional level the SADC Secretariat has continued to institutionalize the Monitoring and Evaluation system for the various health frameworks, including TB, as well as the recording mechanisms. As a recommendation, the SADC Secretariat should therefore continue its advocacy relating to support from the international community, especially the International Finance Institutions, International Health Organizations (such as WHO) and the Global Health Initiatives such as the Global Fund.

14. At country level, recommendations in the past referred primarily to the need to strengthen DOTS implementation to improve outcomes. Since improvements are not yet apparent, this report also emphasizes the strengthening of implementation of the various DOTS components.

1. Introduction and Background

The SADC TB Report is an annual document that aims to provide the Ministers of Health of the Community, the Secretariat and the partners with an overview of the state of the disease and its control in the Region. It gives the state of progress towards Regional, Continental and Global commitments by both the SADC and the Member States, and constitutes a monitoring tool for the implementation of the SADC Framework for the Control of Tuberculosis which covers the period 2007-2015.

Southern Africa remains the epicentre of the dual epidemic of Tuberculosis and HIV. Nine Member States of the Southern African Development Community (Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe) account for almost 50% of the global burden of HIV-associated tuberculosis[1]. This burden of the two diseases in Southern Africa becomes more apparent when the per capita rates are shown later in this report. Section 2 gives and overview of the TB burden in SADC.It is widely documented and acknowledged that tuberculosis is a leading cause of death in people with HIV infection, and this is well recognized in the SADC Region. HIV has exacerbated the tuberculosis epidemic globally, and among the SADC Member States it was responsible for notification rates going up two to five-fold in Member States from the early days of the epidemic in the 1980's to the time they matured in the 2000's[2].This report will show, read in conjunction with the 2008 report, that TB mortality rates and case fatality rates remain high as well in the region, as indeed they are in the developing parts of the world, despite the availability of drugs to cure the disease.

Section 3 analyses the progress towards TB control made in the SADC Region. The Member States of SADC are committed to the global strategies aimed at TB control. The DOTS strategy has been implemented in most SADC Member States since the early 1990s and has enabled systematic treatment of patients with TB with some impressive results where the implementation has been efficient. The Member States are also party to the Stop TB Strategy that came into effect in 2006. The Stop TB Strategy has incorporated DOTS, but also deals with new problems, especially the TB/HIV problem and the MDR/XDR problem. It is designed to meet the TB-related Millennium Development Goal as well as the TB Partnership targets set for 2015.The Abuja Call for Accelerated Action towards Universal Access to HIV and AIDS, Tuberculosis and Malaria Services of 2006, otherwise known as the Abuja Declaration, is an important Continental declaration of the AU to which SADC Member States subscribe. SADC Member States have adopted several protocols aimed at harmonizing the response to the two diseases of the dual epidemic- TB and HIV and AIDS. These are also discussed in Section 3.

Section 4 tackles the issue of policies for TB control in SADC as well as programme gaps and challenges. It highlights that while policies on the whole are strong in the Member States, programme implementation remains a big challenge, resulting in less that optimal outcomes in most of the Member States. The challenges are summarized in this section, and recommendations are made to deal with the issues that are behind the challenges.

1.1 Methodology

This report is based mainly on a desk study and self-reports from the Member States of SADC. Member States submitted reports according to the format proposed by the SADC Secretariat. The initial draft was discussed at the meeting of National TB Programme Managers where proposals for changes as well corrections to data were made. These were incorporated in the final report. Partners also reviewed the draft during the Partner's forum. The draft final report was then sent to Member States for their inputs.

The main limitation of the process is that the data is self-reported by Member States. While this may result in the usual problem of some states giving a more optimistic picture of their situation, an attempt was made to alleviate this problem by cross-checking the figures with those submitted to the World Health Organization and appearing in their reports, specifically the Global Tuberculosis Control 2010. WHO was also represented at the National TB Programme Managers meeting and the Partnership forum.Consistency with previous years' figures, where they were available, has also helped to assess the plausibility of the data to indicate the level of accuracy.

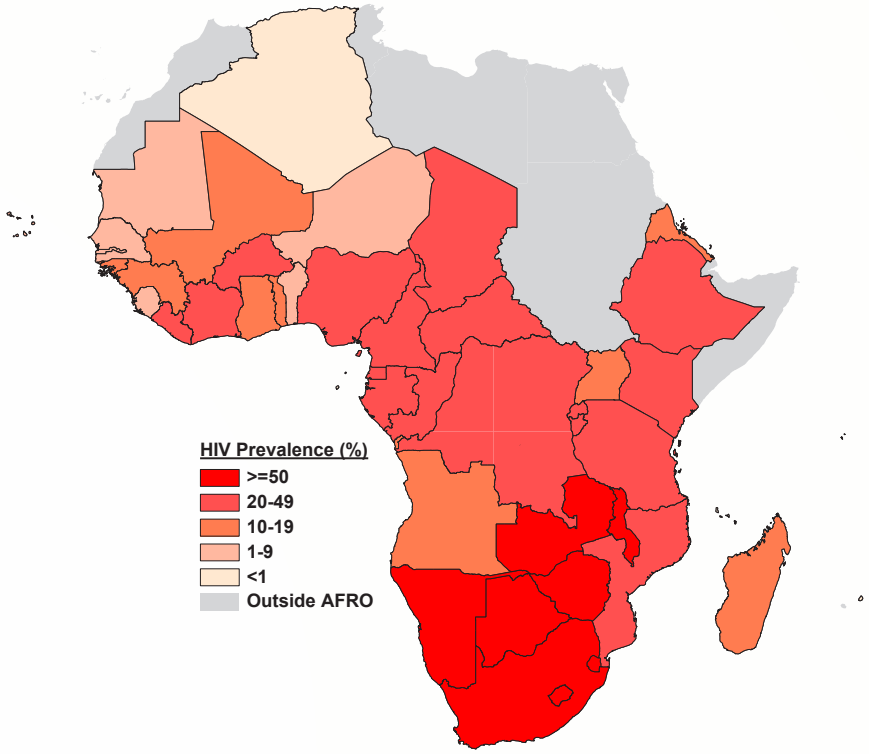
2. Overview of the TB burden in the SADC Region

2.1 Level and trends in Tuberculosis in SADC

The SADC Region remains the epicentre of the dual epidemic of Tuberculosis and HIV and AIDS, with SADC Member States registering the highest per capita burden of both diseases in both the world and in the African Region of WHO. This translates to the Member States having collectively and individually the highest proportion of TB patients co-infected with HIV in the African Region as well as the world (see Fig 1)

1 *Harries, A D et al. The HIV-associated tuberculosis epidemic-when will we act. The Lancet.Tuberculosis. May 2010*
2 *SADC TB Report 2008*

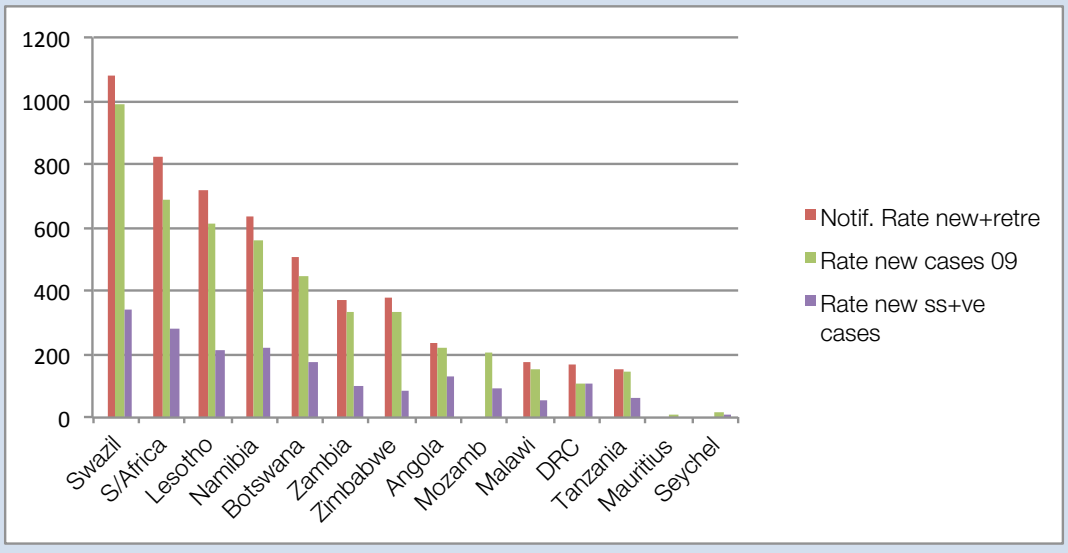
Fig. 1 Estimated prevalence of HIV infection in TB cases: WHO African Region 2009



Source: WHO AFRO IST/ESA (Personal communication)

The Tuberculosis burden remains high in most SADC Member States. Figure 2 shows the notification rates recorded by the countries in 2009. Notification rates of more than 300 new cases per 100,000 were recorded in seven Member States. Five Member States recorded rates between 100 and 250 new cases per 100,000. Only two Member Statesreported much lower rates.

Fig.2 Burden of TB in SADC Member States in 2009 based on notification figures (Total cases, new cases and new sputum smear positive cases per 100,000 population)

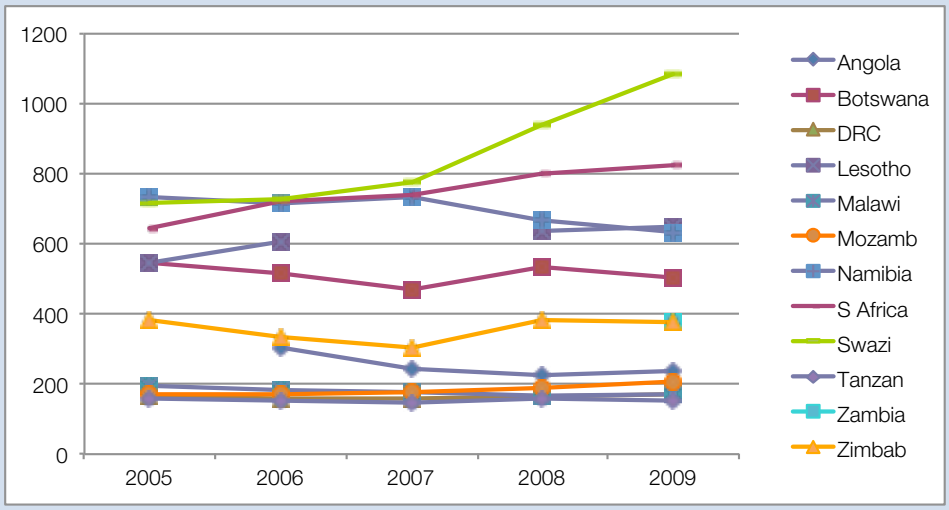


Source: Reports of Member States to SADC

Figure 3 shows the trend of Tuberculosis in the high-burden SADC Member States in the five years spanning 2005 to 2009.These are the countries which were particularly hard hit by the HIV-associated TB epidemic. Angola, Botswana, DRC, Malawi, Namibia, Tanzania and Zimbabwe show a levelling off of cases in the five years with some decline noticeable in some of them. Lesotho, Mozambique, South Africaand Swazilandstill have an upward trend indicating that the TB epidemic has not yet reached its peak. The former group of countries therefore have reached their peak of HIV-associated TB, while the latter groupare still to reach their peak.

The percentage of sputum smear positive cases among the notified new pulmonary cases, the most important group epidemiologically because of their role in transmitting infection, ranges from 22% in Lesotho to 85% in DRC. This wide range is likely to be due to several factors, the most important being the atypical presentation of TB in HIV infected individuals, where there are more cases of smear negative pulmonary cases, and the fact that in some countries a proportion of pulmonary cases do not have a sputum smear examination. No particular trend or pattern is therefore discernible.

Fig. 3 Five year trend (2005-2009) in TB notifications in high burden SADC Member States (Total notifications, new and retreatment cases per 100,000 population).



Source: Constructed from data submitted by Member States to SADC

2.2 TB Mortality

SADC Member States have no capacity to estimate TB mortality, thus they rely on estimates performed by WHO. The WHO estimates of mortality rates from TB are based on modelling and give very wide ranges. For example, for 2008, the TB mortality rates in SADC are given as ranging from 4.7 per 100,000 population (1.8-8.9) in Mauritius to 77 per 100,000 (31-150) in DRC. More examples are Tanzania 13 (range 6.1-22), Botswana 38 (14-84), South Africa 39 (17-79).[3] They are therefore not useful for this report.

Case fatality rates of cases registered in a particular year vary considerably between Member States and are more useful for estimating mortality and demonstrating the effectiveness of NTPs. TB case fatality rates in cases notified in 2008 ranged from 0% in Seychelles to 11% Lesotho. The spread was as follows:

Seychelles	**0%**	**Zimbabwe**	**9.2%**
Angola	**3.7%**	**Mozambique**	**9.7%**
DRC	**4%**	**Swaziland**	**10%**
Tanzania, Zambia, Botswana	**5%**	**Lesotho**	**11%**
Namibia and S. Africa	**6%**		
Malawi	**8%**		

3 *WHO TB data: Africa; from the dataset used to produce the publication Global tuberculosis control: a short update to the 2009 report.*

2.3 The Gender Dimension

In tuberculosis-endemic areas, such as sub-Saharan Africa, the greatest burden of tuberculosis in women is during the childbearing years (15-49 years); this burden has been greatly exacerbated because of epidemiological changes induced by the global HIV and AIDS epidemic. One study has suggested thatwomen account for up to 70% of HIV-infected adults in sub-Saharan Africa, which has shifted the male-to-female ratio case-notification ratio such that more female than male cases of tuberculosis are now detected in countries where HIV prevalence exceeds 1%.[4] This is still to be demonstrated in SADC Member States as current data from the reports does not analyse the gender distribution of all cases but only smear positive cases.

According to available data from Member States on the 2009 cases, the age-sex distribution of smear positive cases shows a female preponderance in the early age groups up to age group 15-24. From age group 25-34 there is a male preponderance. Overall males constitute 55% to 60% of new smear positive PTB notifications[5]. In view of the fact that females tend to get more extra-pulmonary cases, and these data only present only smear-positive cases, the male preponderance may be reversed or reduced when all TB cases are taken into account.Sex differences in patterns of health utilization also need to be studied as the health-seeking behaviour of the different sexes may affect the distribution of cases.

2.4 The TB/HIV Epidemic

It has been shown that most Member States of SADC are in the grip of the dual TB/HIV epidemic, with the exception of the island states of Mauritius and Seychelles. As part of TB/HIV Collaborative activities, and coordination between the two programmes, Member States collect data on the HIV infection rate in TB patients.

Table 1 shows the results of this surveillance of HIV on TB patients.

Table 1 Percentage of new TB cases tested for HIV s in 2009, and percentage positive (co-infection rate)

Country	No. New TB Notifications	No. Tested for HIV	% tested	No. +ve	% +ve
Angola	38,823	2,143	6	424	19.8
Botswana	7966	5212	65.4	3399	65.2
DRC	114,039	31,312	27.5	6,126	19.6
Lesotho	13,520	10,563[6]	78.1	8,084	76.5
Malawi	24,356	21,041	86	13,558	64
Mauritius	116	116	100	7	6
Mozambique	45,493	38,087	84	25,056	66
Namibia	11,850	9,849	74.0	5,676	58.0
Seychelles	15	15	100	1	6.6
S/Africa	340,066	83,436	24.5	44,431	53.3
Swaziland	10,038	8,272	82.4	6,895	83.4
Tanzania	64,417	56,388	88	20,994	37
Zambia	43,066	34,992	72	23,584	67
Zimbabwe	46,294	35,886	77	28,507	79.4

Source: Data submitted by Member States to SADC Secretariat

The percentage of new TB cases in 2009 tested for HIV ranges from 6%iC to 100% (see Table 1). Most of the countries indicate testing more than 60% of their new TB cases for HIV. The co-infection rate, i.e., the proportion of those TB cases tested above that have tested positive for HIV ranged from 6% to 83.4%.

4 *Marais BJ, Gupta A, Starke JR, El Sony A. Tuberculosis in women and children.The Lancet.Tuberculosis. May, 2010.*
5 *Member States who provided gender data; Botswana, Lesotho, Malawi, Namibia*
6 *For Lesotho, refers to all notified cases, not new cases*

The most heavy burden countries (Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe) have recorded co-infection rates of above 50%, with all of them except Namibia and South Africa having rates above 60%.

2.5 Multi Drug Resistant TB (MDR-TB) and Extensively Drug Resistant TB (XDR-TB)

Drug resistant tuberculosis is becoming a world-wide problem. However, in the African Region, Southern Africa has recorded more cases than other sub-regions. The real extent of the problem is not known as most countries do not have the capacity to do regular or continuous drug resistance surveys, and the capacity to do Drug Susceptibility Testing (DST) for second line drugs. In the SADC region, only South Africa can do second line DST and therefore acts as the Supra-National Laboratory for almost all the countries for this work. A recent paper by Gandhi et al.[7], drawing from the Global Drug Resistance Surveillance Project data states that Botswana, Mozambique and Tanzania do periodic surveys, DRC, Lesotho,South Africa, Swaziland and Zimbabwe have sub-national or old data, Zambia has a survey underway, and Angola, Malawi and Namibia have no data. The same paper states that Botswana and Mozambique have the level of multidrug-resistant disease of 3-<6% in new cases, compared to 0-<3% in Lesotho, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe, while Angola, Malawi and Namibia have no data[8]. For previously treated cases, Botswana is stated as having multi-drug resistance of 12-<30%, Mozambique, South Africa, Zimbabwe, 6-<12%, Lesotho, Tanzania, and Zambia 0-<6%, and Angola, DRC, Namibia and Swaziland have no data[9].

Data collected from Member States on drug-resistant tuberculosis is presented in Table 2 below.

Table 2 Multi drug-resistant and extensively drug-resistant drug tuberculosis in SADC Member States in 2009

Country	No. MDR cases detected 2009	Cumulative MDR cases	No. on treatment	No. XDR cases detected 2009	Cumulative XDR cases	Years Drug Resistance Surveys conducted	Source of drugs for treatment Gvt/GF/ Donors
Angola	n/a*	n/a	n/a	n/a	n/a	n/a	n/a
Botswana	111	354	111	0	5	1995, 1999, 2002, 2007/8	Gvt
DRC	92	521	372	0	0	NONE	GLC, GF,UNITAID
Lesotho	160	385	294	0	3	2008	GLC, UNITAID
Malawi	9	144	45	0	0	Planned	Gvt
Mauritius	1	3	3	0	0	NONE	Gvt
Mozambique	137	418	138	0	2	2008	GLC
Namibia	275	790	275	17	40	2008	Gvt
Seychelles	0	0	0	0	0	NONE	Gvt
S/Africa	9,070	37,810[10]	5,496[11]	594	2,387[12]	2002	Gvt
Swaziland	166	450	250	5	5	2009	GVT/GF

7 *Gandhi et al. Multidrug-resistant and extensively drug-resistant tuberculosis: a threat to global control of tuberculosis. The Lancet.Tuberculosis. May 2010*

8 *Although Namibia was not assessed in the paper, based on the results of a TB drug resistant survey conducted in the country in 2008/9, the prevalence of MDR among new TB patients was 3.8% while prevalence among previously treated TB patients it was 16.4%.*

9 *The 2007/2008 Drug Resistance Survey in Botswana actually shows MDR disease of 2.5% in new cases and 6.6% in previously treated cases.*

10 *2004-2009*

11 *As at end of 2009*

12 *2004-2009*

Tanzania	27	80	25	-	-	2007	GF
Zambia	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Zimbabwe	39	39	0	0	0	1994	Gvt, NAC, GF, Donors

Source: Reports from SADC Member States to the Secretariat

**n/a = Not available*

It is noted that as at the end of 2009 some Member States had done drug resistance surveys as follows;Swaziland in 2009, Namibia in 2008, Lesotho in 2008, Tanzania in 2007 and Botswana in 2007/8. Zimbabwe reports a survey in 1994 (rather old), while Angola, DRC and Zambia are still reporting as having done no survey to date.All the Member States except Angola, Seychelles and Zambia have reported MDR-TB cases. Only Botswana, Lesotho, Mozambique, Namibia, South Africa and Swaziland have reported XDR-TB cases. It will obviously be some time before the true extent of the problem of MDR/XDR-TB in SADC is known. Most of the Member States detecting drug-resistant TB are now offering treatment and have developed plans approved by GLC.

3. Progress towards TB Control in the SADC Region

3.1 Tracking Progress towards Regional, Continental and Global Commitments

The DOTS Strategy has been implemented world-wide since 1991, especially in countries with a high burden of tuberculosis. However in 2005, when statistics indicated that DOTS alone would not be sufficient to achieve global TB control and elimination, the World Health Assembly recognized the need for a new strategy that would build upon and enhance the achievements of DOTS. The Stop TB Strategy was then launched in 2006. It is designed to meet the TB-related Millennium Development Goal as well as the TB Partnership targets set for 2015.

The targets of the MDGs and the Stop TB Strategy are as follows:

- MDG 6, target 8- to have halted and begun to reverse the incidence of TB by 2015
- Targets linked to the MDGs and endorsed by the Stop TB Partnership
    - By 2005, to have detected at least 70% if new sputum smear-positive TB cases and cured at least 85% of these cases
    - By 2015, to have reduced TB prevalence and death rates by 50% relative to 1990 levels
    - By 2050, to have eliminated TB as a public health problem (<1 case per million population).

The Member States of SADC are participating in the MDGs and in the Stop TB Strategy, and have been implementing DOTS, which is now a component of the Stop TB Strategy, since the early 1990s. Following the passing of Resolution AFR/RC 55/RS by the WHO Regional Committee for Africa at its 55th Session in Maputo in 2005, which declared TB an emergency and urged Member States to also declare TB as an emergency in their own countries, nine SADC Member States have formally declared TB an emergency. These are Botswana, DRC, Lesotho, Malawi, Mozambique, South Africa, Swaziland, Tanzania and Zambia. It would be useful for these Member States to indicate how the declaration of the emergency has enhanced the implementation of DOTS and the Stop TB Strategy in general, and the progress towards the attainment of MDG 6. The Abuja Call for Accelerated Action towards Universal Access to HIV and AIDS, Tuberculosis and Malaria Services of 2006, otherwise known as the Abuja Declaration, is an important Continental declaration of the AU to which SADC Member States subscribe. While the Declaration deals with leadership, resource mobilization, human rights, and strengthening of health systems among others, it has been known mainly for its target, pledged by Member States of allocating 15% of Government budgets to health. Governments need to assess how far they have implemented this pledge.

3.2 SADC Regional Response to the TB Epidemic

The cooperation of SADC Member States in TB control and the action of the SADC Secretariat derive from several documents. Firstly, there is the SADC Protocol on Health which came into force in 2004. The aim of the Protocol is to harmonize and rationalise resources in the implementation and attainment of the health objectives of the Region. Two articles of the Protocol are of specific importance to tuberculosis control:

- Article 9: Communicable Disease Control
- Article 12: Tuberculosis Control

Member States have now adopted The SADC Framework for the Control of Tuberculosis which covers the period 2007-2015. The Framework gives the following strategic approaches for the purposes of achieving its objectives:

- Coordination and harmonization of national TB control policies and guidelines in SADC Region in order to ensure enhanced and expanded quality DOTS services accessible to all TB patients
- Health system strengthening to support expansion and extension of quality DOTS services
- Strengthening of partnerships and collaboration between TB programmes, HIV programmes, NGO's, private sector and civil society and other sectors in the SADC Region.

The SADC Secretariat is in the process of implementing the above strategic approaches of the Framework. The purpose of the frameworks is two-fold; firstly, to compliment the national work that is on-going and secondly, to facilitate the integration agenda through harmonization.

Progress on the various strategic approaches is summarized below:

3.2.1 Coordination and Harmonization of National TB Control Policies and Guidelines

i) Harmonized Minimum Standards for the Prevention, Treatment and Management of Tuberculosis in the SADC Region

The consultancy to develop minimum standards for TBis at an advanced stage and it is expected to be completed in 2010. The Minimum Standards will be premised on the 2009 Assessment Report. The Assessment notedthat Member States have made strong progress in developing their TB control systems, but that implementation still lagged in many places. It noted a need to update policies to reflect current guidance, and incorporate new strategies and changes in treatment regimens. It also highlighted the fact that few Member States are adequately prepared to deal with MDR- and XDR-TB. A set of harmonised minimum standards for the control and management of TB in the SADC region was proposed.

ii) Policy Framework for Population Mobility and Communicable Diseases in the SADC Region

With regard to population mobility and communicable diseases, the SADC secretariat is facilitating two major processes, namely the development of a Regional Framework for population Mobility and Communicable Diseases. The Draft framework was completed in 2009. However, the SADC Secretariat has been advised by Member States to clearly articulate the financing mechanism for the Framework and the role of the private sector before it can be taken to the Ministers of Health for approval.

The draft framework calls for harmonised communicable diseases treatment regimens and management guidelines across SADC Member States, coordinated cross-border referral services and continuity of care for patients with communicable diseases, and joint programming for communicable disease control along common borders. They also describe steps to achieve equitable access to health services for cross-border mobile populations, the coordination of regional public health surveillance and epidemic preparedness, health promotion among mobile populations, and legal, regulatory and administrative reforms.

The Second initiative is related to the development of a referral form for TB.This has been prioritized considering the high levels of mobility in the region and the time required to successfully complete TB treatment, which is typically, six months for a standard course of treatment and up to 24 months for MDR TB.

The main purposes of the referral/ transfer/notification form include:

- Enhancing the continuum of care;
- Reducing treatment interruption;
- Improving collaboration on TB control efforts amongst MS;
- Reducing the spread of TB in the region

This form will also facilitate the exchange of information between MemberStates to ensure that patients continue their treatment when moving from one MS to another and not defaulting on their treatment. Before the form can be fully operationalized, it will be implemented in selected Member States.

iii) Regional Minimum Standards for the Harmonized Control of HIV and AIDS, Tuberculosis and Malaria in Militaries in the SADC Region

This framework has also been approved and is ready for implementation. The SADC Secretariat will facilitate and coordinate the implementation, working with Ministries of Health, national coordinating bodies and Military Health Services.

The proposed regional minimum standards are informed by the SADC Protocol on Health and the Maseru Declaration. Key among the principles guiding themare universal access, gender equality and non-discrimination, and the need to involve all partners (civil and military) in the planning, implementation and evaluation of the standards. The regional minimum standards serve as a framework for guiding the regional harmonisation of activities for preventing and controlling HIV and AIDS, TB and Malaria in all SADC Member State militaries. They set out minimum policy requirements for Governments, military health service managers and other policy development personnel in the areas of policy and programming, training, prevention strategies, diagnostic tools and methods, case management, treatment and care, as well as referral systems, data collection, and monitoring and evaluation.

3.2.2 Health Systems strengthening to support extension and expansion of quality DOTS services

The implementation of DOTS can only be sustainable if it is done in the context of a strong health system. Technology and Infrastructure constitute an important pillar of a National Health System, the others being Leadership and Governance, Health Financing, Health Information Systems, Human Resources for Health and Service Delivery. It is in this regard that laboratory services are treated as critical in the implementation of DOTS within the context of the SADC Framework for the Control of Tuberculosis. Progress in this strategic approach can be summarized as follows:

i) Minimum Standards for National Reference Laboratories in the SADC Region

Diagnostic services are an essential component of the Health System. They are particularly important in Tuberculosis Control. SADC recognizes that National Reference Laboratories are at the pinnacle of diagnostic service provision. It is in this light that SADC adopted the Minimum Standards for National Laboratories in the SADC Region.

The SADC Secretariat will establish a laboratory coordination mechanism to streamline its support for laboratory services, while WHO will provide technical support and advice, and assist in resource mobilization and in meeting training and human resource needs.

ii) Functions and Minimum Standards for Supranational Reference Laboratories in the SADC Region

Since there is a range of essential diagnostic tests that currently cannot be performed in some Member States, it is essential that selected laboratories in the Region be able and empowered to conduct these tests for other Member States. These laboratories are to serve as referral facilities for national reference laboratories.

In addition, Regional Centres of Excellence (RCE's) and expertise should be mandated to spearhead efforts to help strengthen laboratories.

SADC is in the process of selecting laboratories in the Region to be designated Supranational Reference Laboratories and others to be designated Regional Centres of Excellence.

iii) Harmonized Surveillance Framework for HIV and AIDS, Tuberculosis and Malaria in the SADC Region

The Regional HIV and AIDS, TB and Malaria reports will be prepared annually, and Member States are required to prepare national annual reports based on the SADC core indicators . The Secretariat will develop a guide which Member States will use for reporting purposes.

In this regard a framework for core indicators has already been developed for TB and is being implemented and is used for the preparation of the annual report.

3.2.3 Strengthening of Partnerships and Collaboration between TB Programmes, HIV Programmes, NGO's, Private Sector, Civil Society etc.

Meetings of TB Programme Managers as well as those of TB Managers and Partners are now established and regular. The SADC Secretariat convenes meetings of the National TB Programme Managers and the Partners annually on a back to back basis. The Managers meet to take stock of progress and deliberate on a theme decided in the previous meeting. The partners are also appraised on progress and they give an update on their own activities.

Both meetings discuss the draft SADC Annual TB Report and give their inputs.

3.3 Tracking Progress of Member States towards meeting the Regional, Continental and Global Commitments

SADC Member States subscribe to the Stop TB Strategy and to its component DOTS Strategy (Directly Observed Treatment, Short Course). As a result, the internationally agreed to indicators are used by the Member States (including those of SADC) for monitoring progress towards the agreed targets. This report will concentrate on those indicators relating to the monitoring and evaluation of programme performance, although others relating to impact will also be examined. The indicators are used to measure coverage targets (monitoring), reaching strategic and outcome objectives (evaluation) and impact objectives (epidemiological surveillance). The calculation of most indicators is achieved mainly through the use of the Recording and Reporting system

Below are the components of both strategies:

Components of Stop TB Strategy:

1. Pursuing high-quality DOTS expansion and enhancement
2. Addressing TB/HIV, MDR-TB and other challenges
3. Contributing to health system strengthening
4. Engaging all care providers
5. Empowering people with TB, and Communities
6. Enabling and promoting research.

Components of DOTS:

1. Political commitment with increased and sustained financing
2. Case detection through quality assured bacteriology
3. Standardized treatment with supervision and patient support
4. An effective drug supply and management system
5. Monitoring and Evaluation system and impact measurement

Performance of Member States in some of the components of both strategies that are regarded as critical is examined below.

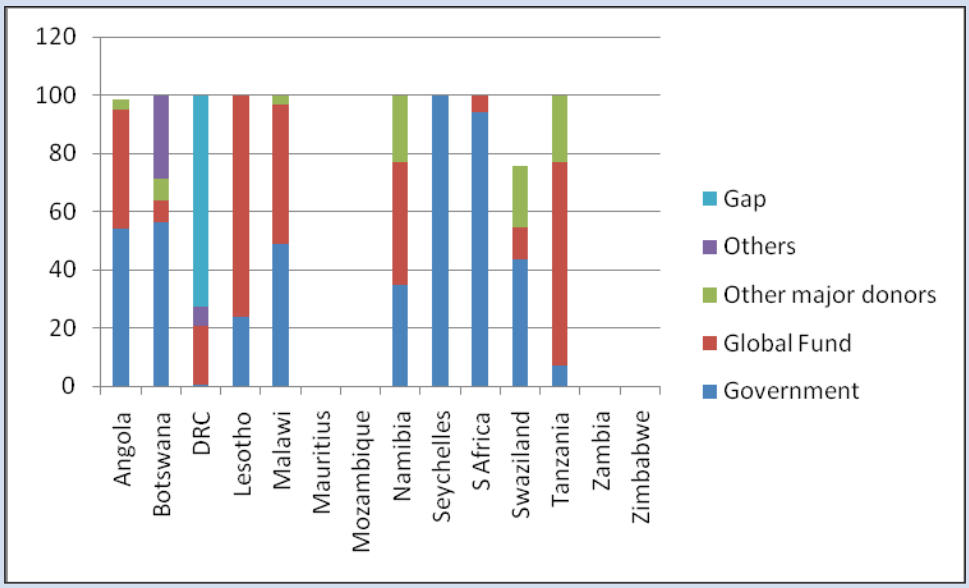
3.3.1 Political commitment with increased and sustained financing

Member States were asked to provide information on how their National Tuberculosis Programmes (NTPs) were financed, including a breakdown of the different sources of finance. The information provided varies widely because of the different budgeting systems; some countries don't have a specific budget for the NTP and have to extrapolate the data. It is therefore even difficult for some countries to state the actual total budget expended on tuberculosis activities or the NTP. It is generally expected that because of Human Resources, Infrastructure etc., the Government would be the main funder of the NTP, but this is not always obvious because of the differences in budgeting systems referred to.

Figure 4 summarizes the information on financing received from Member States. The graph shows quite a variation in sources of finance for TB programmes, but Governments are the major source for most Member States followed by The Global Fund, with the exception of DRC where Government contribution is almost insignificant at 0.6%. DRC also has only indicated the source of 27.2% of the budget and has stated the rest (72.8%) as a gap, the only country that has actually stated the size of the gap.

Three Member States (DRC, Malawi, Tanzania) have given the figures for their full NTP budgets, and by adding figures given from sources an estimated budget could be made for four others (Angola, Botswana, Lesotho, Namibia). What is not clear is whether normal recurrent costs, such as salaries, transport and other operational costs covered by Government are included in the Government contribution.

Fig 4 Sources of funding for NTPs in SADC (% contribution by each source) 2009



Source: Constructed from reports provided by Member States

3.3.2 Case detection and diagnosis through quality-assured bacteriology

Detection of TB cases requires that affected individuals are aware of their symptoms, have access to health facilities and are evaluated by health workers who recognize the symptoms of TB. Health workers must have access to a reliable laboratory and ensure that the necessary specimens are collected for examination.

The most common symptom of pulmonary TB is a persistent, productive cough, often accompanied by non-specific symptoms such as fever, night sweats and loss of weight. A cough of 2-3 weeks duration therefore is an important screening criterion for initiation of TB investigation. There are also symptoms and signs related to extra-pulmonary TB relevant to affected sites such as lymph nodes, pleura, meninges, spinal cord etc. However pulmonary TB is always the dominant type of TB, and also the most important for the spread because TB is spread mainly by the droplet method.

However, countries should aim to diagnose and treat successfully as close as possible to 100% of all estimated tuberculosis cases; all forms of the disease and all age groups. Early laboratory diagnosis of Pulmonary TB relies on the microscopic examination of respiratory specimens, especially sputum, for Acid-Fast Bacilli(AFB). The technique is relatively simple and inexpensive and is currently indispensable in the detection of the most infectious cases of pulmonary TB. Where resources permit, the use of fluorescence microscopy, or even better, fluorescence microscopes equipped with a light-emitting diode (LED) is faster and more sensitive. The latter avoids the need for dark rooms.

Mycobacterial culture is much more sensitive than smear microscopy and provides a definitive diagnosis of TB. It is therefore seen as the gold standard for bacteriological confirmation. However it is impractical to do culture on all cases in poor-resource settings, so cases for culture have to be selected on set criteria. Ideally culture should be done on liquid medium, but this is more complex than the solid medium that is still largely used in poorer countries. Culture on liquid medium is rapid and can provide results in about 10 days as opposed to solid medium that needs 4-8 weeks. Globally it is recommended that coverage with sputum-smear microscopy be one centre per 100,000 population, and coverage with culture and DST be equal or more than one centre per 5 million population.

Table 3 shows the laboratory diagnostic capacity of SADC Member States in TB.

It is evident from the table that with the exception Angola, Lesotho, Mauritius, South Africa and Zimbabwe the SADC Member States have achieved the microscopy coverage of 1 centre to 100,000 population. With culture and DST (1st line), only the Member States with smaller populations, and South Africa, have achieved the desired ratio of 1 centre to 5 million population. The countries with bigger populations (Angola, DRC, Malawi, Mozambique, Tanzania, and Zimbabwe) have not achieved the ratio.

Table 3 TB Laboratory services coverage in SADC Member States

		TB LABORATORY SERVICES 2009		
COUNTRY	POPULATION	Number of labs working in NTP		
		Smear[13]	Culture	DST
Angola	17,596,000	147 (1:119,700)	1	1
Botswana	1,798,372	52 (1:34,584)	1	1
DRC	68,919,951	1339 (1:51,471)	1	1
Lesotho	1,876,633	17 (1:110,390)	1	1
Malawi	14,085,345	210 (1:67,073)	1	1
Mauritius	1,280,000	1 (1:1,280,000)	1	1
Mozambique	21,806,822	433 (1:50,362)	1	1
Namibia	2,103,766	31 (1:67,863)	1	1
Seychelles	87,298	2 (1:43,649)	1	0
S/Africa	49,320,500	249 (1:198,074)	16	16 1st line 5 2nd line
Swaziland	1,018,449	19 (1:53,602)	1	1
Tanzania	41,915,880	807 (1:51,940)	3	1
Zambia	13,046,508	204 (1:63,953)	3	3
Zimbabwe	12,470,708	115 (1:108,440)	2	2

Source: Reports from SADC Member States

13 *Figures in brackets indicate the ratio of population to 1 microscopy centre*

An important weakness in diagnosis is that several Member States still report a significant proportion of their pulmonary TB cases not subjected to smear microscopy. This is despite the favourable ratio mentioned above. The problem may be due to easy accessibility of X-Ray diagnosis, although poor accessibility of microscopy services may be a factor in some cases. The Member States that have reported have given the following percentages of pulmonary cases diagnosed by sputum microscopy: Botswana 63%, DRC 70%, Malawi 90%, Namibia 76%, Swaziland 75%, Zambia 100%.

3.3.3 Provide standardized treatment with supervision, and patient support

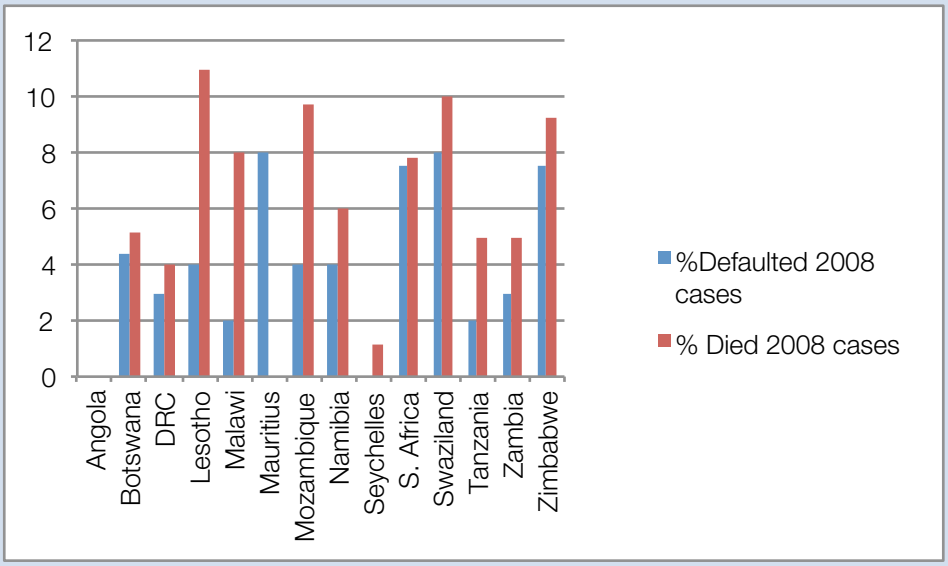
The global target of treatment success rate in DOTS programmes is 85%. In the SADC Region, which is the epicentre of the TB/HIV dual epidemic, it is acknowledged that the high prevalence of HIV and MDR tuberculosis constitute specific challenges impeding high success rates.

Health system weaknesses, poor health-care access, and several patient-related factors, including financial barriers, create challenges for treatment adherence in most Member States as well. Cohort analysis of smear positive cases is given priority because of the importance of smear positive cases in the epidemiology of tuberculosis. The smear positive cases are the main transmitters of tuberculosis infection, and therefore their cure is especially important in breaking the chain of transmission. Cohort analysis gives the outcome of treatment at 12 months in terms of Success Rate (cured, completed treatment), Defaulted, Died, Transferred Out, and Treatment Failed. Figure 5 below gives the success rates in SADC Member States for cohorts registered in 2007 and 2008. The data suggests that countries have tended to have similar success rates for the two years, indicating little improvement, granting that two points are too few to form a series or a trend. For 2008, DRC, Malawi, Seychelles and Tanzania hadachieved the standard 85% success rate, with Mozambique, Namibia and Zambia achieving above 80% but below 85%. The same countries, with the addition of Angola had achieved above 80% in 2007. This means that most SADC MS are still falling below target in their treatment success rates, and this is a risk for the development of MDR/XDR-TB. Unsuccessful outcomes are another way of illustrating the low success rates. Figure 6 shows the percentage of defaulters and deaths in the cases registered in 2008. Lesotho, Malawi, Mozambique, South Africa, Swaziland and Zimbabwe have particularly high case fatality rates at above 6%. For default rates, taking 4% as an arbitrary division between poor and better performing programmes, for 2008 cases, Botswana, Lesotho, Mozambique and Namibia are border-line with default rates of 4% but below 5%. South Africa and Zimbabwe at 7.5%, Mauritius and Swaziland at 8% all have high default rates of 5% and above. DRC, Malawi, Tanzania and Zambia have default rates below 4%. Defaulting is a very important source of drug resistant-tuberculosis, and it is essential that Member States take particular steps to bring down default rates.

Fig 5 TB treatment success rates in SADC Member States: cases registered in 2007 and 2008 respectively (2007 and 2008 cohorts)

Source: Constructed from data submitted in SADC MS reports

Fig 6 Default and Death Rates among TB cases registered in 2008 in SADC Member States



Source: Constructed from data submitted in SADC Member MS reports

3.3.4 An effective drug supply and management system

This includes availability of TB drugs, TB drug management and cooperation with the Global Drug Facility (GDF) and the Green Light Committee (GLC). Most Member States report a steady supply of drugs, mainly fixed-dose combinations, financed principally by Governments but with inputs from Donors, International Health Agencies, and Global Health Initiatives such as the Global Fund. However presentations by Member States during the consultation meeting for this report indicated that most of them need support to strengthen both their procurement systems and supply chain management.

3.3.5 Monitoring and Evaluation system and impact measurement

The DOTS strategy has a well-articulated Monitoring and Evaluation framework. This includes assessing activities, monitoring costs and expenditure, determining the extent of programme coverage and evaluating treatment outcomes, as well as the epidemiological impact of the programme. At the centre of the reporting system is the cohort analysis, which is the systematic analysis of standard outcomes of treatment. SADC Member States are all carrying out the Recording and Reporting system which is the basis for the DOTS and Stop TB strategies and are regularly reporting to WHO and now to SADC. Data in this report are largely from this system in Member States. Judging from the consultative meeting of National TB Programme Managers, most programmes now have M&E focal points. Those that do not have one have been encouraged to put one in place.

3.3.6 Addressing TB/HIV, MDR-TB, and other challenges

Since the adoption of the DOTS Strategy in the early 1990s, new challenges have emerged that made it difficult for DOTS to attain its targets. These challenges were mainly related to the impact of the HIV pandemic, which was particularly strong in the SADC Region, and to the emergence of MDR-TB, which has also been influenced by HIV. This is what led to the adoption of the Stop TB Strategy, which can be regarded as an expansion of the DOTS Strategy. In 2004, a WHO interim policy on collaborative tuberculosis and HIV activities was formulated, and laid out the interventions needed to decrease the joint burden of tuberculosis and HIV. This interim policy proved to be good guidance during the period when data was insufficient to make it more complete, but is now in need of revision. However, it is used in this report as a framework to assess the progress Member States have made in articulating the TB/HIV collaborative activities.

Table 4 gives the reported status of TB/HIV collaborative activities in the Member States in 2009. All Member States have embarked on some collaborative activities, but they are still at different levels of implementation. Since this is more of a qualitative than a quantitative analysis, it is difficult to be precise. The activities reported as undertaken by all Member States are intensified TB case finding (14), and HIV testing and counselling (14). The next set of

activities undertaken by most Member States are : Co-trimoxazole preventive therapy (CPT) (12), Anti-retroviral therapy (ART)(13), surveillance of HIV prevalence among TB patients (13), carry out joint HIV/TB planning(12), conduct Monitoring and Evaluation (12), ensure TB infection control in health care and congregated settings (12) and ensure HIV care and support (12). These are important technical interventions which should make an impact on mortality in TB patients. Most Member States also report as having established mechanisms for collaboration between the two programmes, including the setting up of a coordinating body (11) and introducing HIV prevention methods (10). It is promising that this number of MS have formalised the coordination of TB/HIV activities as this is usually an area fraught with difficulties because of the independence of the two disease control programmes. Not surprisingly, Isoniazid Preventive Therapy (IPT) is the activity reported by the least number of Member States (8). It is still a controversial area with many not convinced of its efficacy or cost-effectiveness. The other area in which MS reported low implementation is "Introduce HIV prevention methods". This refers to HIV prevention methods among TB patients, and the low response suggests that few MS actually target prevention at those attending TB clinics. Surprisingly more MS have indicated they are conducting HIV counselling and testing among TB patients.

The response to MDR-TB has been variable in Member States. Table 2 has given the extent of the problem in the countries and their response, and illustrates that due to capacity constraints, both diagnosis and treatment are still a problem. Drug resistance surveys are not consistently done by the various countries, making comparisons unreliable. All the SADC Member States, with the exception of South Africa and Angola, do not have the capacity to do DST for 2nd line drugs, with the result that virtually the whole of SADC depends on that one Member State for this important test (Tanzania and DRC depend on Belgium).

Member States have however generally developed plans and have submitted them to the Green Light Committee (GLC). At least 8 Member States have indicated their plans as approved or in the process of being approved by the GLC, some assisted to procure 2nd line drugs. The Global Fund, UNITAID, GLC, and some other Donors are also assisting some Member States with these drugs.

It needs to be reiterated that it is only by proper implementation of the DOTS programmes, with treatment success rates of over 85% and reduction of default rates to a minimum, that the problem of MDR/XDR-TB can be fundamentally dealt with.

Table 4 The state of implementation of the collaborative TB/HIV activities in SADC, using the WHO interim policy

Activity	Countries implementing activity	Number of Member States implementing
1 ESTABLISH MECHANISMS FOR COLLABORATION		
1.1 Ensure a coordinating body exists for effective TB/HIV collaboration at all levels	DRC, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Tanzania, Zambia, Zimbabwe	11
1.2 Conduct surveillance of HIV prevalence among TB patients	Angola, Botswana, DRC, Malawi, Mauritius, Mozambique, Namibia, South Africa, Seychelles, Swaziland, Tanzania, Zambia, Zimbabwe	13
1.3 Carry out joint HIV/TB planning	DRC, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, Swaziland, Tanzania, Zambia, Zimbabwe, Lesotho	12
1.4 Conduct monitoring and evaluation (M&E)	DRC, Lesotho, Malawi, Mauritius, Mozambique, Namibia, South Africa, Seychelles, Swaziland, Tanzania, Zambia, Zimbabwe	12

2 DECREASE THE BURDEN OF TB IN PEOPLE LIVING WITH HIV		
2.1 Establish intensified TB case finding	Angola, Botswana, DRC, Malawi, Mauritius, Lesotho, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe	14
2.2 Introduce Isoniazid Prevention Therapy (IPT)	Botswana, Lesotho(U-5s), Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia	8
2.3 Ensure TB infection control in health care and congregate settings	Angola, Botswana, DRC, Mauritius, Mozambique, Namibia, South Africa, Seychelles, Swaziland, Tanzania, Zambia, Zimbabwe	12
3 DECREASE THE BURDEN OF HIV IN TB PATIENTS		
3.1 Provide HIV testing and counselling	Angola, Botswana, DRC, Lesotho, Malawi, Mauritius, Mozambique, Namibia, South Africa, Seychelles, Swaziland, Tanzania, Zambia, Zimbabwe	14
3.2 Introduce HIV prevention methods	DRC, Lesotho, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Tanzania, Zambia, Zimbabwe,	10
3.3 Introduce co-trimoxazole preventive therapy (CPT)	Angola, Botswana, DRC, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe	12
3.4 Ensure HIV care and support	Angola, Botswana, Lesotho, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe	12
3.5 Introduce Anti-retroviral therapy (ART)	Angola, Botswana, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, Swaziland, Tanzania, Zambia, Zimbabwe, South Africa	13

Source: Reports from Member States 2009

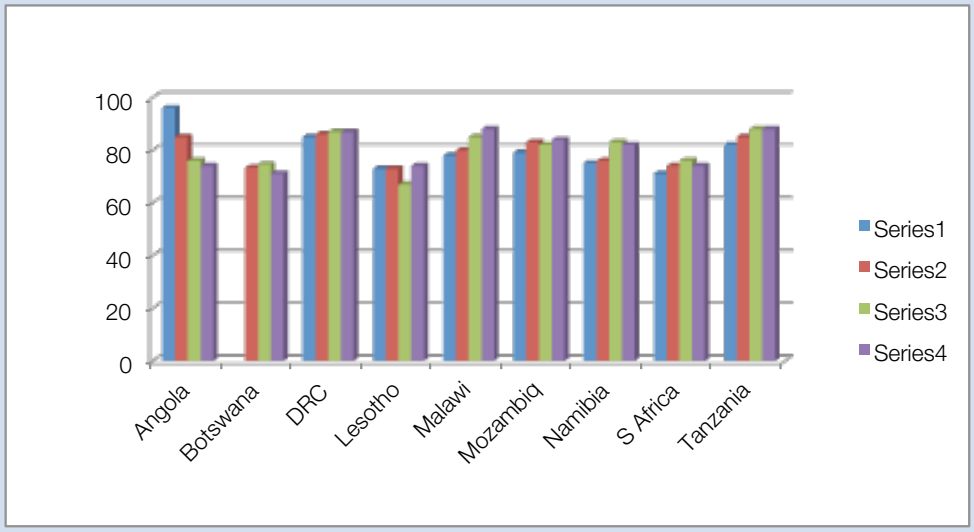
3.4 Emerging Good Practices

It has proven a challenge to distil a pattern of emerging good practices from the reports received because of the wide variation. Some examples include Public Private Partnership in the treatment of cases by allowing private health providers to initiate treatment (Botswana), involvement of Community Health Workers in support of TB patients for Direct Treatment Observation (DOT) and Traditional Healers as referral points of TB suspects (Lesotho), Community-based DOTS (Mozambique), the use of community field workers , especially “Field DOTS promoters and Lifestyle Ambassadors” as part of community TB care scale up (Namibia), and policy guidelines adopted and approved by all partners (Tanzania). It is difficult to show a direct impact of these practices on outcomes or impact; that can only be done if specific research or evaluation is undertaken on the projects that are undertaken to implement these practices.

With respect to good practice in routine DOTS implementation, some Member States have performed well in Success Rates and in keeping negative indicators low (deaths, defaults, transfer out). Seychelles, Tanzania, Malawi and DRC stand out in this regard as they achieved success rates of over 85% in the 2008 cohort. However an

analysis of treatment success rates (a measure of outcome) over the period 2005-2008 indicates that there has been little improvement in success rates and hence in DOTS implementation over the period (see Fig 7). These data suggest that for the last five years, programme performance has remained flat in virtually all Member States, with poor performers remaining poor and high performers maintaining their performance. However, the two best performers, Malawi and Tanzania have actually shown a trend of improvement in success rates over the period.

Fig 7 Treatment Success Rates 2005-2008 SADC



Key: Series 1: 2005 Series 2: 2006 Series 3 :2007 Series 4: 2008

Source: TB Reports of Member States to SADC

Another area where good practice is needed, but more difficult to judge is that of strengthening case detection through quality assured bacteriology. Using the proportion of sputum smear-positive cases as percentage of new pulmonary cases as a proxy indicator of case detection, the highest scoring countries in 2009 were DRC (85%), Botswana (59.6%),Mozambique (53.5%) Tanzania (53%), and Angola (52.7%), in that order, all scoring above 50%. On the other hand, in terms of diagnosis by sputum smear, the Member States that have reported have given the following percentages of Pulmonary cases diagnosed by sputum microscopy: Botswana 63%, DRC 70%, Malawi 90%, Namibia 76%, Swaziland 75%, Zambia 100%. On strategies to sustain political and financial commitments, Angola, Botswana, Malawi, Seychelles and South Africa indicated the highest contribution of Government to the NTP budget. Most Member States showed the ability to mobilize various donors, which is a strength in itself. The Global Fund is a major contributor to NTP's to all the Member States, with the exception of Seychelles and probably Mauritius as well.

4. Gaps and Challenges

4.1 Policy and Programme Gaps in TB Control in the SADC Region

Policies are generally well developed in Member States as they are based on internationally agreed strategies such as the Stop TB Strategy and DOTS. The gaps in programmes relate largely to implementation such as delivery of directly observed treatment (health facility vs. community based), ensuring bacteriological diagnosis of all pulmonary cases, drug and laboratory supplies to avoid stock-outs, and keeping up to date information systems on TB through maintenance of the standard DOTS Recording and Reporting system.

4.2 Challenges in TB Control in the SADC Region

Many challenges are stated by reports. The following is a distillation of the challenges as mentioned by Member States:

I. Increase in drug resistant-tuberculosis (MDR/XDR-TB)

II. Human resource issues relating to development and management: inadequate numbers of staff, regular supervision to districts, supervision of MDR programme, training and mentoring of all Health workers working in TB and HIV.

III. TB/HIV collaboration at all levels, including coordination, planning, ART delivery, IPT, CPT etc.

IV. Inadequate financial and technical resources impeding the implementation of aspects of programmes, such as rapid diagnostic technologies and diagnosis of MDR/XDR-TB.

V. Weak coordination of partners working in TB and HIV areas

5. Recommendations

In the 2008 report the recommendations were extensive and they covered Regional and Member States issues. At Regional level, in line with the recommendations, the SADC Secretariat has further articulated its role in TB and Health Systems. It has undertaken advocacy with WHO and other International bodies including advocating for a special Southern African initiative in view of the TB burden, and has also called for more countries to be supported to do prevalence surveys. A monitoring system for the various SADC health frameworks, including TB, is being put in place.

With respect to Member States, the status of action on the 2008 recommendations can be summarized as follows:

- Reporting: TB reports were received by the Secretariat in piecemeal fashion- a plea is therefore made for MS to submit reports in time

- Programme issues: While conceding that one year is too short to observe marked improvement in programme implementation covering diagnostic and treatment areas, MDR-TB and TB/HIV collaborative activities, there is no evidence of much improvement in these areas.

In view of the above, it is therefore important that the recommendations from the 2008 SADC TB Report, both at Regional and Member State level, continue to be implemented. It is further recommended that:

1. As there is little evidence of improvement in outcomes related to DOTS implementation, with only two MS showing a documented improvement in treatment success in the last five years, it is recommended that Member States make specific and innovative efforts to improve outcomes, especially cure/success rates, as well as reducing default and death rates.

2. Improvements in implementing TB/HIV collaborative activities are recognized. Some MS still have to set up a coordinating body for the two programmes as well as mechanisms for joint planning and implementation The findings (see Table 4) also suggests that MS have to decide on the implementation of HIV preventive methods and on Isoniazid Preventive Therapy (IPT). The difficulties and controversies relating to the latter are recognized, but MS have to declare if they will implement IPT.

3. More effort is also needed to establish the extent of MDR-TB in Member States as well as the ability to diagnose cases, and to properly treat them. It is noted that some Member States have had their plans to deal with MDR-TB approved by the Green Line Committee. All the Member States that are high-burden TB countries need to expedite their plan approval with the GLC. Member States should put all MDR-TB cases on treatment and mobilize resources if need be. They should also introduce technologies for rapid diagnosis of MDR-TB and again mobilize resources for that if needed.

4. SADC Secretariat to mobilise funding on behalf of Member States to conduct prevalence surveys.

5. All MSs should use standard reporting formats with gender and age distributions (SADC and WHO to harmonise on reporting formats).

6. MS should report on deaths of patients who die while waiting for confirmatory laboratory test for DR TB.

6. Annexes

Annex 1: Glossary of common terms and definitions

Term	Meaning/Definition
Definition of TB Cases	
Case of tuberculosis	A patient in whom tuberculosis has been confirmed by bacteriology or diagnosed by a clinician.
Definite case	A patient with positive culture for the Mycobacterium tuberculosis complex. In Member States where culture is not routinely available, apatient with two sputum smears positive for acid-fast bacilli (AFB+) is alsoconsidered a definite case.
Pulmonary case	A patient with tuberculosis disease involving the lung parenchyma.
Smear-positive pulmonary case	A patient with one or more initial sputum smear examinations (direct smear microscopy) AFB positive.
Smear-negative pulmonary case	A patient with pulmonary tuberculosis not meeting the above criteria for smear-positive disease. Diagnostic criteria should include: at least two sputum smear examinations negative for AFB; and radiographic abnormalities consistent with active pulmonary tuberculosis; and no response to a course of broad-spectrum antibiotics (except in a patient for whom there is laboratory confirmation or strong clinical evidence of HIV infection); and a decision by a clinician to treat with a full course of antituberculosis chemotherapy; or positive culture but negative AFB sputum examinations.
Extrapulmonary case	A patient with tuberculosis of organs other than the lungs (e.g. pleura, lymph nodes, abdomen, genitourinary tract, skin, joints and bones, meninges). Diagnosis should be based on one culture positive specimen, or histological or strong clinical evidence consistent with active extrapulmonary disease, followed by a decision by a clinician to treat with a full course of antituberculosis chemotherapy. A patient in whom both pulmonary and extrapulmonary tuberculosis has been diagnosed should be classified as a pulmonary case.
New case	A patient who has never had treatment for tuberculosis or who has taken antituberculosis drugs for less than one month.
Re-treatment case	A patient previously treated for TB, who is started on a re-treatment regimen after previous treatment has failed (treatment after failure), who returns to treatment having previously defaulted (see below; treatment after default), or who was previously declared cured or treatment completed and is diagnosed with bacteriologically positive (sputum smear or culture) TB (relapse).

Definitions of treatment outcomes The definitions are expressed as a percentage of the number of patients registered in the cohort	
Cured	A patient who was initially smear-positive and who was smear negative in the last month of treatment and on at least one previous occasion.
Completed treatment	A patient who completed treatment but did not meet the criteria for cure or failure. This definition applies to pulmonary smear-positive and smear-negative patients and to patients with extrapulmonary disease.
Died	A patient who died from any cause during treatment.
Failed	A patient who was initially smear-positive and who remained smear-positive at month 5 or later during treatment.
Defaulted	A patient whose treatment was interrupted for 2 consecutive months or more.
Transferred out	A patient who transferred to another reporting unit and for whom the treatment outcome is not known.
Successfully treated	A patient who was cured or who completed treatment.
Cohort	A group of patients in whom TB has been diagnosed, and who were registered for treatment during a specified time period (e.g. the cohort of new smear-positive cases registered in the calendar year 2005). This group forms the denominator for calculating treatment outcomes. The sum of the above treatment outcomes, plus any cases for whom no outcome is recorded (e.g. “still on treatment” in the European Region) should equal the number of cases registered. Some Member States monitor outcomes among cohorts defined by smear and/or culture, and define cure and failure according to the best laboratory evidence available for each patient.
Definitions of outcome and impact measures of TB control	
Outcome	
Case notification rate: all cases	The number of TB cases reported to the NTP per year per 100,000 population. Numerator: Number of all TB cases reported in the past year Denominator: Total population in the specified area Multiplied by 100,000

Case detection rate	1) Numerator: Number of new TB cases detected Denominator: Estimated number of new TB cases countrywide[14] 2) Numerator: Number of new smear-positive TB cases detected Denominator: Estimated number of new smear-positive TB cases countrywide 3) Numerator: Number of new smear-positive TB cases detected under DOTS Denominator: Estimated number of new smear-positive TB cases countrywide
Treatment success rate	Numerator: Number of new smear-positive pulmonary TB cases registered in a specified period that were cured plus the number that completed treatment Denominator: Total number of new smear-positive pulmonary TB cases registered in the same period
Impact	
Incidence	Number of new TB cases occurring during a given period in time
Prevalence	Number of existing cases of TB at a given point in time
Death rate	Numerator: Number of new smear-positive pulmonary TB cases registered in a specified period that died during treatment, irrespective of cause Denominator: Total number of new smear-positive pulmonary TB cases registered in the same period

14 *The denominator is a WHO estimation of new cases—pulmonary and extrapulmonary—based on a mathematical model that takes into account all available data, including case notifications, an estimate of the completeness of notifications, the trend in notifications, TB mortality in the population, studies on TB disease prevalence and risk of infection, HIV prevalence, duration of TB illness, likelihood of receiving TB treatment in different sectors, and case fatality given different treatment scenarios for the individual countries. It can only be used at national level.*

Annex 2: Global Declarations, Commitments and Targets for TB Control

Millennium Development Goals (MDGs):

Halt and begin to reverse TB incidence by 2015

Abuja declaration against AIDS, TB, Malaria and other communicable diseases

The primary goal of the Declaration was to arrest and reverse the accelerating rate of HIV infection, TB and Other Related Infectious Diseases (ORID)

Objectives:

a) To advocate for optimal translation of earlier commitments of African Leaders into social and resource mobilization for sustainable programming of Primary Health Care.

b) To develop policies and strategies aimed at preventing HIV, Tuberculosis and other related infections, and at controlling the impact of the epidemic on socio-economic development in Africa.

c) To establish sustainable mechanisms for national and external resource mobilization for prevention, and treatment of the persons living with HIV AND AIDS and Tuberculosis.

d) To ensure that we (AU) attend to the needs of vulnerable groups such as children, the youth, women and persons with disabilities, workers and mobile populations.

World Health Assembly resolution 1991

To detect at least 70% of new smear-positive cases in DOTS programmes

To successfully treat at least 85% of detected cases.

Stop TB Partnership

By 2005: At least 70% of people with sputum smear-positive TB will be diagnosed (i.e. under the DOTS strategy), and at least 85% cured.

By 2015: The global burden of TB (per capita prevalence and death rates) will be reduced by 50% relative to 1990 levels.

By 2050: The global incidence of active TB will be less than 1 case per million population per year.

TB Global Plan:

- **By 2005, and to be sustained or exceeded by 2015:** At least 70% of people with infectious TB will be diagnosed (i.e. under the DOTS strategy) and at least 85% of those diagnosed will be cured.

- **By 2015:** the global burden of TB disease (disease prevalence and deaths) will be reduced by 50% relative to 1990 levels.

Specifically this means reducing prevalence to 155 or fewer per 100 000 population, and reducing deaths to 14 or fewer per 100 000 per year by 2015, including people co-infected with TB and HIV. The number of people dying from TB in 2015 should be less than 1 million.

- **By 2050:** TB will be eliminated as a global public health problem. Using the criterion for TB elimination adopted in the USA, this means that the global incidence of TB disease will be less than 1 per million population.

Maputo Resolution of 55th Regional Committee of the African Region of WHO of 2005

Ministers of Health from 46 Member States of the Africa Region unanimously declared TB an emergency in the Region

- Rapidly improve case detection and treatment outcomes through Acceleration of the DOTS coverage
- Reduce patients transfer and defaulter rates
- Accelerate scale up of TB/HIV interventions
- Improve human resources for TB control
- Expand national partnerships and
- Mobilize additional resources for TB control.

SADC Strategic Framework for the Control of Tuberculosis in the SADC Region, 2007-2015

Objectives

- To increase access to high-quality Tuberculosis diagnosis & patient-centred treatment in the SADC Region
- To reduce the suffering and socioeconomic burden due to Tuberculosis in the SADC Region
- To ensure access to prevention, diagnosis and treatment of TB, TB/HIV and MDR/XDR-TB in the SADC Region
- To support the development and adoption of new tools for Tuberculosis prevention, diagnosis and treatment in the SADC Region

Abuja Call for Accelerated Action towards Universal Access to HIV AND AIDS, Tuberculosis and Malaria services, May 2006:

African Heads of State and Government adopted the call at a special summit in Abuja that affirmed previous global and regional targets for TB control as well as called for universal access to TB prevention, treatment, care and support services, including of key TB/HIV interventions.

Annex 3: Global Partnerships and Initiatives in support of TB control[15]

Organizations	Services offered
International Union Against Tuberculosis and Lung Disease (IUATLD/The Union)	Technical support
Global Fund to Fight AIDS, TB and Malaria (GFATM/ Global Fund)	Technical and financial support for national TB programmes
TB Coalition for Technical Assistance (TBCTA) – [ATS, CDC, FHI, KNCV, IUATLD, JATA, MSH, WHO]	Technical support
TB Control Assistance Programme (TB CAP)	Technical support
UNICEF/UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases (TDR)	Development of new TB diagnostics
World Health Organisation (WHO)	Technical and financial support
National Institute of Communicable Diseases (NICD)	Laboratory based TB services
University Research Co.(URC)/Centre for Human Services	Strengthening human resources for TB and TB/ HIV
Global TB Alliance	Develop and equitable access to new TBdrugs
Stop TB Partnership and its various initiatives and working groups:	
The Global Drug Facility (GDF)	Provision of TB drugs
Green Light Committee (GLC)	Support in management of MDR-TB
DOTS Expansion Working Group	Support related to laboratory capacity strengthening, public-private mix, childhood TB, and poverty and TB

15 *Also universities, research community etc, and many more; list not exhaustive.*

Working Group on DOTS-Plus	Support in Multidrug-resistant TB management
TB/HIV Working Group	TB/HIV collaboration
Working Group on New TB Diagnostics	New TB Diagnostics
Working Group on New TB Drugs	New TB Drugs
Working Group on New TB Vaccines	New TB Vaccines
Advocacy, Communications and Social Mobilization Working Group	Advocacy, Communications and Social Mobilization Working Group

Annex 4 : Reporting Format used in 2009 (Country Profile)

Country Profile

Key Indicator	2009	2008	2007	2006	2005	1990
Population						
TB Burden						
Incidence (All cases/100 000)						
Incidence(sis+/100 000/yr)						
Prevalence (all cases/100 000 pop/yr)						
Mortality (deaths/100 000)						
Prevalence of HIV in adult TB Patients (15-49 yrs, %)						
New TB cases multi-drugs resistant (%)						
Previously treated TB cases multi-drug-resistant (%)						
Surveillance and DOTS Implementation						
Notification Rate (New and relapse/100 000 pop/yr)						
Notification Rate (New sis+/100 000 pop/yr)						
Case Detection Rate (New and Relapse, %)						
Case Detection Rate (New sis+ cases, %)						
DOTS Notification rate (new and relapse/100 000 pop/yr)						
DOTS Notification Rate (New sis+/100 000 pop/yr)						
DOTS Case Detection Rate (New and Relapse, %)						
DOTS Case Detection Rate (New sis+ cases, %)						
DOTS Treatment success						

Budget and Finance							
NTP budget by source of funding	Gap (US $, %)						
	GFATM (US $, %)						
	Grants (US $, %)						
	Loans (US $, %)						
	Gov (US $, %)						

Annex 5 Data Tables

1. Burden of TB in SADC Member States

1.1 TB Notifications in SADC Member States 2009

Country	Population 2009	TB Notifications (New & Retreatment) No.	Notification rate/100,000 (New & Retreatment)	New TB Notifications 2009	Notification rate/100,000 New cases 2009
Angola	17,596,000	42,686	235	38,823	220
Botswana	1,798,372	9088	505	7966	443
DRC	68,919,951	116,664	169	114,039	165
Lesotho	1,876,733	13,520	720	11,545	615
Malawi	14,085,345	24,356	173	21,886	155
Mauritius	1,280,000			116	9
Mozambique	21,802,866	45,493	431	41,900	208
Namibia	2,103,766	13,332	634	11,850	556
Seychelles	87,298			15	17
South Africa	49,320,500	406,082	812	340,066	690
Swaziland	1,108,4492	11,032	1,083	10,038	986
Tanzania	41,915,880	64,417	154	60,191	144
Zambia	12,896,830	48,591	374	43,066	331
Zimbabwe	12,470,708	46,294	376	41,768	335

1.2 New TB Notifications by Type 2009

Country	TB Notification rate new cases 2009 (/100,000)	Pulmonary cases notification rate/100,000	Pulmonary cases as % of all new cases	Rate new Smear-positive cases(SS+) /100,000	SS+ cases as % of new Pulm. cases	Extra-pulmonary cases as % of all new cases
Angola	220	207	94%	128	52.7%	6%
Botswana	443	419	82%	175	48.1%	18%
DRC	165	125	80%	106	85%	20%
Lesotho	615	435	78.5%	211	44%	22% (2486)
Malawi	155	120	86%	54	45%	23%
Mauritius	9					
Mozambique	208	167	80.4%	89	53.5%	19.6%
Namibia	556	450	81%	219	46%	19%
Seychelles	17			8		
S/Africa	690	587	85%	279		
Swaziland	986	680	69%	344	46%	19%
Tanzania	144	112	78%	59	53%	22%
Zambia	331	255	79%	100	38%	21%
Zimbabwe	335	303	82	81	29%	19%

1.3 HIV Burden in Tuberculosis patients

Country	No. New TB Notifications	No. Tested for HIV	% tested	No. +ve	% +ve
Angola	38,823	2,143	6	424	19.8
Botswana	7,966	5,212	65.4	3,399	65.2
DRC	114,039	31,312	27.5	6,126	19.6
Lesotho	13,520[16]	11,563	78.1	8,084	76.5
Malawi	24,356	21,041	86	13,558	64
Mauritius	116	116	100	7	6
Mozambique	45,493	38,087	84	25,056	66
Namibia	11,850	9,849	74.0	5,676	58.0
Seychelles	15	15	100	1	6.6
S/Africa	340,066	83,436	24.5	44,431	53.3
Swaziland	10,038	8,272	82.4%	6,895	83.4%
Tanzania	64,417	56,388	88	20,994	37
Zambia	43,066	34,992	72	23,584	67
Zimbabwe	41,768	28,952	63	22,745	78.5

16 *Total notification (new and retreatment)*

1.4 Drug Resistance burden (MDR/XDR)

Country	No. MDR cases detected 2009	Cumulative MDR cases	No. on treatment	No. XDR cases detected 2009	Cumulative XDR cases	Years Drug Resistance Surveys conducted	Source of drugs for treatment Gvt/GF/ Donors
Angola	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Botswana	148	354	111	0	3	1995, 2002, 2007/8	Gvt
DRC	92	521	372	0	0	None	GLC, GF,UNITAID
Lesotho	160	385	294	0	3	2008/10	GLC, UNITAID
Malawi	9	144	45	0	0	2010	Gvt
Mauritius	1	3	3	0	0	None	Govt
Mozambique	137	418	138	0	2	2008	GLC, Gvt
Namibia	275	790	275	17	40	2008	Gvt
Seychelles	0	0	0	0	0	None	Gvt
S/Africa	9,070	3,7810[17]	5,496[18]	594	2,387[19]	2002	Gvt
Swaziland	166	450	250	5	5	2009	Gvt/GF
Tanzania	27	80	25	-	-	2007	GF
Zambia	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Zimbabwe	39	39	0	0	0	1994	Gvt, NAC, GF, Donors

2 Performance of National Tuberculosis Programmes (NTP's)

2.1 Application of basic DOTS (Short Course Chemotherapy and Directly observed treatment and sputum microscopy)

Country	% Cases (SS+ notified 2009) managed under DOTS	% Cases not managed under DOTS	% Pulmonary cases diagnosed by sputum microscopy
Angola	100%	0	-
Botswana	100%	0	63.4%
DRC	100%	0	70%
Lesotho	100%	0	80%
Malawi	100%	0	90%
Mauritius			
Mozambique	100%	0	87%

17 *2004-2009*
18 *As at Feb 2010*
19 *2004-2009*

Namibia	100%	0	76%[20]
Seychelles			
S/Africa			
Swaziland	100%	0	75%
Tanzania	100%	0	-
Zambia	100%	0	100%
Zimbabwe	100%	0	

2.2 Cohort analysis results of treatment outcome (Cases notified 2008)

Country	New SS+ cases notified 2008 (No.)	% cured	% completed treatment (no sputum results)	% Success rate (Cured + Completed treatment)	% Died	% Defaulted	% Transferred out	% Treatment failures
Angola	22562	47%	25%	72%	2%	18.9%	31%	
Botswana	3161	50.5%	20.6%	71.1%	5.1%	4.4%	6.6%	1.6%
DRC	114,039	83%	4%	87%	4%	3%	2%	1%
Lesotho	3858	64.4%	9.1%	74%	11%	4%	2%	2%
Malawi	7,632	86%	2%	88%	8%	2%	2%	1%
Mauritius	116			86%		8%		
Mozambique	18,824	82%	1.4%	84%	9.7%	4.1%	1.5%	1.4%
Namibia	4,928	72%	10%	82%	6%	4%	4%	4%
Seychelles	15			93%	0	0		
S/Africa[21]	340,066			74%	7.8%	7.5%	3%	2%
Swaziland	3,213	50%	18%	68%	10%	8%	3%	7%
Tanzania	24,171	83.8%	4.5%	88%	5%	2%	4%	0.2%
Zambia	13,211	78%	5%	83%	5%	3%	4%	1%
Zimbabwe	10,370	67.2%	7.1%	74.3%	9.%	7.3%	7.2%	0.2%

20 *This has been calculated as (SS+ + SS-)/(SS+ + SS- + SND)*
21 *Figures estimated from graph in South African TB report to SADC*

2.3 TB Laboratory services in SADC: Coverage of laboratory services

		TB LABORATORY SERVICES 2009		
COUNTRY	POPULATION	Number of labs working in NTP Smear[22]		Culture DST
Angola	17,596,000	147 (1:119,700)	1	1
Botswana	1,798,372	52 (1:34,584)	1	1
DRC	68,919,951	1,339 (1:51,471)	1	1
Lesotho	1,876,733	17 (1:110,396)	1	1
Malawi	14,085,345	210 (1:67,073)	1	1
Mauritius	1,280,000	1 (1:1,280,000)	1	1
Mozambique	21,806,822	433 (1:50,362)	1	1
Namibia	2,103,766	31 (1:67,863)	1	1
Seychelles	87,298	2 (1:43,649)	1	0
S/Africa	49,320,500	249 (1:198,074)	16	16 1ST line 5 2nd line
Swaziland	1,018,449	19 (1:53,602)	1	1
Tanzania	41,915,880	807 (51,940)	3	1
Zambia	13,046,508	204 (1:63,953)	3	3
Zimbabwe	12,470,708	115 (1:108,440)	2	2

2.4 Laboratory Capacity to diagnose TB, MDR/TB and XDR/TB

Country	Capacity to do TB Culture	Capacity to do DST for 1st line drugs	Capacity to do DST for 2nd line drugs	Country to which specimens are sent for 2nd line DST
Angola	yes	yes	yes	-
Botswana	yes	yes	no	RSA
DRC	yes	yes	no	Belgium
Lesotho	yes	yes	no	RSA
Malawi	yes	yes	no	RSA
Mauritius*	yes	yes	No	
Mozambique	yes	yes	No	RSA
Namibia	yes	yes	No	RSA

22 *Figures in brackets indicate the ratio of population to 1 microscopy centre*

Seychelles*	yes	yes	No	
S/Africa	yes	yes	yes	-
Swaziland	yes	yes	No	RSA
Tanzania	yes	yes	No	Belgium
Zambia*	yes	yes	no	
Zimbabwe	yes	yes	no	RSA

**Information not provided but deduced from other parts of the report*

2.5 Implementation of TB/HIV Collaborative activities

Activity	Countries implementing activity	Number of Member States implementing
1 ESTABLISH MECHANISMS FOR COLLABORATION		
1.1 Ensure a coordinating body exists for effective TB/HIV collaboration at all levels	DRC, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Tanzania, Zambia, Zimbabwe	11
1.2 Conduct surveillance of HIV prevalence among TB patients	Angola, Botswana, DRC, Malawi, Mauritius, Mozambique, Namibia, South Africa, Seychelles, Swaziland, Tanzania, Zambia, Zimbabwe	13
1.3 Carry out joint HIV/TB planning	DRC, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, Swaziland, Tanzania, Zambia, Zimbabwe, Lesotho	12
1.4 Conduct monitoring and evaluation (M&E)	DRC, Lesotho, Malawi, Mauritius, Mozambique, Namibia, South Africa, Seychelles, Swaziland, Tanzania, Zambia, Zimbabwe	12
2 DECREASE THE BURDEN OF TB IN PEOPLE LIVING WITH HIV		
2.1 Establish intensified TB case finding	Angola, Botswana, DRC, Malawi, Mauritius, Lesotho, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe	14
2.2 Introduce Isoniazid Prevention Therapy (IPT)	Botswana, Lesotho(U-5s), Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia	8

2.3 Ensure TB infection control in health care and congregate settings	Angola, Botswana, DRC, Mauritius, Mozambique, Namibia, South Africa, Seychelles, Swaziland, Tanzania, Zambia, Zimbabwe	12
3 DECREASE THE BURDEN OF HIV IN TB PATIENTS		
3.1 Provide HIV testing and counselling	Angola, Botswana, DRC, Lesotho, Malawi, Mauritius, Mozambique, Namibia, South Africa, Seychelles, Swaziland, Tanzania, Zambia, Zimbabwe	14
3.2 Introduce HIV prevention methods	DRC, Lesotho, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Tanzania, Zambia, Zimbabwe	10
3.3 Introduce co-trimoxazole preventive therapy (CPT)	Angola, Botswana, DRC, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe	12
3.4 Ensure HIV care and support	Angola, Botswana, Lesotho, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe	12
3.5 Introduce Anti-retroviral therapy (ART)	Angola, Botswana, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, Swaziland, Tanzania, Zambia, Zimbabwe, South Africa	13

Source: Reports from Member States 2009

3 Support Services (Financing, Human Resources etc.)

3.1 Financing: To determine financing and sustainability

		Source of funding for NTP			
Country	**NTP Budget in USD**	**Government Amount (%)**	**Global Fund Amount (%)**	**Other major donor Amt (%)**	**Others Amount (%)**
Angola	1,824,283	1,000,000 (54%)	755,083 (41%)	69,200 (3.7%)	
Botswana	17,352,385	9,812,414 (56.5)	1,239,971(7.1)	1,300,000(7.5)	5,000,000(28.8)
DRC[23]	53,708,783	304,800 (0.6)	10,929,403(20.3)	NA	3,321,231(6.2)
Lesotho	5,732,507	1,353,259 (23.6)	4,379,248 (76.4)		
Malawi	5,832,249	2,857,143 (49.0)	2,775,106 (47.6)	200,000 (3.4)	n/a
Mauritius					
Mozambique					
Namibia	9,888,445	3,442,132 (34.8)	4,163,989 (42.1)	2,282,324(23.0)	
Seychelles		(100)			

23 *DRC has given the funding gap of US$ 39,153,448 in addition to these figures*

S/Africa		562,483,780 (94.0)	36,198,021 (6.0)		
Swaziland	13,240,108	5,779,179 (43.6)	1,463,000 (11.0)	2,815,023 (21.2)	
Tanzania	10,614,742	(7%)	(70%)	(23%)	
Zambia					
Zimbabwe			4,497,193		

3.2 Human Resources for NTP

Country	National Manager NTP	No. professional staff in central NTP office	% Provinces or Regions with TB Coordinators	% Districts with TB Coordinators
Angola	1	5	100%	90%
Botswana	1	20	n/applicable	76%
DRC	1	60	100%	n/applicable
Lesotho	1	6	n/a	100%
Malawi	1	16	100%	100%
Mauritius				
Mozambique	1	4	100%	100%
Namibia	1	11[24]	13 (100%)[25]	34 (100%)[26]
Seychelles				
S/Africa				
Swaziland	1	8	100%	100%
Tanzania	1	22	26	161
Zambia	1	5	100%	100%
Zimbabwe	1	15	100%	100%

24 *This includes resident technical advisors and positions supported by development partners*
25 *These are NOT dedicated to TB but also address HIV and malaria*
26 *These is currently not a substantive position on the MoHSS staff establishment, leading to a very rapid turnover of staff*

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