



SADC ANIMAL HEALTH YEARBOOK 2010

A SADC Publication

FANR Directorate,
SADC Secretariat
Private Bag 0095, Gaborone, Botswana
Tel. +267-3951863
www.sadc.int/fanr

All Rights Reserved. The information contained in this publication may be freely used and copied for non-commercial purposes, provided that any information reproduced elsewhere is accompanied by an acknowledgement of SADC as the source.

The SADC name and emblem are the exclusive property of Southern African Development Community. They are protected under international law. Unauthorised use is prohibited. They may not be copied or reproduced in any way without the prior written permission of SADC. Requests for permission should be sent to the Executive Secretary of the SADC Secretariat.

Further usage for details of this publication may be sourced from the SADC Secretariat.

Address:

SADC House,
Private Bag 0095,
Gaborone,
Botswana.

Telephone: +267 3951863

Fax: +267 3972848

Email: registry@sadc.int

Website: www.sadc.int

© SADC, October 2011

Table of Contents

<i>LIST OF FIGURES</i>	v
<i>LIST OF TABLES</i>	vii
1. INTRODUCTION	1
1.1 Livestock sector in the SADC region	1
1.2 Livestock Sector information	2
2. STATUS OF ANIMAL HEALTH REPORTING	3
2.1 LIMS animal health reporting.....	3
2.2 Status of Animal Health reporting	6
2.3 Animal Health Reporting Challenges	6
3 GENERAL ANIMAL DISEASE SITUATION IN THE SADC REGION	8
3.1 Diseases reported.....	8
3.2 Member States affected.....	9
3.3 Distribution of disease outbreaks, cases and deaths	10
3.4 Nature of Disease Diagnosis.....	12
3.5 Trans-boundary Animal Diseases.....	13
4 STATUS OF TRANS-BOUNDARY ANIMAL DISEASES IN THE SADC REGION .	14
4.1 African Horse Sickness.....	16
4.2 African swine fever.....	19
4.3 Bluetongue	22
4.4 Contagious Bovine Pleuropneumonia	25
4.5 Foot and Mouth Disease	28
4.6 Lumpy Skin Disease	32
4.7 Newcastle Disease.....	35
4.8 Pestes de Petits Ruminants	38
4.9 Rabies	41
4.10 Rift Valley Fever	45
5 STATUS OF IMPORTANT ZOO NOTIC DISEASES IN THE SADC REGION	48
5.1 Important zoonotic diseases reported in the region	48

5.2	<i>Anthrax</i>	49
5.3	<i>Porcine cysticercosis</i>	52
6	<i>STATUS OF OTHER IMPORTANT DISEASES IN THE SADC REGION</i>	53
6.1	<i>Blackleg</i>	53
6.2	<i>Botulism</i>	56
6.3	<i>Bovine Anaplasmosis</i>	57
6.4	<i>Bovine Babesiosis</i>	60
6.5	<i>Bovine Brucellosis</i>	63
6.6	<i>Bovine Theileriosis</i>	66
6.7	<i>Bovine Tuberculosis</i>	69
6.8	<i>Canine Distemper</i>	72
6.9	<i>Contagious Caprine Pleuropneumonia</i>	75
6.10	<i>Dermatophilosis</i>	78
6.11	<i>Fowl Pox</i>	81
6.12	<i>Goat Mange</i>	83
6.13	<i>Heartwater</i>	86
6.14	<i>Sheep Scab</i>	89
6.15	<i>Trypanosomosis</i>	92
7	<i>CONCLUSION AND RECOMMENDATIONS</i>	95
8	<i>Annexes</i>	96

LIST OF FIGURES

<i>Figure 3.1: Comparison of cases and deaths from 2007 to 2010</i>	11
<i>Figure 3.2: Distribution of outbreaks by species</i>	11
<i>Figure 3.3: Nature of Outbreak diagnosis</i>	12
<i>Figure 3.4: Occurrence of TADs and number of Member States affected</i>	13
<i>Figure 4.1: Frequency distribution of TADs outbreaks in 2010</i>	14
<i>Figure 4.2: Temporal distribution of African horse sickness in 2010</i>	17
<i>Figure 4.3: Spatial distribution of African horse sickness</i>	18
<i>Figure 4.4: Temporal distribution of African swine fever in 2010</i>	20
<i>Figure 4.5: Spatial distribution of African swine fever in 2010</i>	21
<i>Figure 4.6: Temporal distribution of Bluetongue cases in 2010</i>	23
<i>Figure 4.7: Spatial distribution of Bluetongue in 2010</i>	24
<i>Figure 4.8: Temporal distribution of CBPP in 2010</i>	26
<i>Figure 4.9: Spatial distribution of CBPP in 2010</i>	27
<i>Figure 4.10: FMD types reported in 2010</i>	28
<i>Figure 4.11: Temporal distribution of FMD outbreaks in 2010</i>	30
<i>Figure 4.12: Spatial distribution of FMD in 2010</i>	31
<i>Figure 4.13: Temporal distribution of LSD outbreaks in 2010</i>	33
<i>Figure 4.14: Spatial distribution of LSD in 2010</i>	34
<i>Figure 4.15: Temporal distribution of Newcastle disease in 2010</i>	36
<i>Figure 4.16: Spatial distribution of ND in 2010</i>	37
<i>Figure 4.17: Spatial distribution of PPR in 2010</i>	40
<i>Figure 4.18: Distribution of Rabies outbreaks by Species affected in 2010</i>	41
<i>Figure 4.19: Temporal distribution of Rabies outbreaks in 2010</i>	43
<i>Figure 4.20: Spatial distribution of Rabies in 2010</i>	44
<i>Figure 4.21: Distribution of Rift valley fever mortalities in 2010</i>	46
<i>Figure 4.22: Temporal distribution of Rift valley fever outbreaks in 2010</i>	46
<i>Figure 4.23: Spatial distribution of Rift valley fever in 2010</i>	47
<i>Figure 5.1: Spatial distribution of Anthrax in 2010</i>	51

<i>Figure 6.1: Temporal distribution of Blackleg cases and outbreaks in 2010</i>	54
<i>Figure 6.2: Spatial distribution of Blackleg in 2010</i>	55
<i>Figure 6.3: Temporal distribution of Bovine anaplasmosis in 2010</i>	58
<i>Figure 6.4: Spatial distribution of Bovine anaplasmosis in 2010</i>	59
<i>Figure 6.5: Temporal distribution of Bovine babesiosis</i>	61
<i>Figure 6.6: Spatial distribution of Bovine babesiosis</i>	62
<i>Figure 6.7: Temporal distribution of Bovine brucellosis in 2010</i>	64
<i>Figure 6.8: Spatial distribution of Bovine brucellosis in 2010</i>	65
<i>Figure 6.9: Temporal distribution of Theileriosis in 2010</i>	67
<i>Figure 6.10: Spatial distribution of Theileriosis in 2010</i>	68
<i>Figure 6.11: Temporal distribution of Bovine tuberculosis</i>	70
<i>Figure 6.12: Spatial distribution of Bovine tuberculosis in 2010</i>	71
<i>Figure 6.13: Temporal distribution of Canine Distemper in 2010</i>	73
<i>Figure 6.14: Spatial distribution of Canine distemper in 2010</i>	74
<i>Figure 6.15: Spatial distribution of CCPP in 2010</i>	77
<i>Figure 6.16: Temporal distribution of Dermatophilosis cases in 2010</i>	79
<i>Figure 6.17: Spatial distribution of Dermatophilosis in 2010</i>	80
<i>Figure 6.18: spatial distribution of Fowl pox in 2010</i>	82
<i>Figure 6.19: Temporal distribution of Goat mange in 2010</i>	84
<i>Figure 6.20: Spatial distribution of Goat mange in 2010</i>	85
<i>Figure 6.21: Species affected by Heartwater in 2010</i>	87
<i>Figure 6.22: Temporal distribution of Sheep scab cases in 2010</i>	90
<i>Figure 6.23: Spatial distribution of Sheep scab in 2010</i>	91
<i>Figure 6.24: Temporal distribution of Trypanosomosis in 2010</i>	94
<i>Figure 6.25: Spatial distribution of Trypanosomosis in 2010</i>	94

LIST OF TABLES

<i>Table 1.1: Estimated production of meat, milk and eggs compared to requirements</i>	2
<i>Table 2.1: LIMS reporting parameters and frequencies</i>	5
<i>Table 3.1: Summary of the state of animal health from 2007 to 2010 in SADC</i>	8
<i>Table 3.2: Top 10 Diseases reported in 2010 ranked by number of outbreaks</i>	9
<i>Table 3.3: 2010 Summary of disease Outbreaks in the SADC region</i>	10
<i>Table 4.1: Occurrence of TADs in 2010</i>	15
<i>Table 4.2: Member States affected by AHS outbreaks in 2010</i>	16
<i>Table 4.3: Outbreaks of African horse sickness in the region from 2008 to 2010</i>	16
<i>Table 4.4: Member States affected by ASF outbreaks in 2010</i>	19
<i>Table 4.5: Outbreaks of African swine fever in the region from 2008 to 2010</i>	20
<i>Table 4.6: Member States affected by Bluetongue in 2010</i>	22
<i>Table 4.7: Outbreaks of Bluetongue in the region from 2008 to 2010</i>	22
<i>Table 4.8: Member States affected by CBPP in 2010</i>	25
<i>Table 4.9: Outbreaks of CBPP in the region from 2008 to 2010</i>	26
<i>Table 4.10: Member States affected by FMD in 2010</i>	29
<i>Table 4.11: Outbreaks of FMD in the region from 2008 to 2010</i>	30
<i>Table 4.12: Member States affected by LSD in 2010</i>	32
<i>Table 4.13: Outbreaks of LSD in the region from 2008 to 2010</i>	33
<i>Table 4.14: Member States affected by Newcastle disease in 2010</i>	35
<i>Table 4.15: Outbreaks of Newcastle disease in the region from 2008 to 2010</i>	36
<i>Table 4.16: Member States affected by PPR in 2010</i>	38
<i>Table 4.17: Outbreaks of PPR in the region from 2008 to 2010</i>	38
<i>Table 4.18: Member States affected by Rabies in 2010</i>	42
<i>Table 4.19: Outbreaks of Rabies in the region from 2008 to 2010</i>	43
<i>Table 4.20: Member States affected by Rift valley fever in 2010</i>	45
<i>Table 4.21: Outbreaks of Rift valley fever from 2008 to 2010</i>	45
<i>Table 5.1: Zoonotic diseases reported in the region in 2010</i>	48
<i>Table 5.2: Member States affected by Anthrax in 2010</i>	49

<i>Table 5.3: Outbreaks of Anthrax in the region from 2008 to 2010</i>	<i>50</i>
<i>Table 5.4: Species affected by Anthrax in 2010</i>	<i>50</i>
<i>Table 5.5: Member States affected by Porcine cysticercosis in 2010</i>	<i>52</i>
<i>Table 6.1: Member States affected by Botulism in 2010.....</i>	<i>56</i>
<i>Table 6.2: Outbreaks of Botulism from 2008 to 2010.....</i>	<i>56</i>
<i>Table 6.3: Member States affected by Bovine anaplasmosis in 2010</i>	<i>57</i>
<i>Table 6.4: Outbreaks of Bovine anaplasmosis from 2008 to 2010.....</i>	<i>58</i>
<i>Table 6.5: Member States affected by Bovine babesiosis in 2010.....</i>	<i>60</i>
<i>Table 6.6: Outbreaks of Bovine babesiosis from 2008 to 2010</i>	<i>61</i>
<i>Table 6.7: Member States affected by Bovine brucellosis in 2010</i>	<i>63</i>
<i>Table 6.8: Outbreaks of Bovine brucellosis from 2008 to 2010.....</i>	<i>64</i>
<i>Table 6.9: Member States affected by Bovine theileriosis in 2010.....</i>	<i>66</i>
<i>Table 6.10: Outbreaks of Bovine theileriosis from 2008 to 2010.....</i>	<i>67</i>
<i>Table 6.11: Member States affected by Bovine tuberculosis in 2010.....</i>	<i>69</i>
<i>Table 6.12: Outbreaks of Bovine tuberculosis from 2008 to 2010</i>	<i>70</i>
<i>Table 6.13: Member States affected by Canine distemper in 2010.....</i>	<i>72</i>
<i>Table 6.14: Outbreaks of Canine distemper from 2008 to 2010</i>	<i>73</i>
<i>Table 6.15: Member States affected by CCPP in 2010.....</i>	<i>75</i>
<i>Table 6.16: Outbreaks of CCPP from 2008 to 2010</i>	<i>75</i>
<i>Table 6.17: Member States affected by Dermatophilosis in 2010.....</i>	<i>78</i>
<i>Table 6.18: Outbreaks of Dermatophilosis from 2008 to 2010</i>	<i>78</i>
<i>Table 6.19: Member States affected by Fowl pox in 2010.....</i>	<i>81</i>
<i>Table 6.20: Outbreaks of Fowl pox from 2008 to 2010</i>	<i>81</i>
<i>Table 6.21: Member States affected by Goat mange in 2010.....</i>	<i>83</i>
<i>Table 6.22: Outbreaks of Goat mange from 2008 to 2010.....</i>	<i>84</i>
<i>Table 6.23: Member States affected by Goat mange in 2010.....</i>	<i>86</i>
<i>Table 6.24: Outbreaks of Heartwater from 2008 to 2010</i>	<i>87</i>
<i>Table 6.25: Spatial distribution of Heartwater in 2010</i>	<i>88</i>
<i>Table 6.26: Member States affected by Sheep scab in 2010</i>	<i>89</i>

<i>Table 6.27: Outbreaks of Sheep scab from 2008 to 2010.....</i>	<i>89</i>
<i>Table 6.28: Member States affected by Trypanosomosis in 2010.....</i>	<i>92</i>
<i>Table 6.29: Outbreaks of Trypanosomosis from 2008 to 2010.....</i>	<i>93</i>

FOREWORD

Reliable information in the livestock sector is a pre-requisite for informed policy and planning decisions. It also enables policy makers to formulate sound policies and strategies and to design projects aimed at large scale interventions.

The need for reliable livestock information is becoming more pressing now that the SADC Secretariat is formulating the Regional Agricultural Policy, and livestock, being an integral part of agriculture, is part of the process. The identification of livestock policy issues followed by implementation of strategies to increase regional livestock production will assist to increase the food security situation of the region. Availability of accurate livestock data on a regular basis allows for the evaluation of the status of the sector for developmental purposes.

The efforts made by the Secretariat and the Member States to address issues of livestock data and information have resulted in the development of the Livestock Information Management System (LIMS) as part of the Agricultural Information Management System (AIMS). LIMS as a system incorporates information from different components of the livestock sector, such as animal production, animal health, and livestock marketing and trade. It also addresses all stages of information management, from field data collection, validation and analysis to information dissemination and sharing. The SADC Animal Health Yearbook, together with the LIMS portal, is one way of disseminating livestock information, and in this case, the status of animal health in the SADC region.

During the current year, the FANR Directorate has been addressing some of the problems in the system and looking at ways and means to update it. It is now evident that owing to the amount of data in the livestock sector, it will require that the system be hosted on another platform apart from Microsoft Access. The Directorate is presently looking at various options so that the performance of LIMS can be enhanced.

I, therefore, take this opportunity to call upon Member States to make full use of their own LIMS and to generate as much information as possible for the development of the livestock sector. The examples set by the veterinary authorities and professionals in sharing disease information should be emulated by other professionals in animal production and livestock marketing and trade. Without willingness to share data from all sectors of livestock, LIMS alone cannot achieve much. I thank all those involved in providing data and compiling this information and commend them for their great effort.

M.M. Nyirenda

Director

Directorate of Food, Agriculture and Natural Resources

SADC Secretariat

October, 2011

ABBREVIATIONS AND ACRONYMS

AHS	African Horse Sickness
AIMS	Agricultural Information Management System
ASF	African swine fever
BT	Bluetongue
CBPP	Contagious Bovine Pleuropneumonia
CCPP	Contagious Caprine Pleuropneumonia
EIS	Epidemiology and Informatics Sub-committee
FANR	Food, Agriculture and Natural Resources Directorate
FAO	Food and Agriculture Organisation
FMD	Foot and Mouth Disease
HPAI	Highly Pathogenic Avian Influenza
IBD	Infectious Bursal Disease
IBR/IPV	Infectious Bovine Rhinotracheitis/Infectious Pustular Vulvovaginitis
LIMS	Livestock Information Management System
LSD	Lumpy Skin Disease
LTC	Livestock Technical Committee
MDR	Monthly Disease Report
ND	Newcastle Disease
RVF	Rift Valley Fever
SADC	Southern African Development Community
SAT	Southern African Territories
TADs	Trans-boundary Animal Diseases

1. INTRODUCTION

1.1 Livestock sector in the SADC region

The Southern African Development Community (SADC) is a regional grouping of fifteen (15) sovereign Member States (MS) united in their commitment to ensuring the economic well-being, improved quality of life, freedom and social justice and peace and security for the people of Southern Africa. The SADC Region, comprising Angola, Botswana, Congo DR, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe, is endowed with livestock resources which support the livelihoods of the vast majority of the population in many of its Member States. Livestock plays a critical and varied role in the economies of SADC and its citizens. At household level, livestock provides food, income and is generally used as a 'savings account', while at national and regional level it contributes to food security, trade and GDP.

Estimates have indicated that livestock production has been on the increase in the region. In 2009, average increases of 4.2%, 4.4% and 2.2% in meat, egg and milk production respectively were noted compared to 2008 (*FANR Directorate Annual report. March, 2010*). However, livestock production in SADC is still below the requirements of its citizens. The region is a net importer of meat, milk, eggs and other livestock products. The current estimated livestock population of the region is as follows: 61.6 Million Cattle, 37.3 Million Sheep, 44.3 Million Goats, 11.1 Million Pigs, and 231.8 Million Poultry. Table 1.1 below compares the actual production of meat, milk and eggs with the requirements of the region.

Table 1.1: Estimated production of meat, milk and eggs compared to requirements

Livestock Product	2009 ⁱ	2015	2030
Meat (million tonnes)	7.8 (5.16)	9.5 (5.7)	14.6
Milk (million tonnes)	13.1 (5.6)	16.4 (6.6)	25.8
Eggs (million tonnes)	1.4 (0.7)	1.7 (0.8)	3.1

ⁱ Figures in brackets represent actual (2009) or estimated production (2015). (FANR, 2010)

1.2 Livestock Sector information

Lack of reliable and up to date information for the SADC livestock sector for regional policy development has been identified as one of the challenges of the sector. Furthermore, the development of the sector in the region is constrained by several animal diseases particularly Trans-boundary Animal Diseases (TADs). The animal health yearbook, a product of Livestock Information Management System (LIMS), provides an analytical review of the animal disease status of the region and serves as an early warning system for Member States. It is hoped that in the near future LIMS will be able to generate reports on animal production, livestock marketing and trade on a regular basis which can assist the region in further developing the livestock sector, thus increasing the contribution of livestock to the region's food security.

2. STATUS OF ANIMAL HEALTH REPORTING

2.1 LIMS animal health reporting

Livestock Information Management System is made up of four main components, namely, Animal Health (AH), Animal Production (AP), Livestock Marketing and Trade (LMT) and Livestock Development (LD). The Animal Health component was the first to be developed and remains the most widely used by SADC MS. Three reports i.e. Disease occurrence report, Vaccination report, and Meat Inspection report make up the component.

At this stage it is important to highlight that LIMS is a system that facilitates the collection, collation, transfer, storage, analysis and dissemination of SADC livestock data. The system is complex and information flow starts at the field level (*can be dip tank or village*) moving up to districts, provinces and to country level databases and to finally reach the SADC LIMS. The LIMS application is one of the main tools available for use at all these various levels. In 2010, five of the 14 MS submitted monthly disease reports (MDR) using the LIMS application, eight used excels spread sheets while one used a format that is interoperable with the LIMS application. The excel templates used for reporting to SADC were for use by field personnel. Only electronic files extracted from the national LIMS database are supposed to be used to report to SADC. This allows for quick update of the SADC LIMS database and quick analysis, especially for emergency and early warning.

Although the quality of reports received from Member States has generally improved since LIMS was established, a lot of work and investment still needs to be done to get quality data in time. SADC MS need to sensitise different stakeholders in the livestock sector to report animal diseases in format which capture basic and necessary interpretable and analysable information. Thus, it is essential for Member States not using the LIMS application to adopt LIMS or locally customised database

which allows data quality check and can easily links to the SADC LIMS. In addition, all Members States should ensure that they have a trained and dedicated network of personnel capable of adhering to agreed LIMS procedures and guidelines. This network should start from as close as possible to the source of data linking through districts/provinces right up to the national databases. National focal points that have been trained as trainers should drive this process.

Table 2.1: LIMS reporting parameters and frequencies

Manual	Module	Spatial Detail	Reporting frequency	Submission deadline	Comment
Animal Production	Livestock numbers and composition	District ¹	Annually	End of February the following year	Livestock numbers and composition report is prepared and submitted to SADC Livestock Unit annually
	Livestock Products	District ¹	Monthly	Quarterly before the end of the following month.	Animal production data collected monthly by field officers. It is collated and submitted to SADC Livestock Unit quarterly.
Livestock Marketing & Trade	Livestock & livestock products prices	District ¹	Monthly	Quarterly before the end of the following month	Livestock and Livestock products prices are to be collected monthly at district level. 3 separate reports submitted to SADC Livestock Unit quarterly.
	Livestock Trade	National	Monthly		Livestock Trade data is to be collected monthly at national level. 3 separate reports submitted to SADC Livestock Unit quarterly
Livestock Development	Human population	District ¹	Annually	End of February the following year	Human population engaged in Livestock farming and Livestock infrastructure reported at district level annually.
	Livestock infrastructure	District ¹	Annually		
	Association livestock farmers	National	Annually		
	Laws, regulation & acts governing livestock sector	National	Annually		Livestock associations, Laws, regulations and Acts are reported at national level annually.
Animal Health		District ¹	Monthly	Quarterly before the end of the following month	All Animal Health modules are at district level. Disease occurrence, Vaccination and Meat Inspection reports are submitted to SADC monthly.
		District ¹	Monthly		
		District ¹	Monthly		

¹ It is preferable to have spatial details at district (Admin Level 2).

2.2 Status of Animal Health reporting

All SADC Member States submitted disease occurrence reports for 2010 except Madagascar[†]. Mauritius and Seychelles reported no outbreaks in the year in a once off report at the end of the year. DRC and Angola also sent one report for 2010, with the former submitting a full year report without monthly disease reports. A significant number of MS has sent disease occurrence reports at least 3 months overdue defeating one of the main reasons for submitting reports monthly. This pattern of reporting makes it impossible to use animal disease reports for emergency and early warning purposes. The reporting pattern delays consolidation and publication of the Animal health yearbook.

As already stated, LIMS is based on a decentralised information management paradigm with databases installed at provincial, national and SADC level. To improve quality of data collected, data quality checks and validation is supposed to be done at each stage in the chain. Due to late submission of reports and use of different reporting formats data checks and validation are not effectively done.

Animal health component of LIMS has the three modules: disease occurrence, meat inspection and vaccination reporting. Reporting on meat inspection and vaccination follows the same trend described for disease occurrence in terms of quality and late submission of reports. However, reporting is even lower as those MS not using LIMS for reporting are not submitting meat inspection and vaccination reports.

2.3 Animal Health Reporting Challenges

- Although LIMS has been set up at regional level and at national level for most MS, it is apparent that sub-national LIMS (provincial, district and lower) has not been set up in most MS. As LIMS is heavily dependent on structures at sub-

[†] Madagascar currently suspended from SADC is not included in this Animal Health year book

national level and systematic data flow from field upwards, the quality and timeliness of reports are adversely affected.

- While disease occurrence and general reporting on LIMS has improved over the past 5 years, reporting has generally remained irregular and most MS are failing to meet report submission deadlines. Consequently LIMS has not been used effectively, especially, in areas of early warning and emergency.
- As a result of late submission of reports, it difficult to produce quarterly animal health newsletter on time. The purpose of this newsletter is to provide a quarterly summary of animal health status in the region.
- In an endeavour to improve LIMS application, new higher versions are released regularly. LIMS 2.0.5 application is the latest to be released. It has failed to work smoothly on Microsoft office versions higher than 2003 and beyond Windows XP. This has prevented MS who had newer computers that came with Microsoft 2007 or 2010 or Windows Vista or 7 to use the LIMS application. The challenge has being addressed and LIMS 2.0.6 shouldn't have such limitations.
- Receipt of reports in non LIMS formats makes it difficult to update regional data base, delays analyses for emergency and early warning systems and lowers data quality. Such reports have to be uploaded manually and are subject to human error during the process.
- Some key parameters are usually omitted on the reports submitted to SADC, and these include the *outbreak codes, cases, deaths*, whether report is about a *new outbreak or follow up, population at risk, the method of outbreak investigation used* and the *geo-spatial references* of the locality affected by the outbreak.

3 GENERAL ANIMAL DISEASE SITUATION IN THE SADC REGION

3.1 Diseases reported

Number of diseases reported in the region increased from 63 in 2009 to 72 in 2010. This was a reversal of the trend that started in 2008 when total number of diseases reported decreased from 76 in 2007 to 69 in 2008 and subsequently to 63 in 2009. The total number of livestock deaths as a result of diseases, however, continued to decrease. Reported diseases ranged from major Trans-boundary Animal Diseases (TADs) and zoonosis to infections and those caused by parasites. The complete listing of these diseases, with some quantitative data, is presented in annex 8.1. A total of 9,317 disease outbreaks were reported in the year

Table 3.1: Summary of the state of animal health from 2007 to 2010 in SADC

Parameter	2007	2008	2009	2010
Diseases	76	69	63	72
Outbreaks	9,018	7,499	5,454	9,317
Cases	550,759	673,354	100,538	205,813
Deaths	374,071	210,513	43,984	89,578
Destroyed	8,841	5,937	1,803	6,938
Slaughtered	9,300	1,316,721	194	829

Table 3.2: Top 10 Diseases reported in 2010 ranked by number of outbreaks

Rank	Disease	Outbreaks	Cases	Deaths	Countries
1.	Rabies	1,118	3,251	1,444	12
2.	Bovine anaplasmosis	811	4,698	1,240	10
3.	Heartwater	737	2,915	1,138	8
4.	Bovine brucellosis	658	6,228	59	9
5.	Lumpy skin disease	618	5,645	1,595	10
6.	Rift Valley fever	552	14,624	8,798	3
7.	Blackleg	524	4,026	1,282	10
8.	Bovine babesiosis	423	2,171	489	11
9.	Dermatophilosis	373	4,630	246	7
10.	Fowl pox	279	6,453	1,539	7

3.2 Member States affected

During the year, 72 diseases were reported from Member States. The disease that affected the largest number of Member States was Rabies, with outbreaks being reported in all 12 continental Member States namely Angola, Botswana, D. R. Congo, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. Rabies is being very closely monitored as it presents a potential public health hazard, and is the most widely distributed TAD of zoonotic importance. The island nations of Mauritius and Seychelles have continued to record no occurrence of Rabies.

Table 3.3: 2010 Summary of disease Outbreaks in the SADC region

Country	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
Angola	123	4,836	748	566	45
Botswana	228	984	500	-	-
D.R. Congo	74	59,748	45,906	-	760
Lesotho	96	1,636	161	1	-
Malawi	32	8,881	7,589	55	9
Mozambique	148	3,824	586	256	10
Namibia	538	3,294	893	4	2
Swaziland	239	1,408	260	15	2
Tanzania	334	13,937	4,391	-	-
South Africa	2,986	49,726	13,193	6,009	-
Zambia	985	34,603	10,701	-	-
Zimbabwe	3,534	22,936	4,650	32	1
Total	9,317	205,813	89,578	6,938	829

3.3 Distribution of disease outbreaks, cases and deaths

The number of disease outbreaks (9,317) in 2010 almost doubled from 5,454 in 2009. This represents the highest number of total outbreaks reported in a year since LIMS was established in 2006. Bovine species were affected the most with 62% of the total outbreaks reported in cattle. Similarly, the total number of cases reported in 2010 increased to 205,813 from 100,538 in 2009 but remained significantly lower than the highest number of cases reported in 2007 (673,354). Deaths reported in 2007, 2008, 2009 and 2010 were 374,071, 210,513, 43,984 and 89,585 respectively. Figure 3.1 shows the number of cases and deaths for all diseases and species for the period from 2007 to 2010. A breakdown detailing deaths of different species due to different diseases for the same period is shown in figure 3.2.

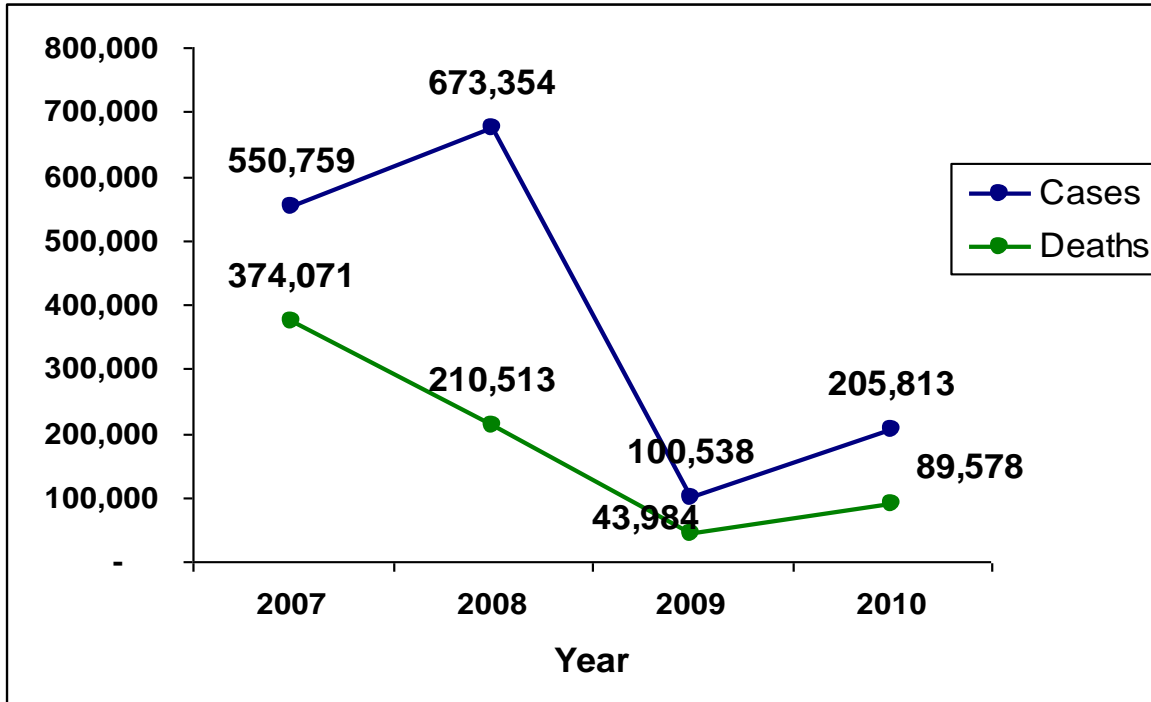


Figure 3.1: Comparison of cases and deaths from 2007 to 2010

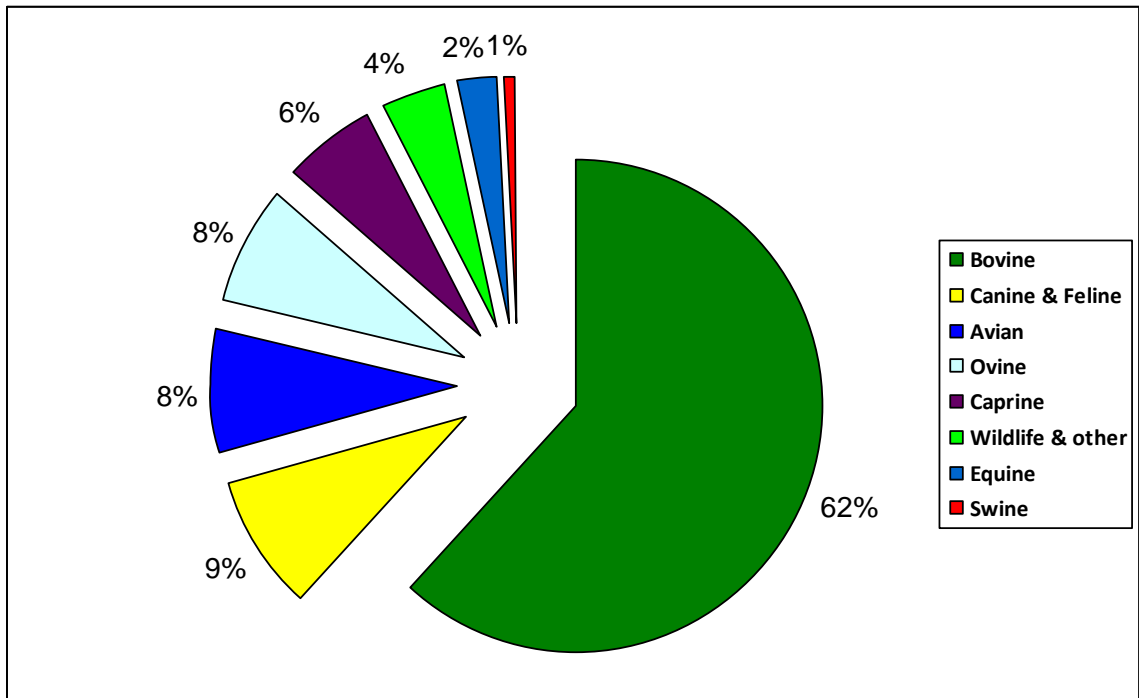


Figure 3.2: Distribution of outbreaks by species

3.4 Nature of Disease Diagnosis

Animal diseases reports received from SADC Members states revealed that, most of the reports are based on clinical signs. This is another area where veterinary departments in member states need to improve by building capacity in sample, specimen collection and submission to the laboratory. The use of laboratory diagnosis to confirm disease outbreaks is still low in the region. In 2009, 12 per cent of all outbreaks were confirmed by the laboratory. This remained unchanged in the year 2010. However, the proportion of clinical diagnosis increased from 65 to 78 per cent as diagnoses based on post mortem declined from 12 to 6 per cent. Owner's claim, as method of disease outbreak diagnosis, dropped from 11 to 4 per cent. The Pie chart below (fig 3.3) shows the percentages for each method used to confirm disease outbreaks.

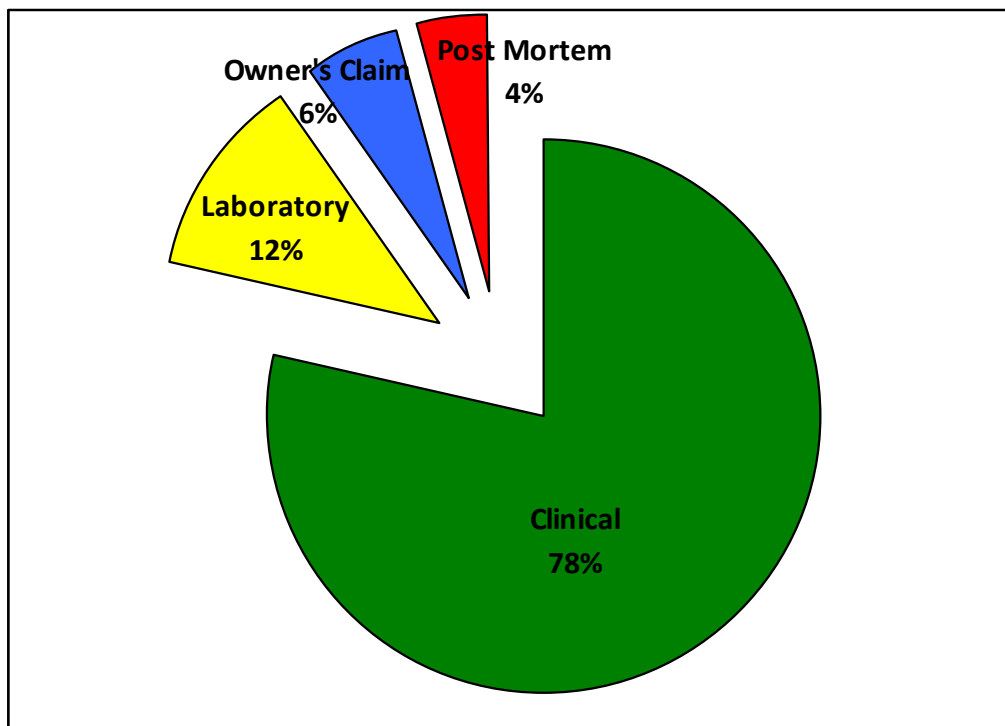


Figure 3.3: Nature of Outbreak diagnosis

3.5 Trans-boundary Animal Diseases

The SADC region reported ten TADs in 2010. Among these, Rabies (RBS), Lumpy skin disease (LSD) and Newcastle disease (ND) were more prevalent in many countries. Rabies was reported in 12, LSD in 11 and ND in 9 SADC Member States during the year. Rabies has become a serious problem in the region hence it is being considered a Trans-boundary Animal Disease.

Mauritius and Seychelles were the only countries of the 14 SADC Member States that did not report occurrence of any TAD. The highest number of TADs reported was in Namibia (eight) followed by D. R. Congo, South Africa and Tanzania each reporting seven TADs.

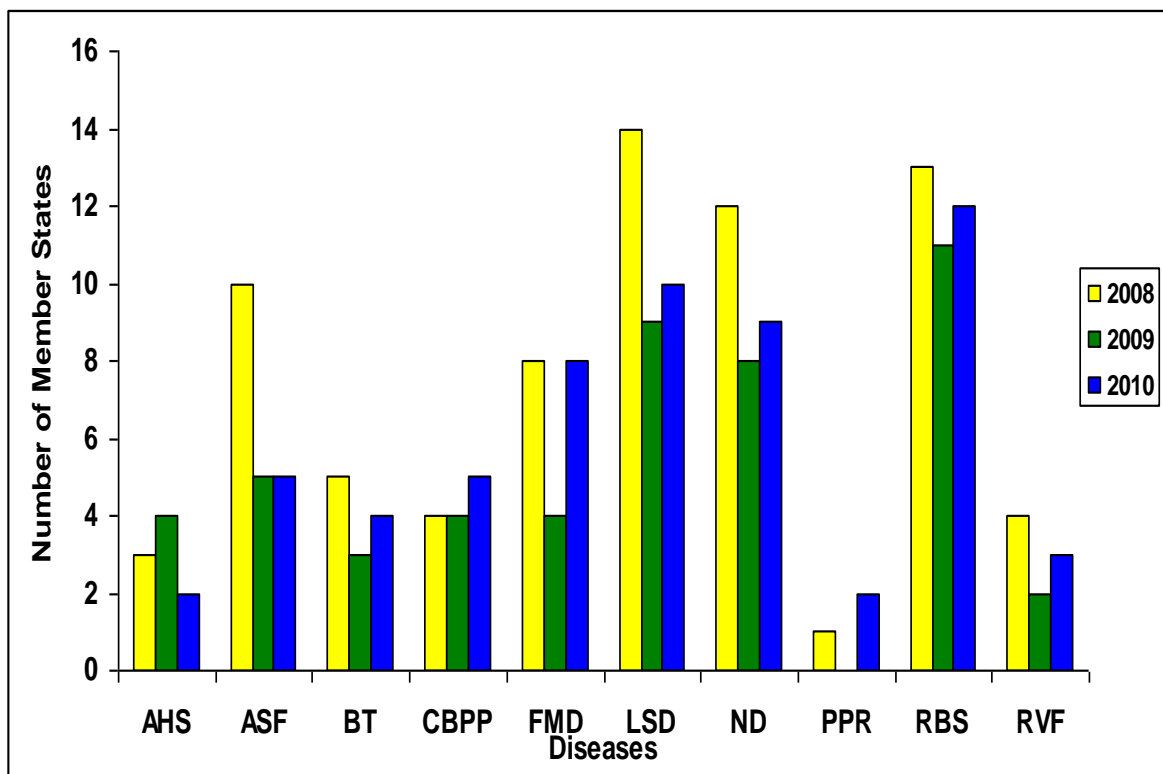


Figure 3.4: Occurrence of TADs and number of Member States affected

4 STATUS OF TRANS-BOUNDARY ANIMAL DISEASES IN THE SADC REGION

There was no outbreak of Highly Pathogenic Avian Influenza in the region during the reporting period. The region is facing a very serious problem of PPR which broke out in Tanzania in 2008 suspected to have come from Kenya. The disease seemed to be put under control in 2009, but resurfaced again in regions of Tanzania and D.R. Congo. This situation puts other SADC countries (Angola, Zambia, Malawi, and Mozambique) at very high risk of infection if animal movement and other preventive measures are not put in place

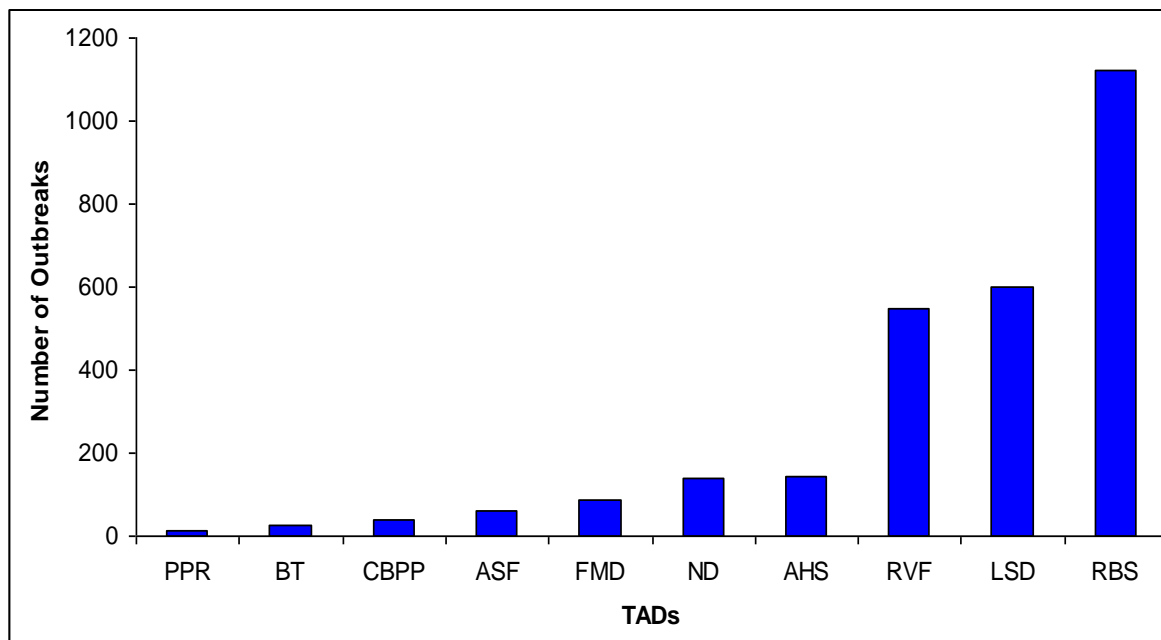


Figure 4.1: Frequency distribution of TADs outbreaks in 2010

Table 4.1: Occurrence of TADs in 2010

Country	AHS	ASF	BTN	CBPP	FMD	LSD	ND	PPR	RBS	RVF	TADs
Angola											5
Botswana											5
D.R. Congo											7
Lesotho											3
Malawi											3
Mauritius											0
Mozambique											3
Namibia											8
Tanzania											7
Seychelles											0
South Africa											7
Swaziland											2
Zambia											5
Zimbabwe											5

Key

Occurrence of TAD	
-------------------	--

4.1 African Horse Sickness

Only two Member States (Namibia and South Africa) reported a total of 142 outbreaks of African horse sickness (AHS) in their territories in 2010. There appears to be a decrease in the incidence of AHS in the region in 2010 compared to 2009 when four countries (Angola, Botswana, Namibia and South Africa) had reported outbreaks of the disease. Botswana and Angola reported AHS in 2009 but did not report it in 2010. Most of the AHS outbreaks in 2010 occurred in South Africa. Total number of outbreaks, cases and deaths due to AHS are shown in tables 4.2 and 4.3.

Table 4.2: Member States affected by AHS outbreaks in 2010

MS	Outbreaks	Cases	Deaths	Destroyed
Namibia	9	24	5	0
South Africa	133	187	40	1
Total	142	211	45	1

Comparison of the quantitative statistics of African horse sickness since 2008 clearly shows a marked decrease in mortality. Deaths progressively decreased by 92.7% from 622 in 2008 to 45 in 2010. A similar trend can be observed for outbreaks and cases which have also decreased by 72% and 82.3% respectively.

Table 4.3: Outbreaks of African horse sickness in the region from 2008 to 2010

Parameter	2008	2009	2010
Number of Countries affected	3	4	2
Number of Outbreaks	507	279	142
Number of Cases	1,195	857	211
Number of Deaths	622	283	45
Number of Death/Number of Cases (%)	52.1%	33.0%	21.3%

Although AHS outbreaks were spread throughout the year, majority of outbreaks (82%) were in the five month period covering February through to June. April had the highest number of outbreaks with 34% of the total number of outbreaks reported in the year. This trend is similar to what has been observed in previous years with AHS outbreaks predominantly peaking in the first 5 months of the year. In 2009, all AHS outbreaks were in the first 7 months of the year.

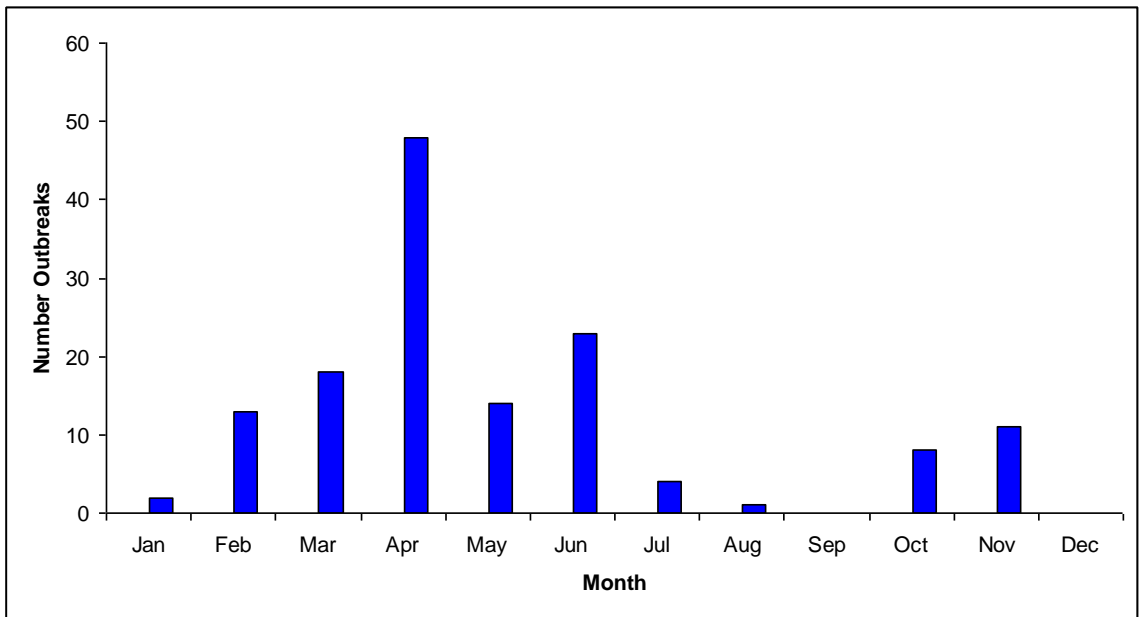


Figure 4.2: Temporal distribution of African horse sickness in 2010

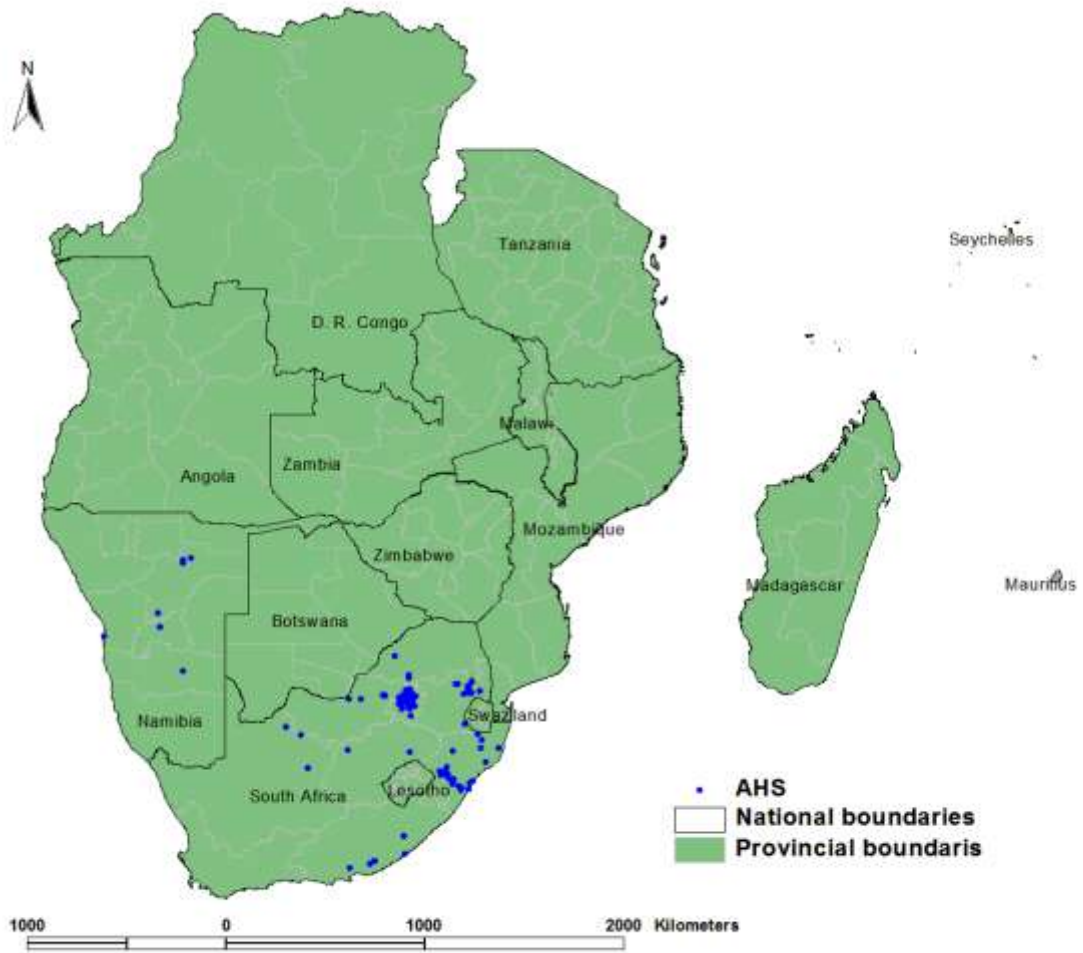


Figure 4.3: Spatial distribution of African horse sickness

4.2 African swine fever

African swine fever was reported by five (5) MS where a total of 35 outbreaks occurred. This was a decrease from 44 outbreaks reported in 2009. As African swine fever has high mortality with all ages and sex of pigs, the increase in total number of pigs that died mirrored the increase in number of cases. 97.2% of all cases resulted in death. This was a significant increase from 75% of cases that resulted in death in 2009.

Table 4.4: Member States affected by ASF outbreaks in 2010

Country	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
Angola	3	342	161	161	20
D.R. Congo	10	19,856	19,854	-	-
Malawi	3	7,827	7,285	55	9
Mozambique	11	358	292	167	-
Tanzania	2	5	3	-	-
Zambia	6	247	203	-	-
Total	35	28,635	27,798	383	29

Table 4.5: Outbreaks of African swine fever in the region from 2008 to 2010

Parameter	2008	2009	2010
Number of Countries affected	10	5	6
Number of Outbreaks	110	44	35
Number of Cases	15,465	1,086	28,365
Number of Deaths	10,603	824	27,798
Number of Death/Number of Cases (%)	68.6%	75.9%	98.0%

The total number of ASF outbreaks, cases and deaths recorded in 2010 was the highest of the three years from 2008 to 2010. The number of deaths per number of cases was highest in 2010 as shown in table 4.5. The temporal pattern of ASF shows that the disease was reported throughout the year with lower number of outbreaks recorded in the period February to June.

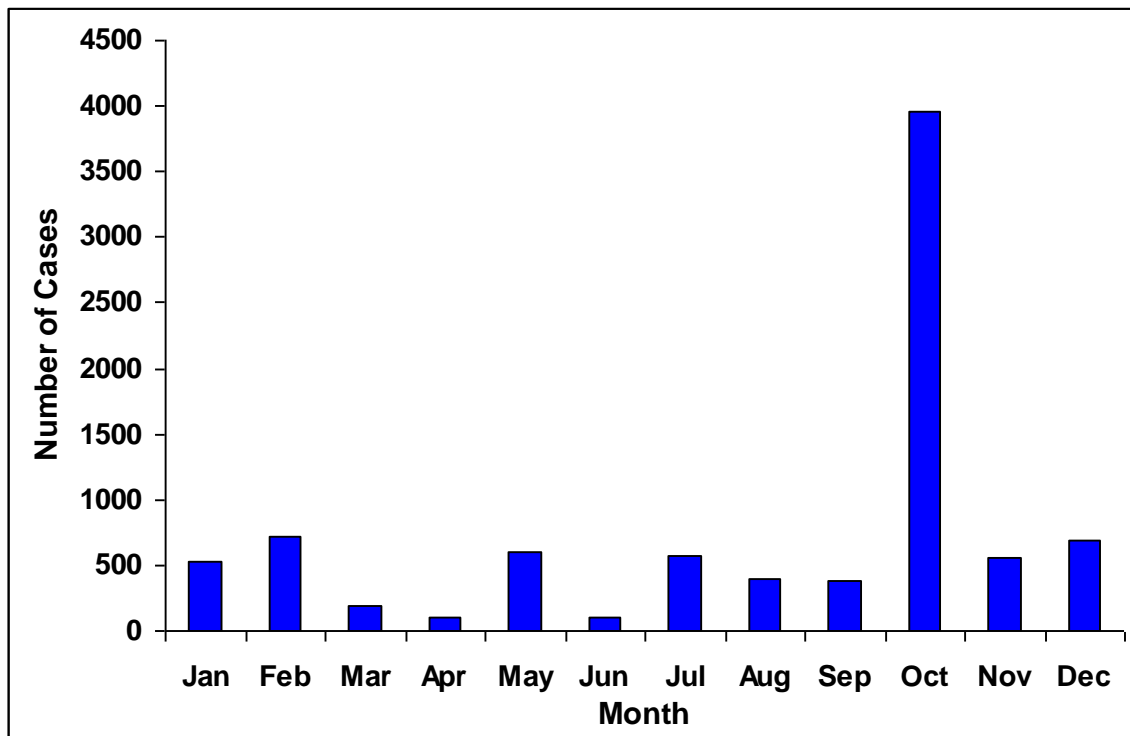


Figure 4.4: Temporal distribution of African swine fever in 2010

4.3 Bluetongue

Bluetongue was reported in four countries in the SADC region in the year 2010. Lesotho and South Africa accounted for 22 of 26 Bluetongue outbreaks. South Africa had the bulk share of Bluetongue cases with 118 of the 171 cases.

Table 4.6: Member States affected by Bluetongue in 2010

Country	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
Lesotho	7	19	2	-	-
Namibia	3	19	5	-	-
South Africa	15	118	30	1	-
Zimbabwe	1	15	-	-	-
Total	26	171	37	1	-

Despite the increase in number of countries reporting outbreaks of Bluetongue from three to four, the number of outbreaks and deaths was markedly lower in 2010 than in 2009.

Table 4.7: Outbreaks of Bluetongue in the region from 2008 to 2010

Parameter	2008	2009	2010
Number of Countries affected	5	3	4
Number of Outbreaks	78	106	26
Number of Cases	568	1,375	171
Number of Deaths	229	248	37
Number of Death/Number of Cases (%)	40.3%	18.0%	21.6%

As can be seen from fig 4.6 below, majority of Bluetongue outbreaks was in the first 6 months of the year (January to June of 2010). The temporal distribution of Bluetongue disease in 2010 mirrors trends observed for the same disease in 2009. March had the highest number of Bluetongue outbreaks and cases.

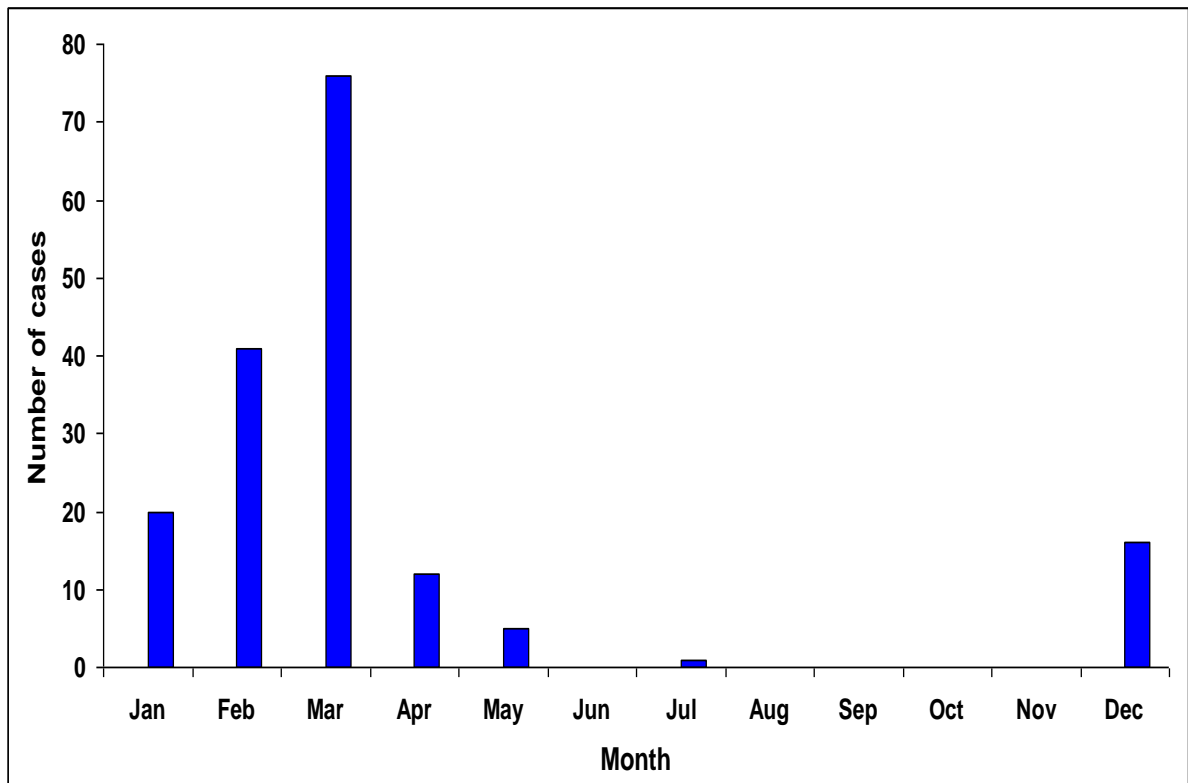


Figure 4.6: Temporal distribution of Bluetongue cases in 2010

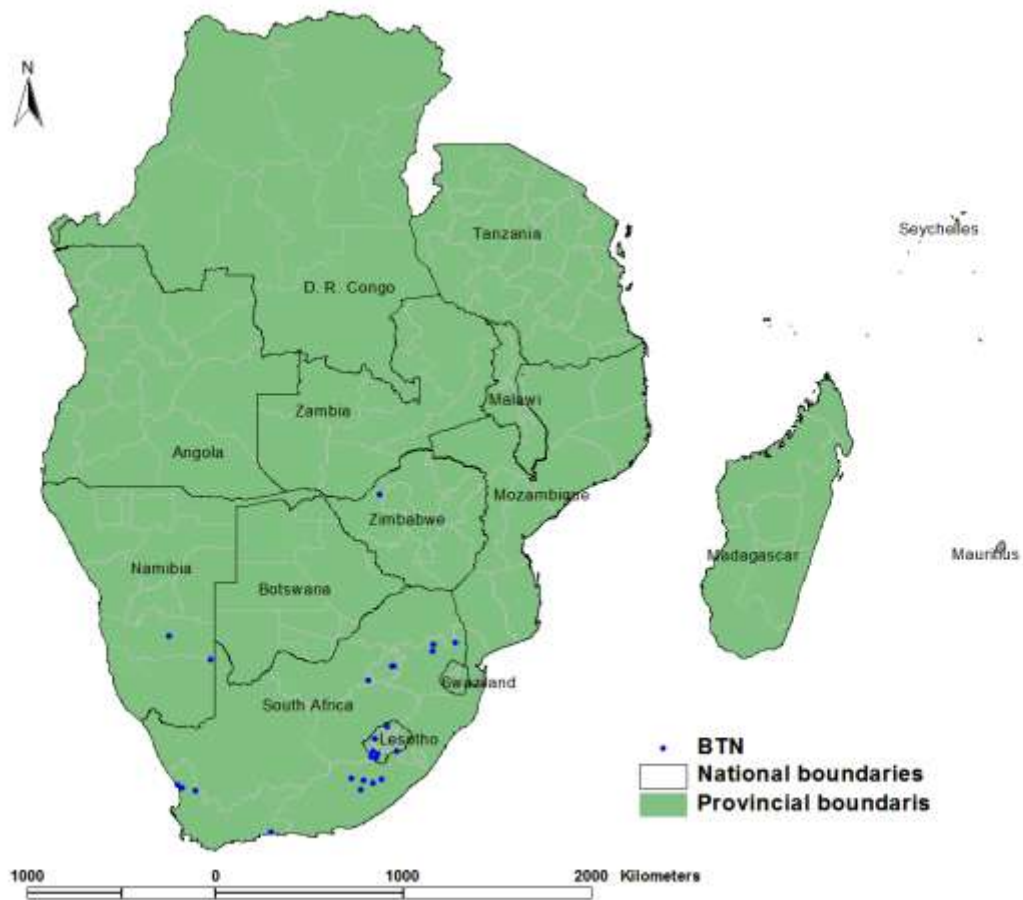


Figure 4.7: Spatial distribution of Bluetongue in 2010

4.4 Contagious Bovine Pleuropneumonia

Contagious bovine Pleuropneumonia was the third least reported TAD after PPR and Bluetongue in terms of outbreaks in 2010. There was an increase in number of countries that reported CBPP from 4 in 2009 to 5 in 2010. D. R. Congo joined the four Member States that had reported CBPP in 2008 and 2009. Angola accounted for 27 of 41 outbreaks and 660 of 1,078 cases.

Table 4.8: Member States affected by CBPP in 2010

Country	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
Angola	27	660	53	18	-
D.R. Congo	2	311	-	-	310
Namibia	2	11	-	-	-
Tanzania	2	19	15	-	-
Zambia	8	77	40	-	-
Total	41	1,078	108	18	310

The number of CBPP outbreaks has progressively decreased from 94 in 2008 to 64 in 2009 and to 41 in 2010. Despite this downward trend in outbreaks, CBPP cases have fluctuated in the same period. After a decrease from 1,909 in 2008 to 604 in 2009, the number of cases increased remarkably to 1,078 in 2010. Mortalities relative to number of CBPP cases have continuously decreased since 2008 as can be seen in Table 4.9.

Table 4.9: Outbreaks of CBPP in the region from 2008 to 2010

Parameter	2008	2009	2010
Number of Countries affected	4	4	5
Number of Outbreaks	94	64	41
Number of Cases	1,909	604	1,078
Number of Deaths	738	112	108
Number of Death/Number of Cases (%)	38.7%	18.5%	10.0%

Majority of CBPP cases were reported in the first six months of 2010. A clear difference is evident between the periods January to June and July to December of 2010. Majority (91.8%) of CBPP cases were reported in the period January to June 2010. CBPP deaths followed a similar trend with only one death reported in the second half of the year compared to 107 in the first half.

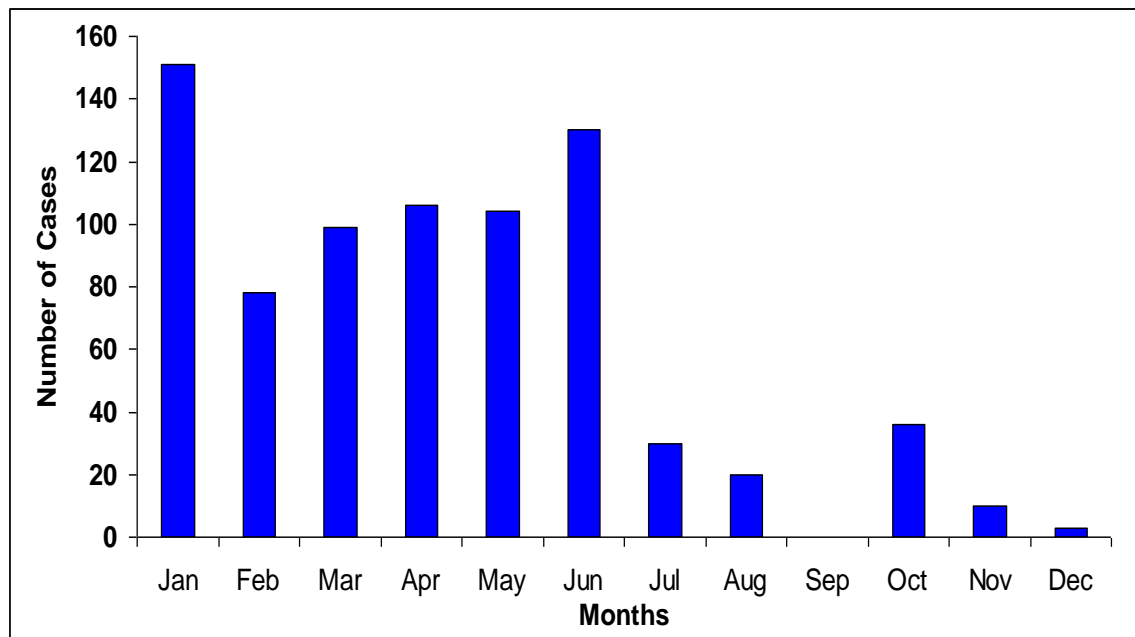


Figure 4.8: Temporal distribution of CBPP in 2010

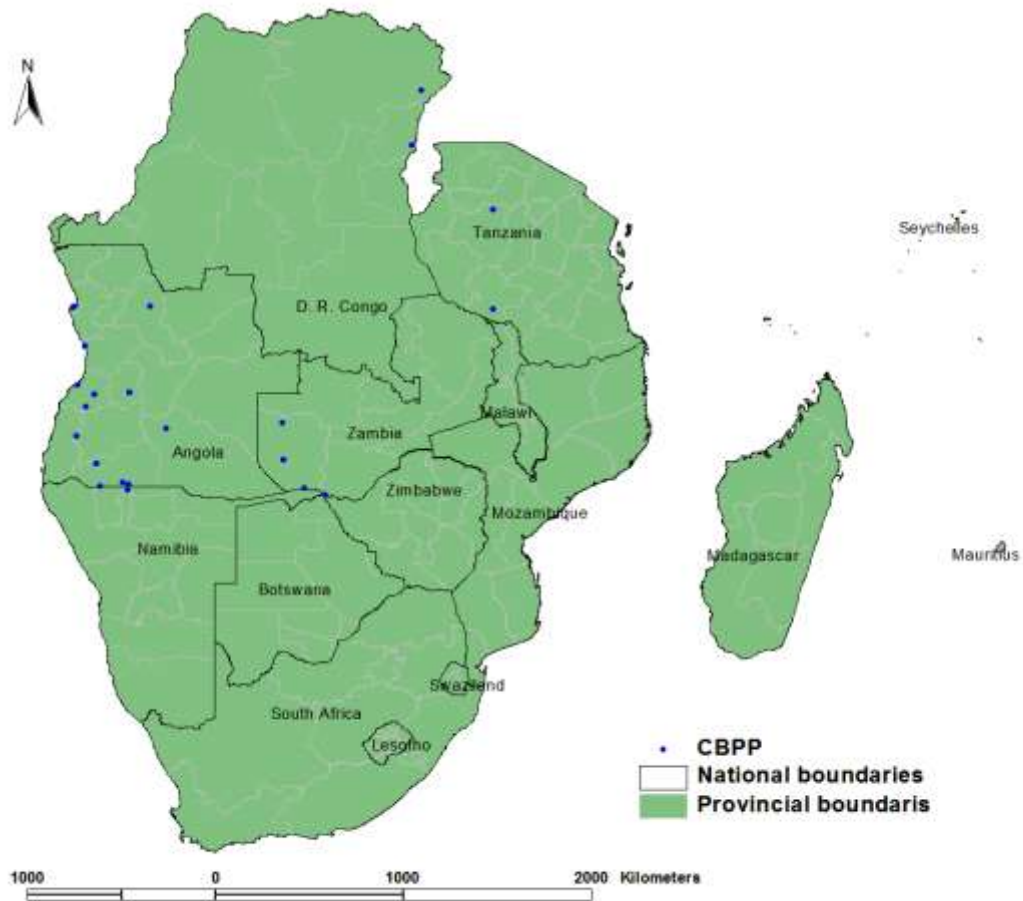


Figure 4.9: Spatial distribution of CBPP in 2010

4.5 Foot and Mouth Disease

A total of 90 FMD outbreaks were reported in eight (8) SADC Member States in 2010. The viruses responsible for the majority of these outbreaks were not typed, with only 4% of the outbreaks having known serotypes. Botswana, Namibia and South Africa are the only 3 countries, of the 8, that investigated for types of the FMD viruses causing the outbreaks.

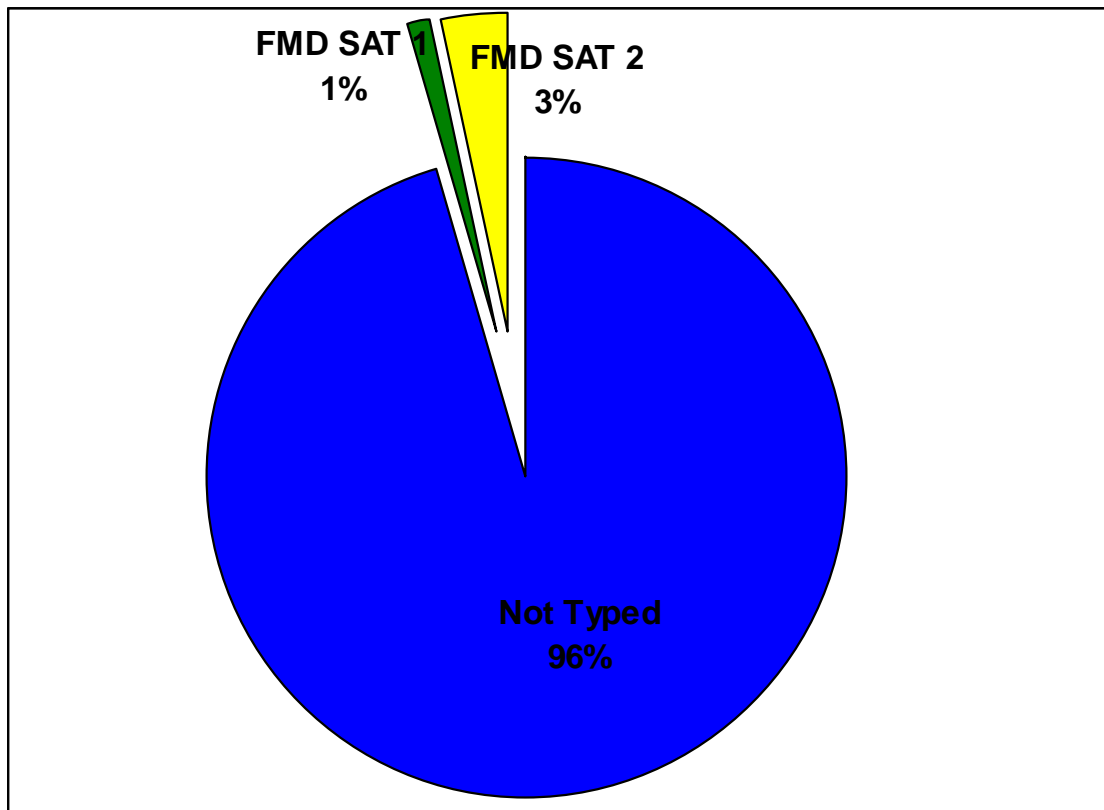


Figure 4.10: FMD types reported in 2010

The number of MS reporting FMD increased in 2010 to eight (8) from four (4) in 2009. Similarly the number of outbreaks reported increased from 37 in 2009 to 90 in 2010. All the Member States reported less than 6 FMD outbreaks in the year except for Tanzania (45) and Zimbabwe (26). The two countries contributed 78.7% to total number of outbreaks. Despite low number of outbreaks, D.R. Congo had the highest

number of cases (9,411). Tanzania was second (4,228) followed by Zambia (3,352) and Zimbabwe (1,168) in that order.

Table 4.10: Member States affected by FMD in 2010

Country	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
Botswana	1	21	-	-	-
D.R. Congo	5	9,411	137	-	-
Mozambique	1	12	-	-	-
Namibia	3	181	1	-	-
Tanzania	45	4,228	64	-	-
South Africa	6	13	3	9	-
Zambia	3	3,352	13	-	-
Zimbabwe	26	1,168	-	-	-
Total	90	18,386	218	9	-

Table 4.11: Outbreaks of FMD in the region from 2008 to 2010

Parameter	2008	2009	2010
Number of Countries affected	8	4	8
Number of Outbreaks	126	37	90
Number of Cases	10,160	4,717	18,386
Number of Deaths	76	23	218
Number of Death/Number of Cases (%)	0.7%	0.5%	1.2%

Number of FMD cases increased from 4,717 in 2009 to 18,386 in 2010. Mortalities due to FMD also followed the same trend. The 218 deaths reported in 2010 were the highest in a year since 2008. FMD outbreaks peaked in the months August to October although outbreaks were reported throughout the year.

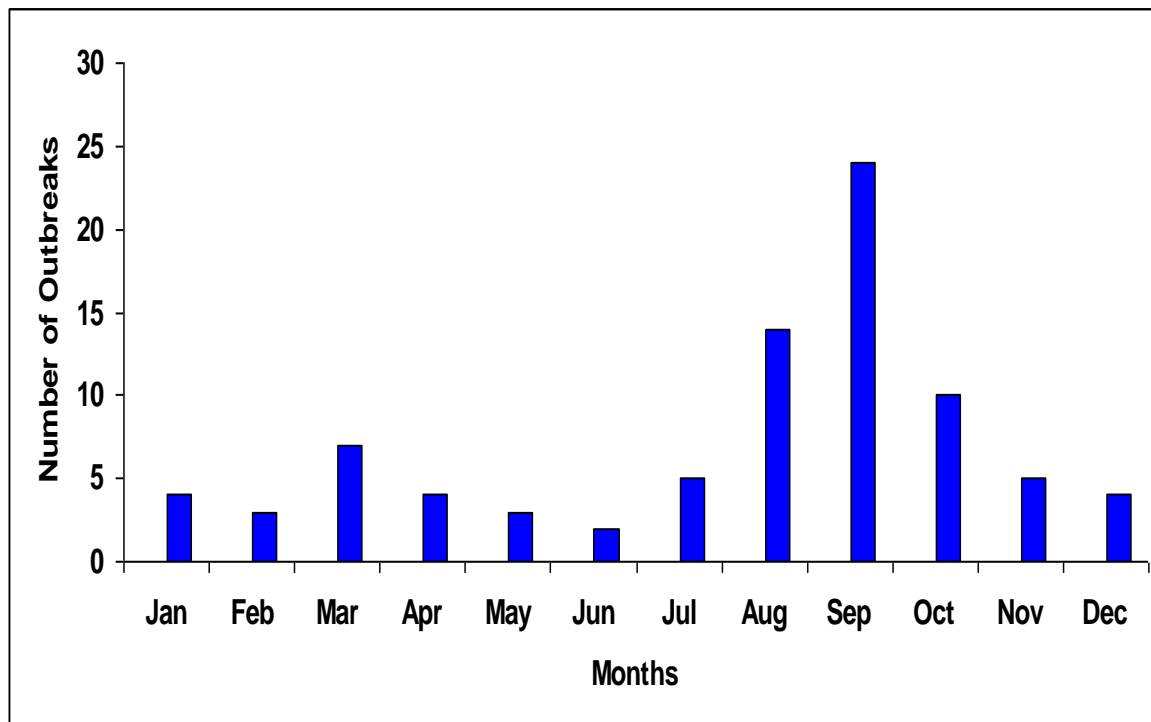


Figure 4.11: Temporal distribution of FMD outbreaks in 2010

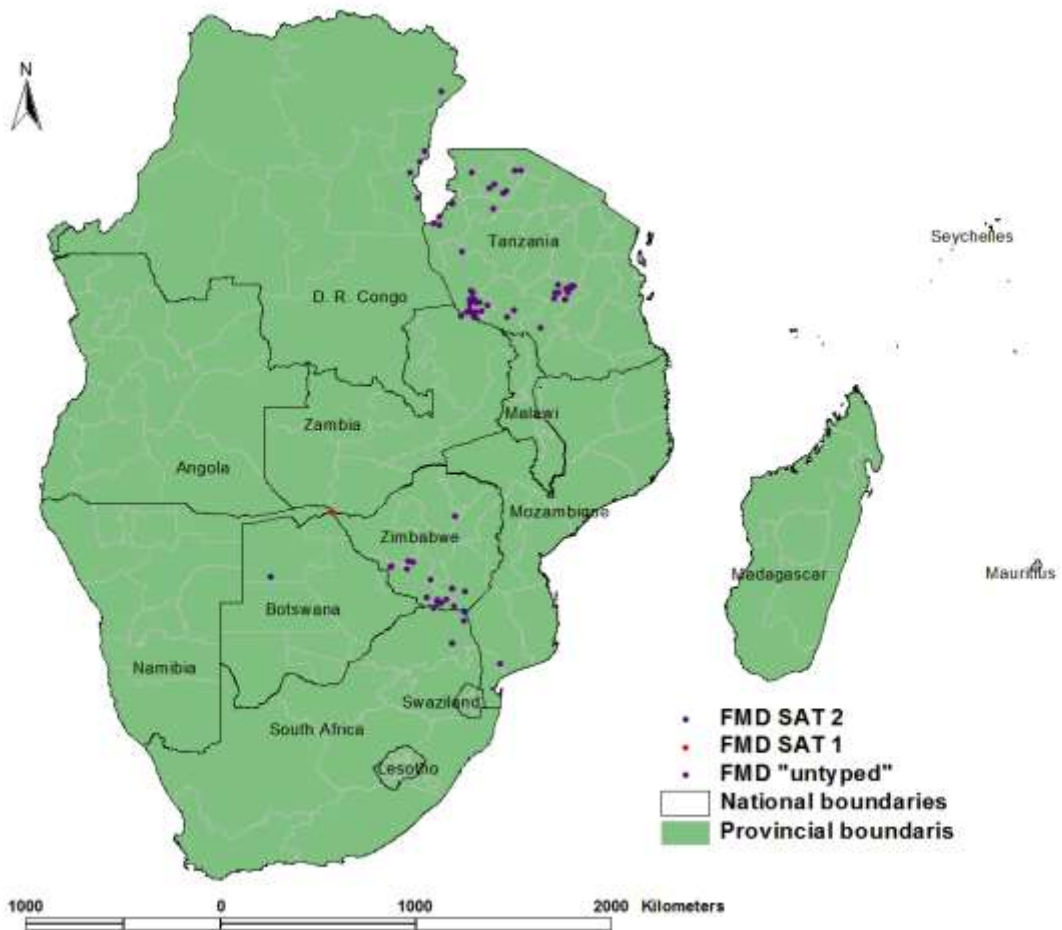


Figure 4.12: Spatial distribution of FMD in 2010

4.6 Lumpy Skin Disease

A total of 618 outbreaks of Lumpy Skin Disease (LSD) were reported in 10 SADC Member States. Amongst the TADs, Lumpy Skin Disease had the second widest territorial distribution and was also the second most frequently reported disease in terms of outbreaks. The majority of LSD outbreaks and cases were reported in South Africa, Namibia and Zimbabwe.

Table 4.12: Member States affected by LSD in 2010

Country	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
Angola	14	267	17	9	-
Botswana	16	121	10	-	-
D.R. Congo	4	1,616	1,430	-	-
Malawi	2	14	-	-	-
Mozambique	8	316	20	-	-
Namibia	9	37	-	-	-
Swaziland	21	62	1	-	1
Tanzania	9	56	5	-	-
South Africa	56	195	14	3	-
Zambia	58	963	18	-	-
Zimbabwe	421	1,998	80	-	-
Total	618	5,645	1,595	12	1

Table 4.13: Outbreaks of LSD in the region from 2008 to 2010

Parameter	2008	2009	2010
Number of Countries affected	14	10	11
Number of Outbreaks	808	510	618
Number of Cases	12,611	4,531	5,645
Number of Deaths	730	341	1,595
Number of Death/Number of Cases (%)	5.8%	7.5%	28.3%

Eleven countries reported outbreaks of LSD in 2010. One more than in 2009 (Table 4.13), Outbreaks and cases for the past three years show marginal difference between 2009 and 2010, but the disease caused more deaths in 2010 than in 2009 (1,595 and 341 respectively). Mortality and number of deaths per case (%) is however highest in 2010. The majority of LSD outbreaks occurred in the first six months of the year with the outbreaks peaking in the three months January to March.

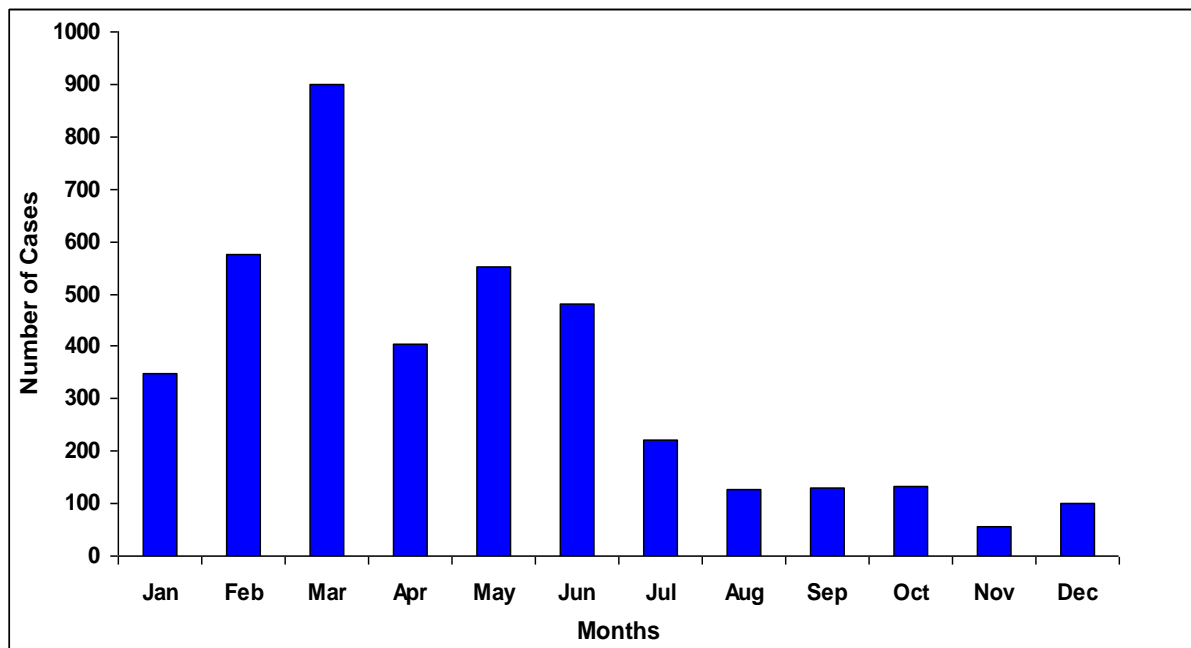


Figure 4.13: Temporal distribution of LSD outbreaks in 2010

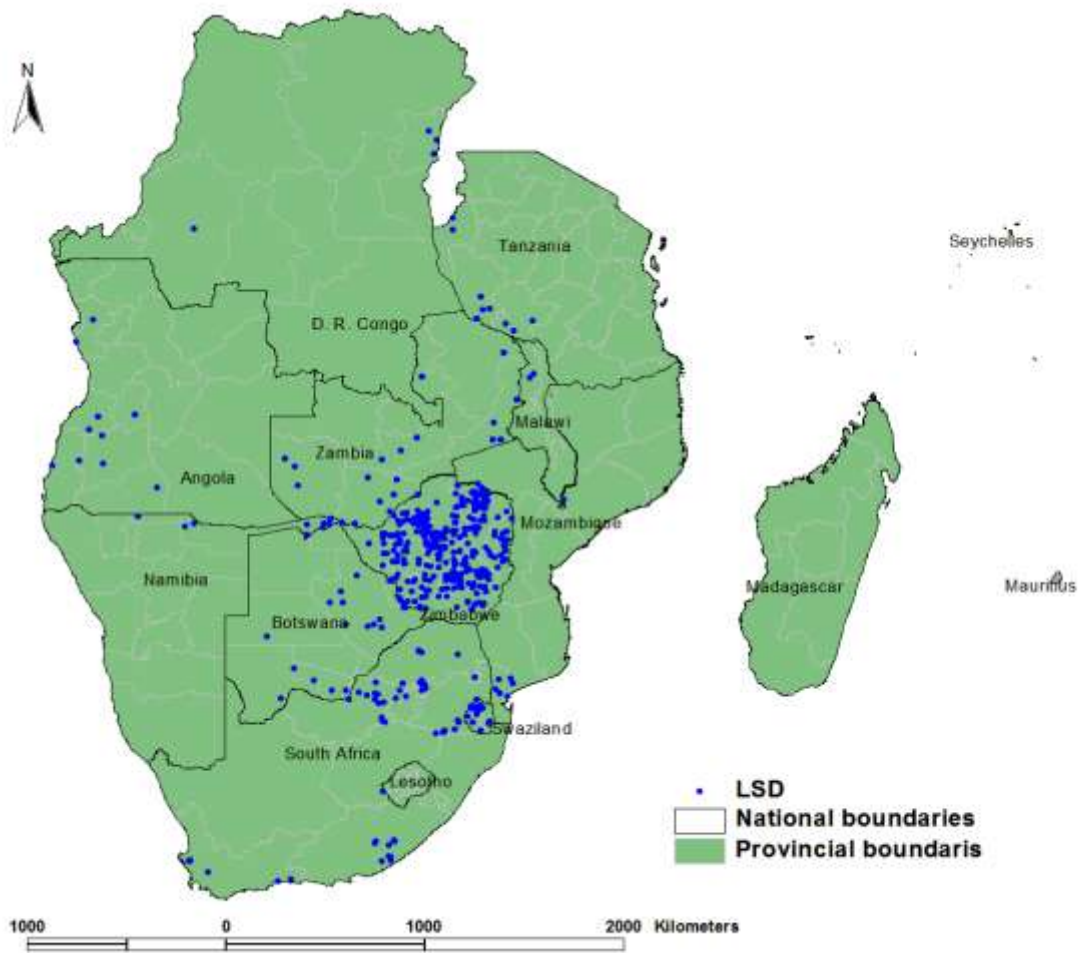


Figure 4.14: Spatial distribution of LSD in 2010

4.7 Newcastle Disease

A total of 153 outbreaks of Newcastle Disease (ND) were reported in nine (9) Member States in 2010. It was again the disease with the most cases and deaths in 2010, just like in 2009. Only 2 of 153 ND outbreaks were typed. These were confirmed to be of the Velogenic strain.

Table 4.14: Member States affected by Newcastle disease in 2010

Country	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
Angola	1	543	259	259	25
Botswana	2	5	1	-	-
D.R. Congo	8	23,576	23,572	-	-
Lesotho	1	13	13	-	-
Mozambique	1	7	5	-	-
Namibia	3	91	75	-	-
Tanzania	24	6,052	3,469	-	-
South Africa	27	3,427	1,998	86	-
Zambia	80	8,338	4,920	-	-
Zimbabwe	6	219	122	-	-
Total	153	42,271	34,434	345	25

Table 4.15: Outbreaks of Newcastle disease in the region from 2008 to 2010

Parameter	2008	2009	2010
Number of Countries affected	12	8	10
Number of Outbreaks	242	150	153
Number of Cases	211,885	35,852	42,271
Number of Deaths	154,968	30,476	34,434
Number of Death/Number of Cases (%)	73.1%	85.0%	81.5%

The number of countries affected, number of cases, and death for 2009 and 2010 were much lower than for 2008. The number of ND cases and deaths in 2010 was marginally higher as the number of affected countries also increased to 10 from 8 in 2009. Malawi and Swaziland were the only continental countries of the SADC region that did not report occurrence of ND in the year.

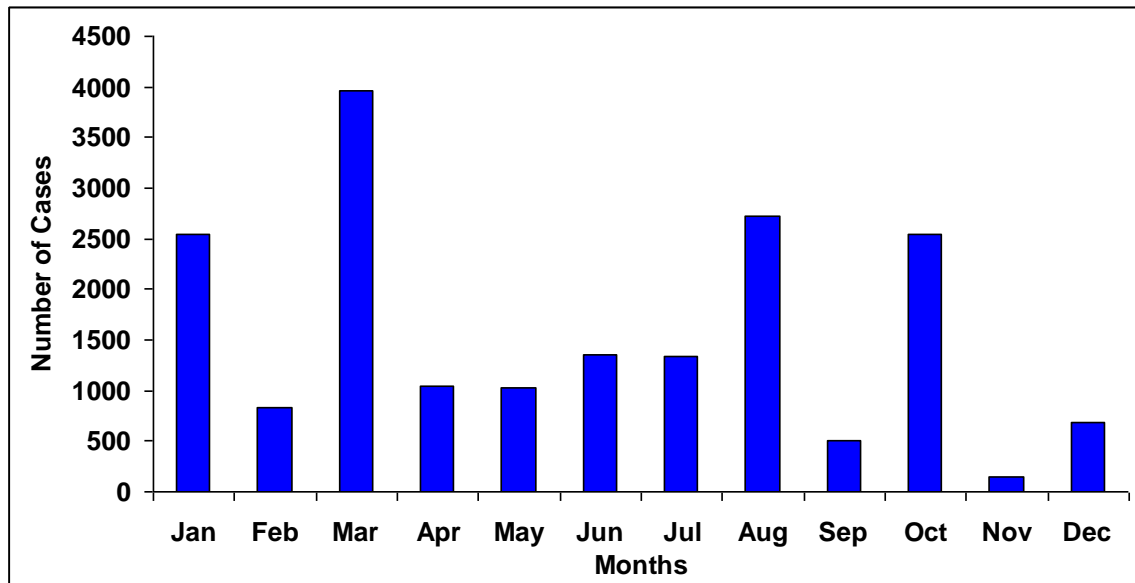


Figure 4.15: Temporal distribution of Newcastle disease in 2010

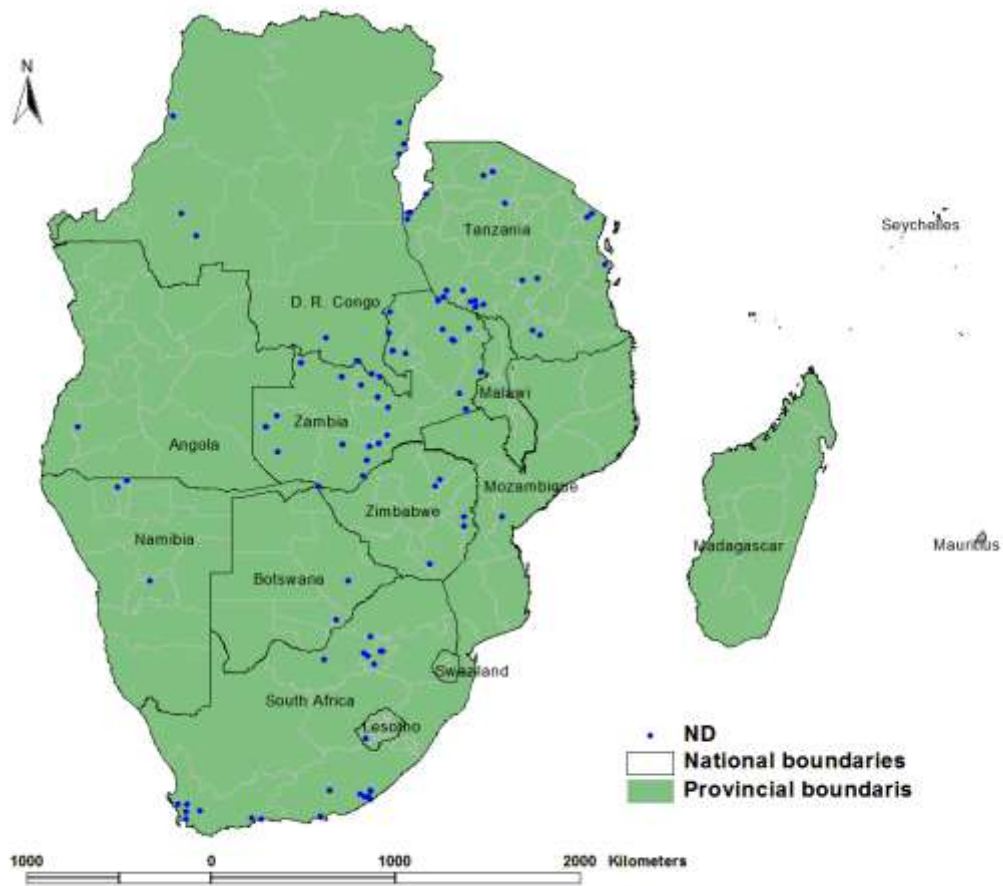


Figure 4.16: Spatial distribution of ND in 2010

4.8 Pestes de Petits Ruminants

The disease has been reported in two countries since its emergence in the region. In 2010, D. R. Congo and Tanzania reported 10 and 1 outbreaks respectively. In 2008, only D.R. Congo reported a single outbreak affecting 89 sheep and goats in the south western part of the country. In 2009, Tanzania was the only country which reported one outbreak of PPR in northern part of the country along the border with Kenya. The picture of Peste des Petit Ruminants (PPR), as an emerging disease, is not very clear and requires urgent intervention to prevent it from spreading further south.

Table 4.16: Member States affected by PPR in 2010

Country	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
D.R. Congo	10	624	620	-	-
Tanzania	1	26	-	-	-
Total	11	650	620	-	-

Of the 11 outbreaks of PPR, 5 were reported in goats and 6 in sheep. A total of 650 animals were affected, of which 620 (95.4%) died.

Table 4.17: Outbreaks of PPR in the region from 2008 to 2010

Parameter	2008	2009	2010
Number of Countries affected	1	-	2
Number of Outbreaks	1	-	11
Number of Cases	89	-	650
Number of Deaths	79	-	620
Number of Death/Number of Cases (%)	88.8%	N/A	98.4%

Plans to eradicate PPR from the region

The SADC TADs Project which is funded by African Development Bank (AfDB) through two subcommittees of the SADC Livestock Technical Committee (LTC) namely the Epidemiology and Informatics subcommittee and Laboratory and Diagnostic sub-committee is facilitating a PPR working group to develop a regional PPR eradication strategy which is expected to be ready and operational early 2012. This plan will elaborate how SADC Member states will eradicate PPR.

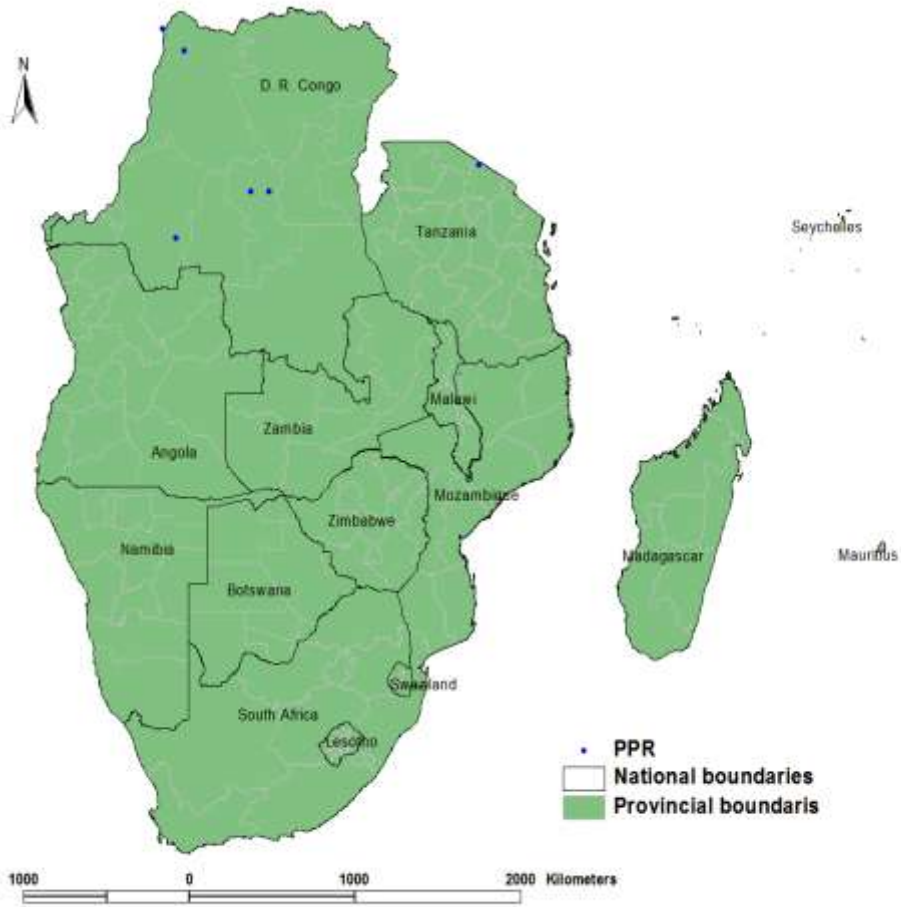


Figure 4.17: Spatial distribution of PPR in 2010

4.9 Rabies

Rabies had the widest territorial distribution in the SADC region in 2010. The disease was reported in 12 Member States. It contributed 40% of the total number of TADs outbreaks reported in the region and affected more species of animals than any other disease. The outbreaks mainly affected cats and dogs (63%) followed by Cattle (18%) and wildlife (11%). As a major zoonotic disease occurring in the region, rabies cases were also reported in humans.

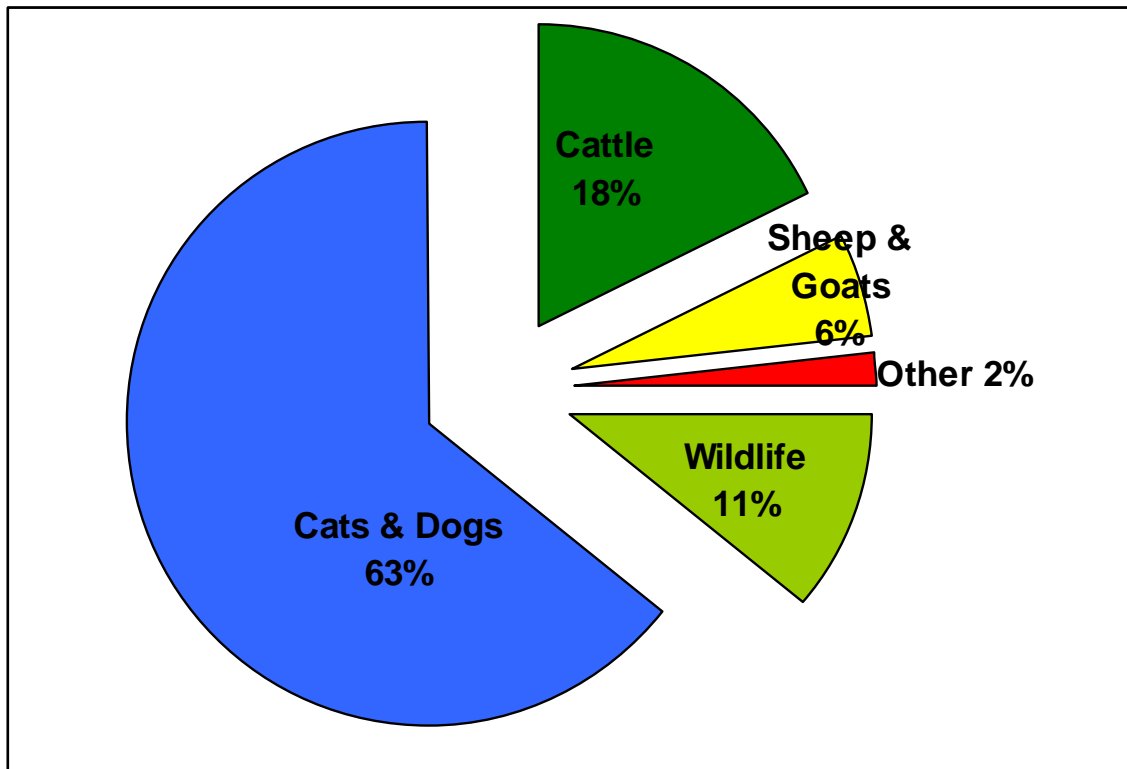


Figure 4.18: Distribution of Rabies outbreaks by Species affected in 2010

Table 4.18: Member States affected by Rabies in 2010

Country	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
Angola	10	34	17	17	-
Botswana	29	37	32	-	-
D.R. Congo	11	155	151	-	-
Lesotho	16	160	70	1	-
Malawi	7	37	37	-	-
Mozambique	10	1,044	21	4	1
Namibia	359	476	452	-	-
Swaziland	42	51	50	1	-
Tanzania	11	102	90	-	-
South Africa	412	476	219	254	-
Zambia	61	331	104	-	-
Zimbabwe	150	348	201	32	1
Total	1,118	3,251	1,444	309	2

The number of Rabies outbreaks, cases and deaths in 2010 is the highest since 2008. South Africa, Namibia and Zimbabwe together accounted for 82 % of the total outbreaks, 61 % of all cases and 62 % of deaths caused by Rabies in 2010. Deaths of animals due to Rabies relative to cases in 2010, was 44.4%, the lowest since 2008. Rabies outbreaks were distributed throughout the year, without a clear peak period as can be seen from fig 4.19.

Table 4.19: Outbreaks of Rabies in the region from 2008 to 2010

Parameter	2008	2009	2010
Number of Countries affected	13	11	12
Number of Outbreaks	959	616	1,118
Number of Cases	1,769	1,641	3,251
Number of Deaths	1,103	909	1,444
Number of Death/Number of Cases (%)	62.4%	55.4%	44.4%

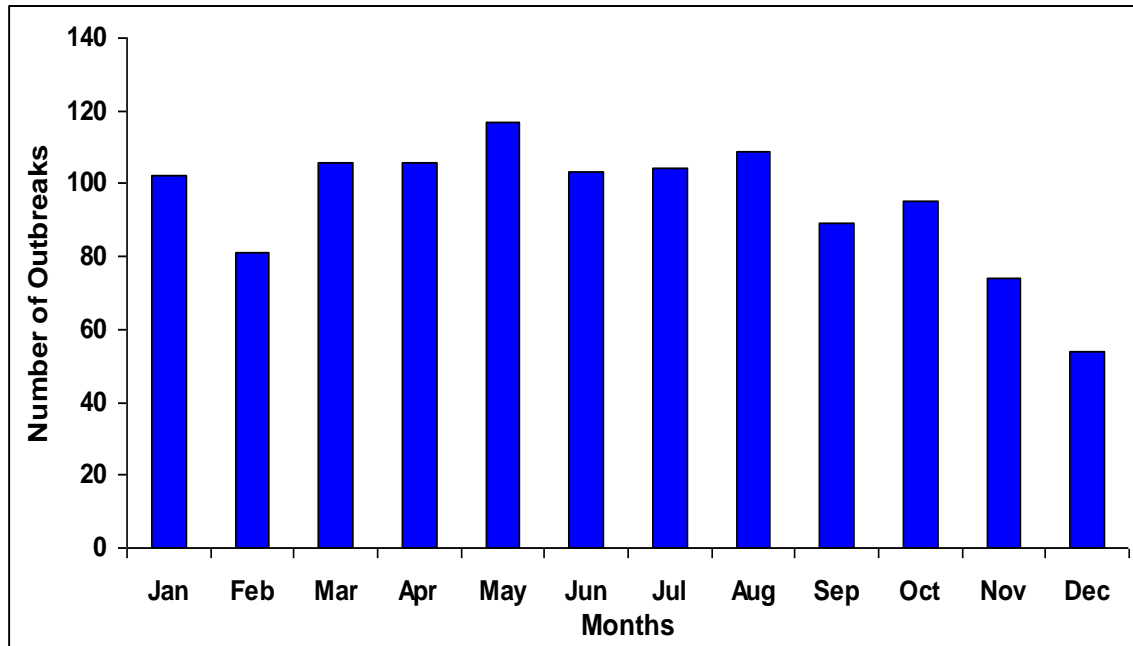


Figure 4.19: Temporal distribution of Rabies outbreaks in 2010

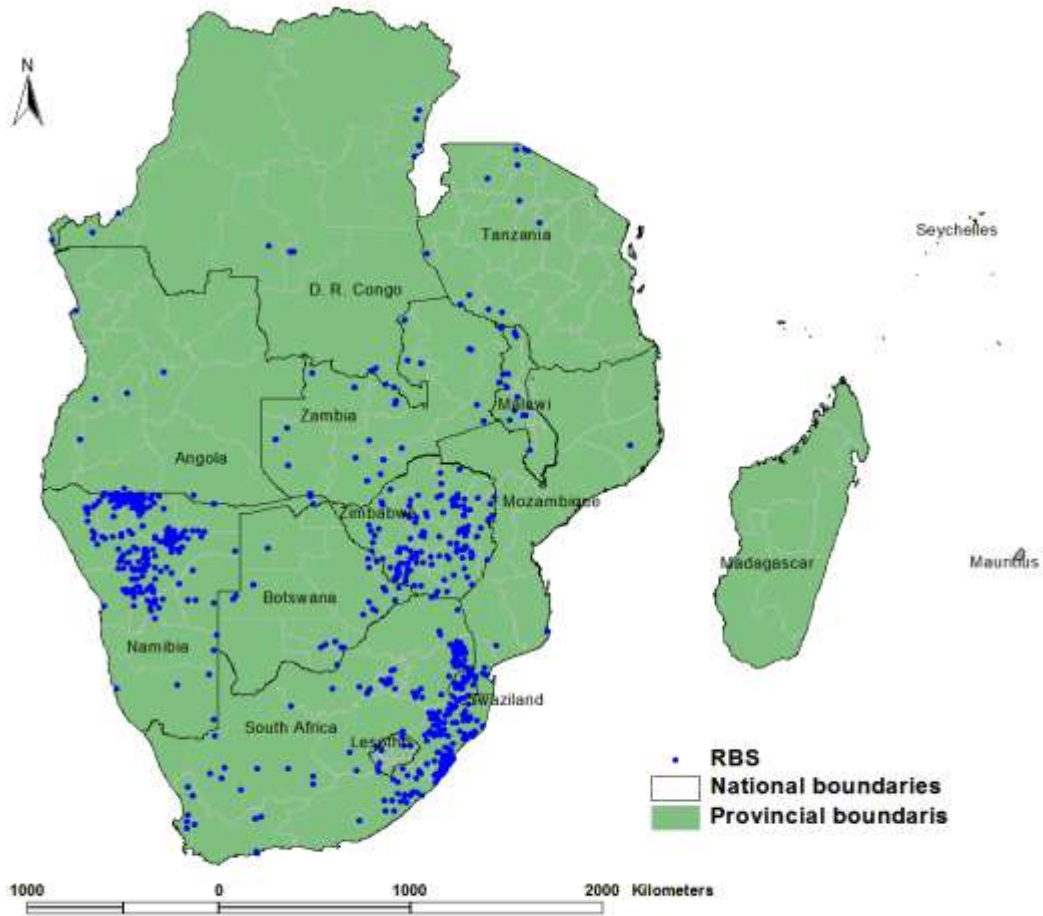


Figure 4.20: Spatial distribution of Rabies in 2010

4.10 Rift Valley Fever

Three countries, Botswana, Namibia and South Africa, reported the disease in the year 2010. South Africa had the highest number of RVF outbreaks (547 of 552), cases (14,609 of 14,624) and deaths (8,789 of 8,798) in the year. It was the only country to destroy livestock as a result of RVF.

Table 4.20: Member States affected by Rift valley fever in 2010

Country	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
Botswana	2	3	-	-	-
Namibia	3	12	9	-	-
South Africa	547	14,609	8,789	521	-
Total	552	14,624	8,798	521	-

Zimbabwe and Swaziland, the only other countries to report RVF since it re-emerged in the SADC region, did not report occurrence of the disease in 2010. The number of outbreaks (552), cases (14,624) and deaths (8,798) recorded in 2010 is the highest since 2008.

Table 4.21: Outbreaks of Rift valley fever from 2008 to 2010

Parameter	2008	2009	2010
Number of Countries affected	4	2	3
Number of Outbreaks	33	27	552
Number of Cases	1,147	348	14,624
Number of Deaths	691	107	8,798
Number of Death/Number of Cases (%)	60.2%	30.7%	60.1%

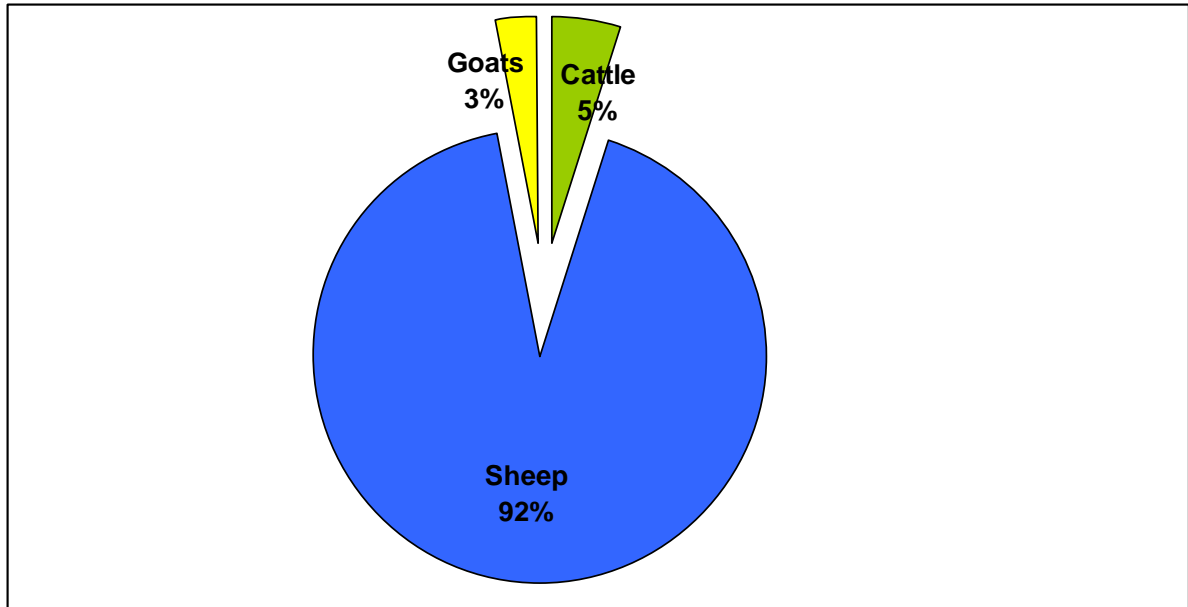


Figure 4.21: Distribution of Rift valley fever mortalities in 2010

Majority of deaths due to RVF was in sheep (92%) while deaths in cattle and goats amounting to 5% and 3% respectively. Most of the outbreaks and cases were reported in the period February to June 2010 with no outbreaks during the period September to November.

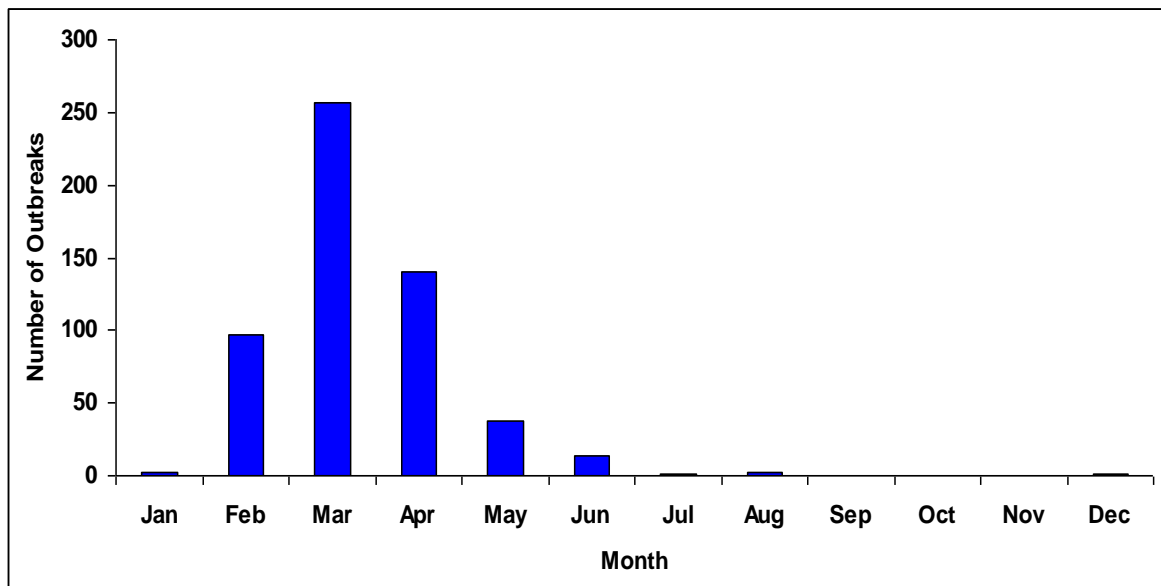


Figure 4.22: Temporal distribution of Rift valley fever outbreaks in 2010

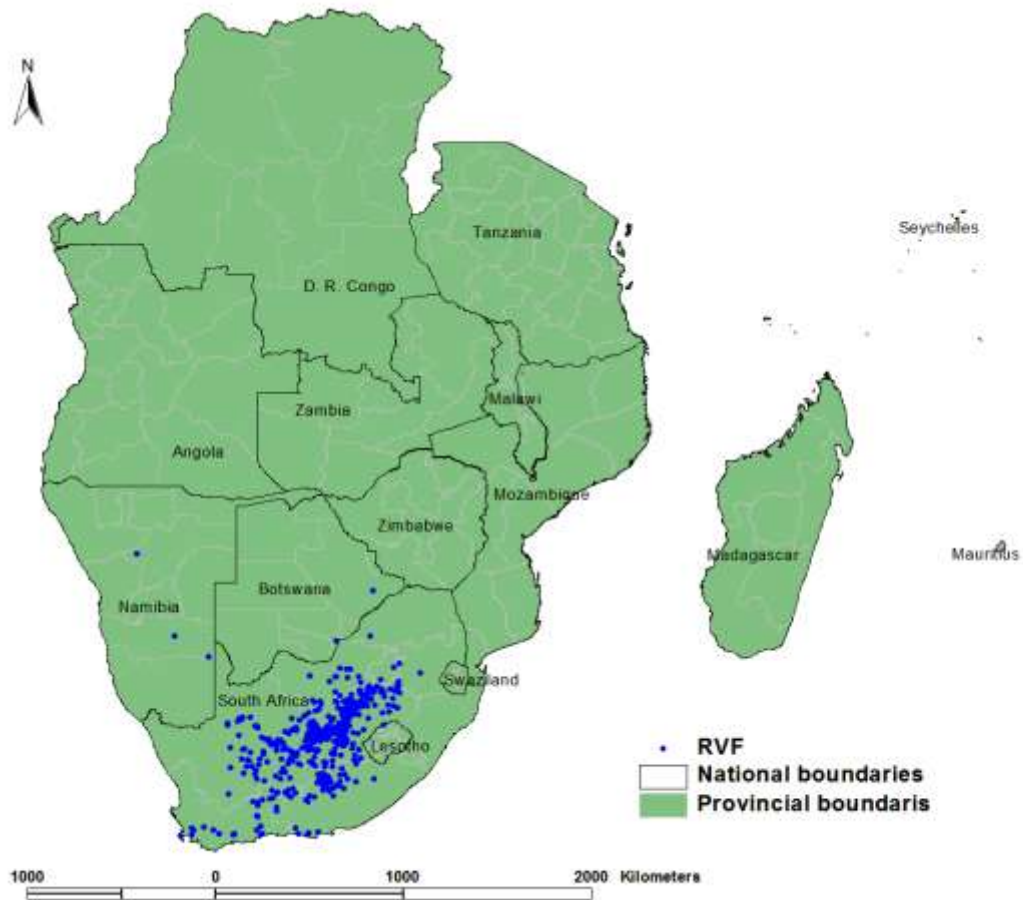


Figure 4.23: Spatial distribution of Rift valley fever in 2010

5 STATUS OF IMPORTANT ZONOTIC DISEASES IN THE SADC REGION

5.1 Important zoonotic diseases reported in the region

Four diseases, Anthrax, Porcine cysticercosis, Rabies and Rift valley fever, are considered under this section on zoonotic diseases. The section will look closely at Anthrax and Porcine cysticercosis as the other two diseases have already been extensively discussed under TADs section of this Year Book.

Table 5.1: Zoonotic diseases reported in the region in 2010

Disease	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
Anthrax	245	563	450	5	-
Porcine cysticercosis	1	1	-	1	-
Rabies	1,118	3,251	1,444	309	2
Rift Valley fever	552	14,624	8,798	521	-
Total	1,916	18,439	10,692	836	2

In terms of number of outbreaks, Rabies had the highest (1,118) followed by RVF, Anthrax and Porcine cysticercosis in decreasing order. While on the other hand RVF had the most cases (14,624) and deaths (8,798) with Rabies, Anthrax and Porcine cysticercosis following in decreasing order. Anthrax recorded the highest number of deaths per number of cases (81.7%) followed by RVF (60.2%) and Rabies (44.5%). No mortalities were reported for porcine cysticercosis.

5.2 Anthrax

Anthrax outbreaks were reported in eight (8) SADC Member States in 2010. A total of 245 outbreaks and 563 cases occurred during the year. South Africa had the highest number of Anthrax outbreaks (196) while Zimbabwe (23) and Namibia (12) followed. Mortality due to Anthrax was relatively high, as 81.7% of cases resulted in death. South Africa recorded 43.6% of total deaths, Namibia 32.9% and Zimbabwe 18.1%.

Table 5.2: Member States affected by Anthrax in 2010

Country	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
Angola	1	10	5	5	-
D.R. Congo	1	1	-	-	-
Lesotho	3	6	6	-	-
Namibia	12	201	151	-	-
Tanzania	5	15	5	-	-
South Africa	196	213	200	-	-
Zambia	4	12	10	-	-
Zimbabwe	23	105	83	-	-
Total	245	563	460	5	-

Table 5.3: Outbreaks of Anthrax in the region from 2008 to 2010

Parameter	2008	2009	2010
Number of Countries affected	9	7	8
Number of Outbreaks	129	29	245
Number of Cases	2,157	207	563
Number of Deaths	810	155	460
Number of Death/Number of Cases (%)	37.6%	74.9%	81.7%

The number of Anthrax cases in 2010 and 2009 are significantly lower than in 2008. Various livestock and wildlife species were affected by Anthrax. Cattle were the most affected livestock by anthrax.

Table 5.4: Species affected by Anthrax in 2010

Species	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
Cattle	35	156	103	5	-
Sheep	1	3	3	-	-
Goats	2	3	3	-	-
Wild [‡]	207	401	351	-	-
Total	245	563	460	5	-

[‡] Eland, Buffalo and other Game

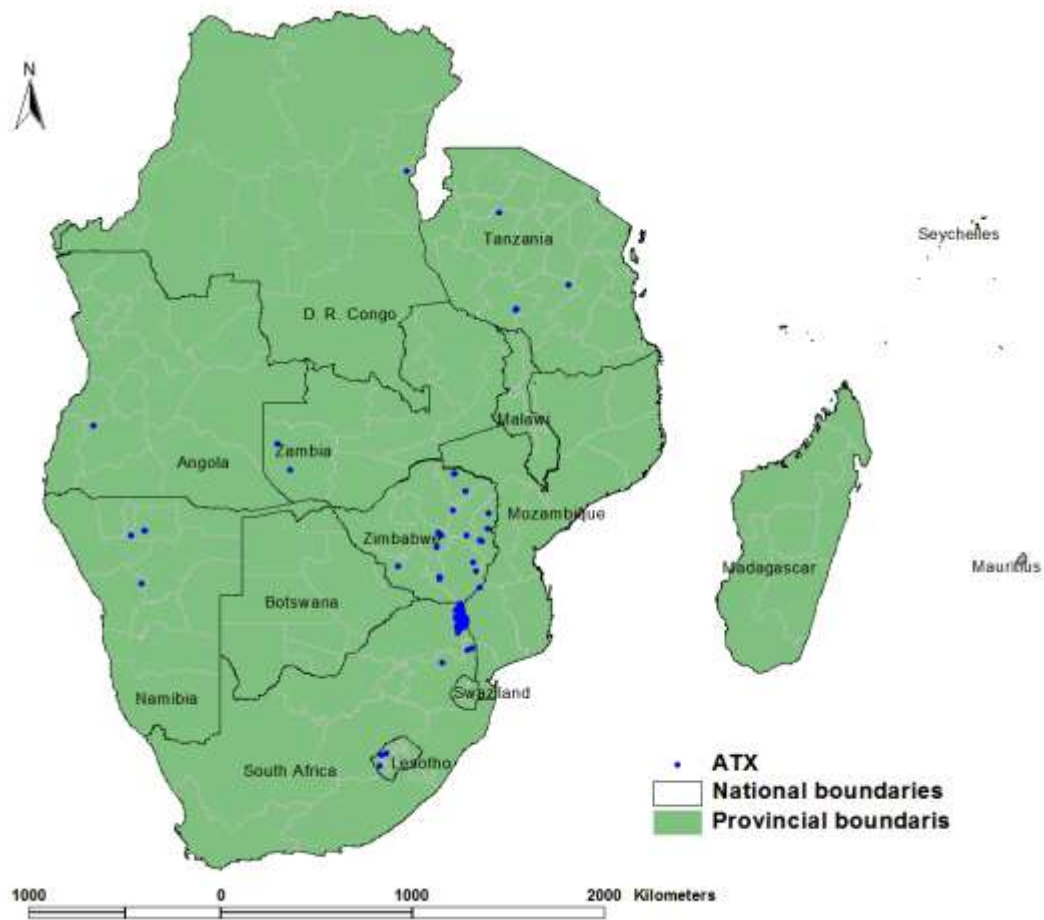


Figure 5.1: Spatial distribution of Anthrax in 2010

5.3 Porcine cysticercosis

The only outbreak of Porcine cysticercosis was reported in South Africa. The infected pig was destroyed.

Table 5.5: Member States affected by Porcine cysticercosis in 2010

Country	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
South Africa	1	1	0	1	0

6 STATUS OF OTHER IMPORTANT DISEASES IN THE SADC REGION

6.1 Blackleg

A total of 524 Blackleg outbreaks were reported in 10 SADC Member States in the year 2010. Zimbabwe reported 337 of the 524 outbreaks for the year.

Table 6.1: Member States affected by Blackleg in 2010

Country	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
Angola	9	82	35	15	-
Botswana	1	2	1	-	-
D.R. Congo	3	494	29	-	-
Malawi	1	2	2	-	-
Namibia	14	777	56	4	2
Swaziland	50	172	37	-	-
Tanzania	18	263	88	-	-
South Africa	19	66	26	-	-
Zambia	72	635	312	-	-
Zimbabwe	337	1,533	696	-	-
Total	524	4,026	1,282	19	2

Although the number of countries that reported BQ in 2010 was the same as in 2009 (10), the number of outbreaks increased by over 100% from 221 in 2009 to 524 in 2010.

Table 6.2: Outbreaks of Blackleg from 2008 to 2010

Parameter	2008	2009	2010
Number of Countries affected	Data not available	10	10
Number of Outbreaks	270	221	524
Number of Cases	6,231	1,062	4,026
Number of Deaths	2,153	416	1,282
Number of Death/Number of Cases (%)	34.6%	39.2%	31.8%

Blackleg outbreaks were reported throughout the year. Although there were small differences in number of outbreaks per month during the year, the number of cases was highest in the period July to October 2010. Deaths followed the same temporal trends observed with cases.

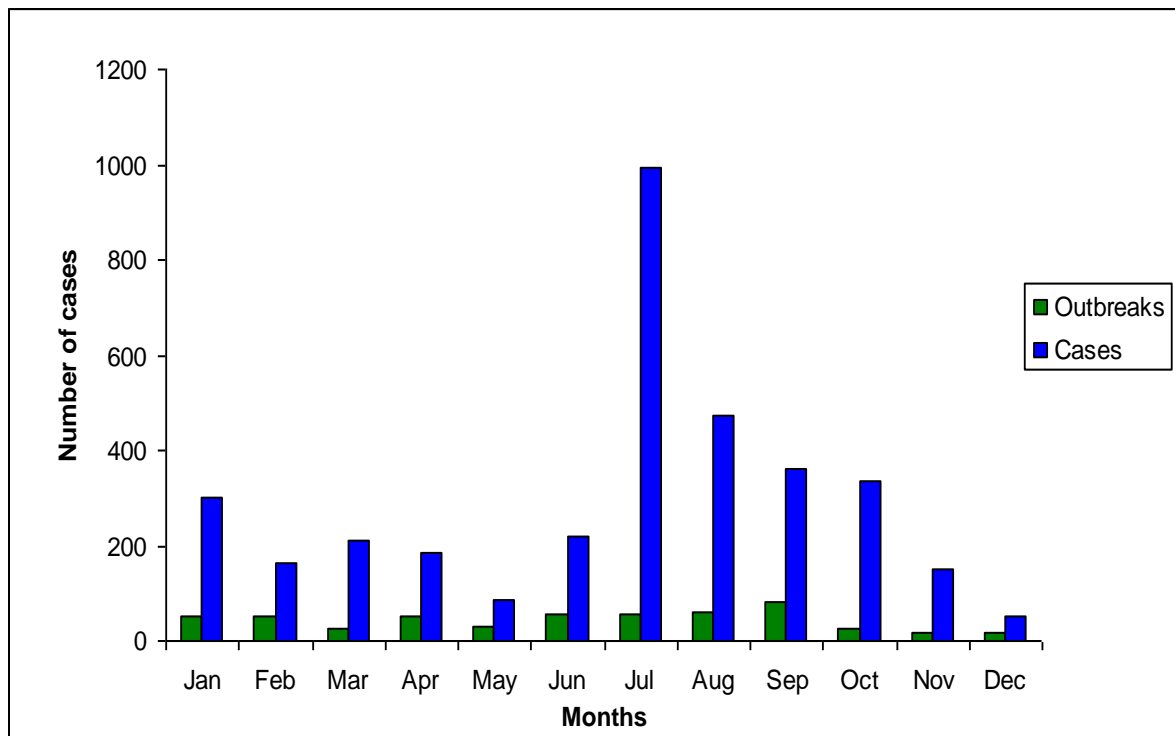


Figure 6.1: Temporal distribution of Blackleg cases and outbreaks in 2010

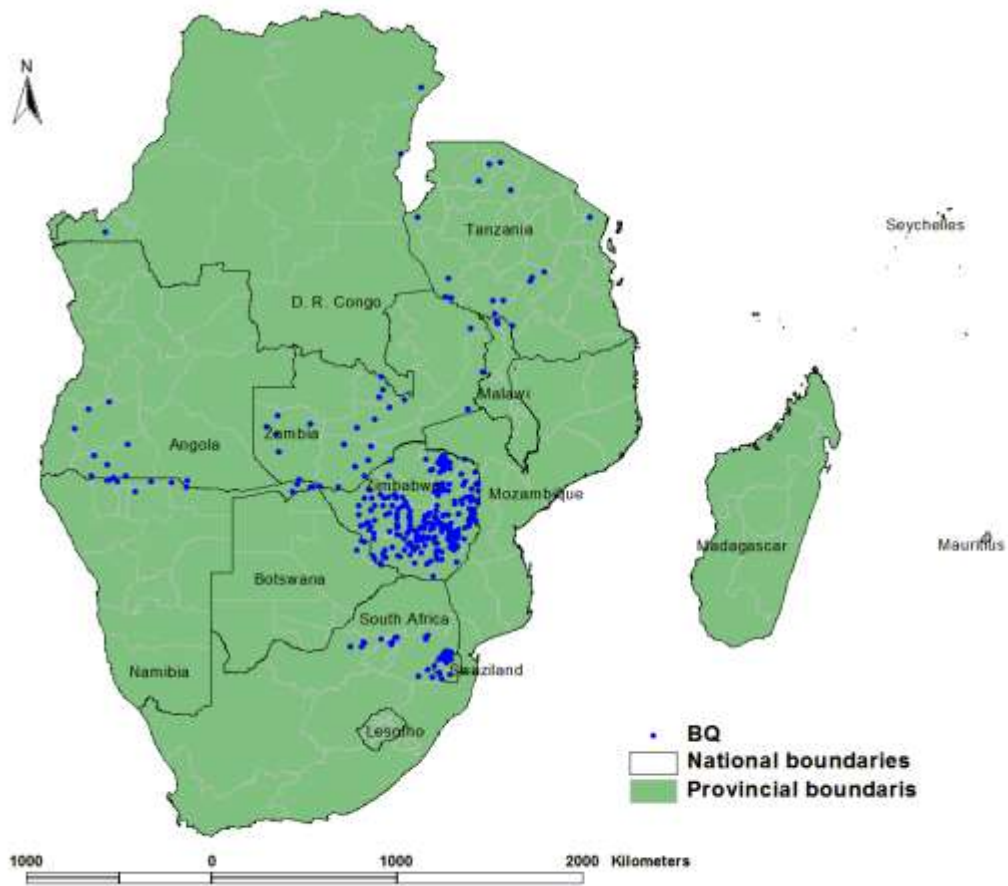


Figure 6.2: Spatial distribution of Blackleg in 2010

6.2 Botulism

Botulism was reported in 4 countries in 2010, including South Africa, compared to 3 in 2009 (Zimbabwe, Namibia and Swaziland). Zimbabwe (15) and Namibia (9) accounted for 24 of the 28 outbreaks in the year. However, Namibia had the most number of cases (43) and deaths (16).

Table 6.1: Member States affected by Botulism in 2010

Country	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
Namibia	9	43	16	0	0
Swaziland	3	8	1	0	0
South Africa	1	9	9	0	0
Zimbabwe	15	32	11	0	0
Total	28	92	37	0	0

There is a clear reduction in number of cases and deaths reported in the last 2 years (Table 6.2).

Table 6.2: Outbreaks of Botulism from 2008 to 2010

Parameters	2008	2009	2010
Number of Countries affected	Data not available	3	4
Number of Outbreaks	30	32	28
Number of Cases	717	83	92
Number of Deaths	626	27	37
Number of Death/Number of Cases (%)	87.3%	32.5%	40.2%

6.3 Bovine Anaplasmosis

Ten Member States of the SADC region reported Bovine anaplasmosis in the year.

The bulk of the 811 outbreaks were reported in Zimbabwe (462) and Zambia (140).

Table 6.3: Member States affected by Bovine anaplasmosis in 2010

Country	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
Angola	2	31	8	8	-
Botswana	6	57	52	-	-
Lesotho	21	120	16	-	-
Malawi	2	3	3	-	-
Mozambique	18	76	19	-	-
Swaziland	19	36	16	-	-
Tanzania	58	542	83	-	-
South Africa	83	376	50	2	-
Zambia	140	2,398	569	-	-
Zimbabwe	462	1,059	424	-	-
Total	811	4,698	1,240	10	-

Table 6.4: Outbreaks of Bovine anaplasmosis from 2008 to 2010

Parameter	2008	2009	2010
Number of Countries affected	12	9	10
Number of Outbreaks	366	480	811
Number of Cases	7,730	2,741	4,698
Number of Deaths	3,005	676	1,240
Number of Death/Number of Cases (%)	38.9%	24.7%	26.4%

More countries reported outbreaks of Bovine anaplasmosis in 2010 than in 2009. Outbreaks, cases and deaths increased from the year 2009 to 2010. January had the highest frequency of Bovine anaplasmosis cases and deaths, followed closely by February and March (Figure 6.3).

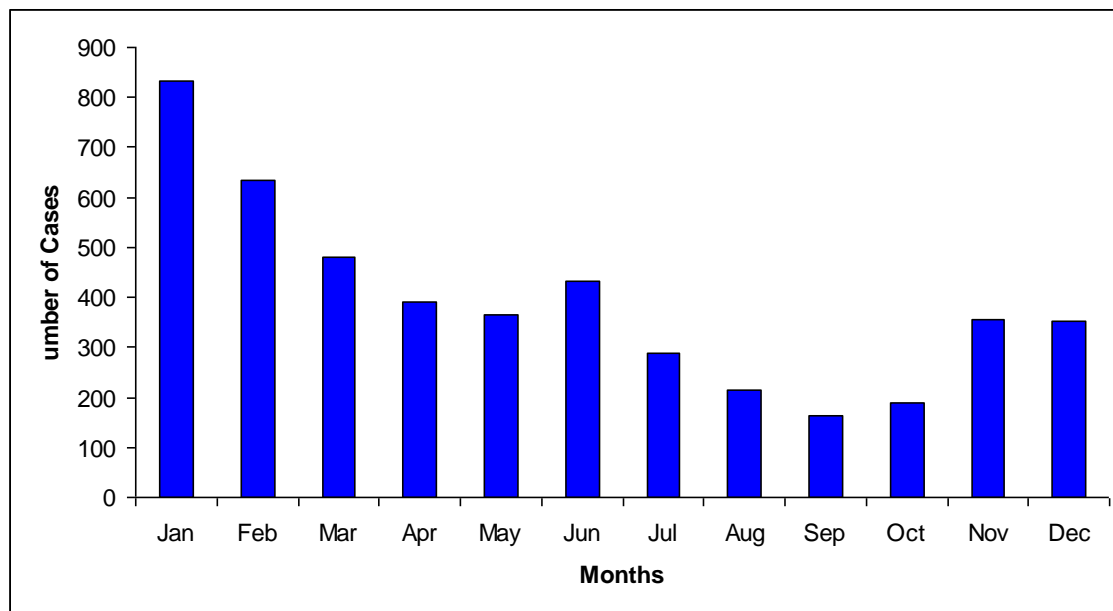


Figure 6.3: Temporal distribution of Bovine anaplasmosis in 2010

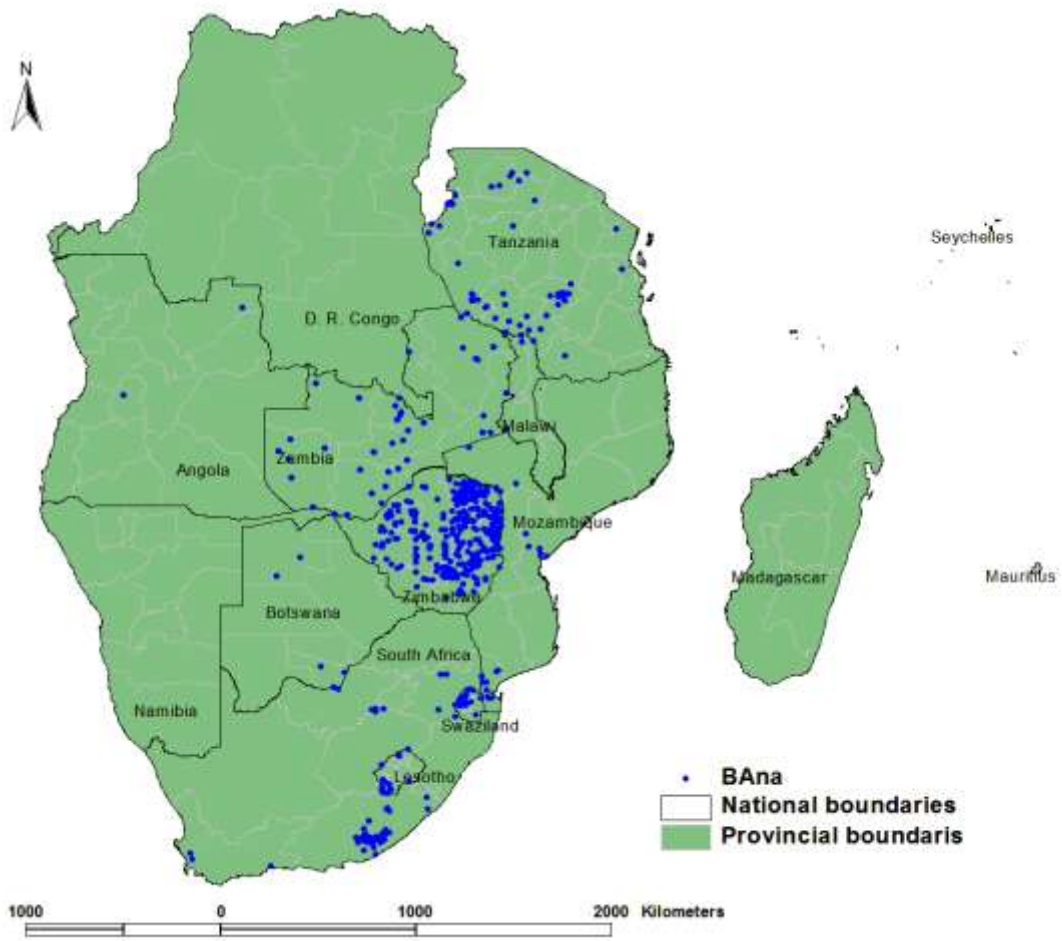


Figure 6.4: Spatial distribution of Bovine anaplasmosis in 2010

6.4 Bovine Babesiosis

A total of 423 Bovine babesiosis outbreaks were reported in 11 SADC Member States in 2010. In 2010, Botswana, D. R. Congo and Namibia joined the other 8 countries that had outbreaks of the disease in 2009. Zimbabwe reported 201 (47.5%) of the total BBab outbreaks in the region.

Table 6.5: Member States affected by Bovine babesiosis in 2010

Country	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
Botswana	1	3	1	-	-
D.R. Congo	3	386	12	-	-
Lesotho	4	24	7	-	-
Malawi	1	4	3	-	-
Mozambique	9	127	34	-	-
Namibia	1	1	-	-	-
Swaziland	16	23	11	-	-
Tanzania	32	120	15	-	-
South Africa	85	515	175	1	-
Zambia	70	593	150	-	-
Zimbabwe	201	375	81	-	-
Total	423	2,171	489	1	-

Table 6.6: Outbreaks of Bovine babesiosis from 2008 to 2010

Parameter	2008	2009	2010
Number of Countries affected	11	8	11
Number of Outbreaks	215	325	423
Number of Cases	5,824	1,306	2,171
Number of Deaths	1,040	245	489
Number of Death/Number of Cases (%)	17.9%	18.8%	22.5%

Majority of Bovine babesiosis cases occurred in the first half of the year. The period January to March had 51.2% of total cases while the second quarter (April to June) had 19.9%. The remaining 28.9% of the cases were spread evenly over the period July to December.

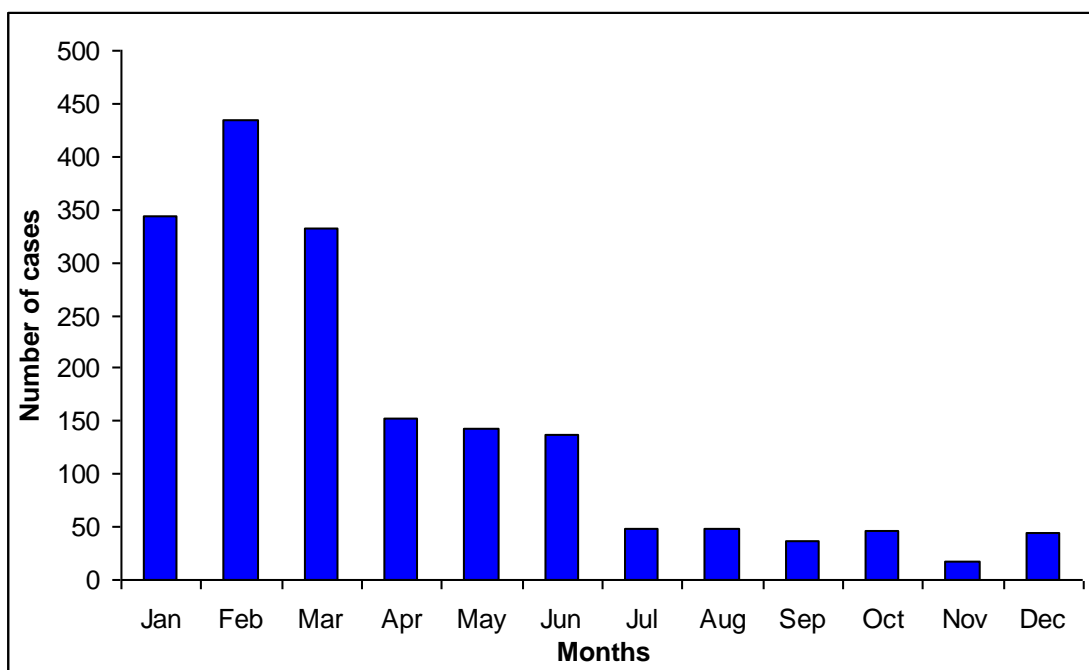


Figure 6.5: Temporal distribution of Bovine babesiosis

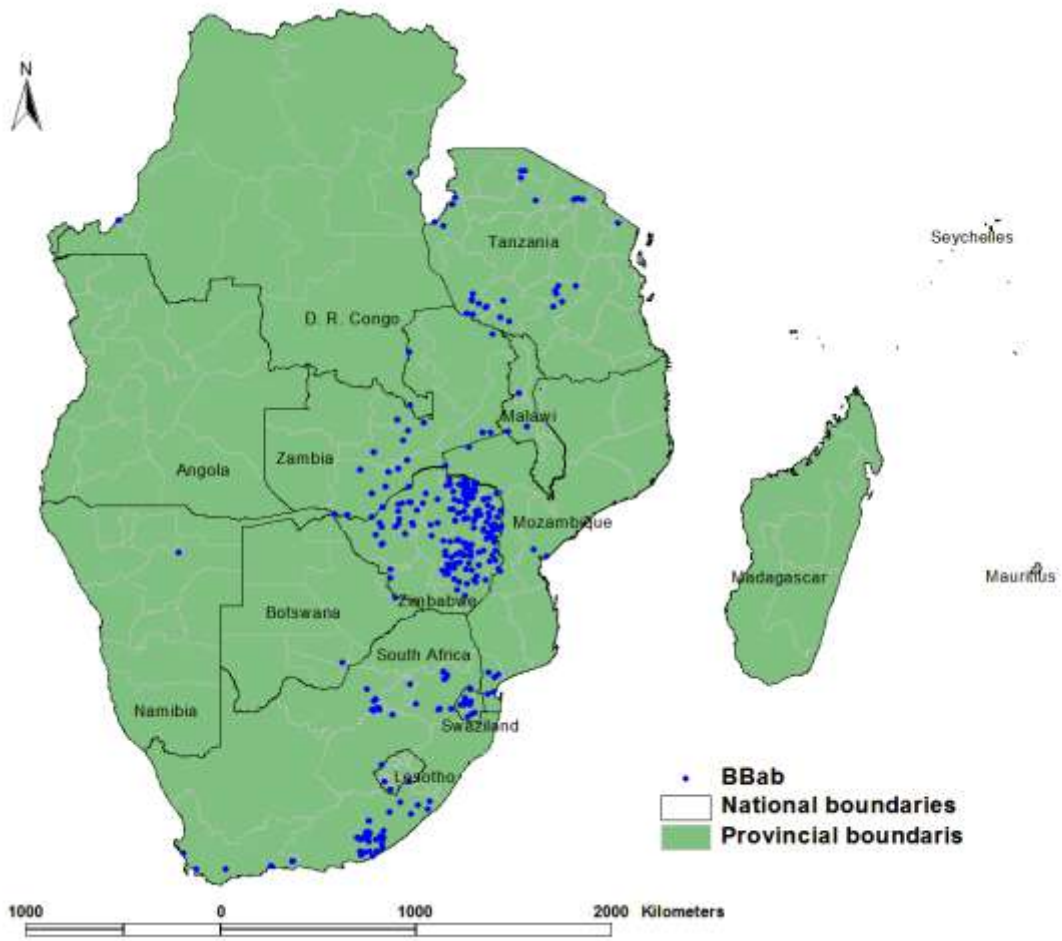


Figure 6.6: Spatial distribution of Bovine babesiosis

6.5 Bovine Brucellosis

A total of 658 bovine brucellosis outbreaks were reported in nine (9) SADC Member States in 2010. South Africa accounted for 82.8%, 80.7% and 89.7% of total outbreaks, cases and livestock destructions respectively. The disease accounted for the destruction of 813 cattle.

Table 6.7: Member States affected by Bovine brucellosis in 2010

Country	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
Angola	1	8	-	-	-
Botswana	3	6	-	-	-
D.R. Congo	1	1	-	-	-
Mozambique	45	446	56	84	9
Namibia	3	5	-	-	-
Swaziland	45	661	1	-	-
South Africa	545	5,027	2	729	-
Zambia	4	60	-	-	-
Zimbabwe	11	14	-	-	-
Total	658	6,228	59	813	9

Table 6.8: Outbreaks of Bovine brucellosis from 2008 to 2010

Parameter	2008	2009	2010
Number of Countries affected	7	7	9
Number of Outbreaks	597	590	658
Number of Cases	4,488	4,262	6,228
Number of Deaths	1,529	375	59
Number of Death/Number of Cases (%)	34.1%	8.8%	0.9%

Although the number of deaths due to Bovine brucellosis in 2010 is much lower than in 2009, the number of livestock destroyed shows an increase in cattle losses due to the disease.

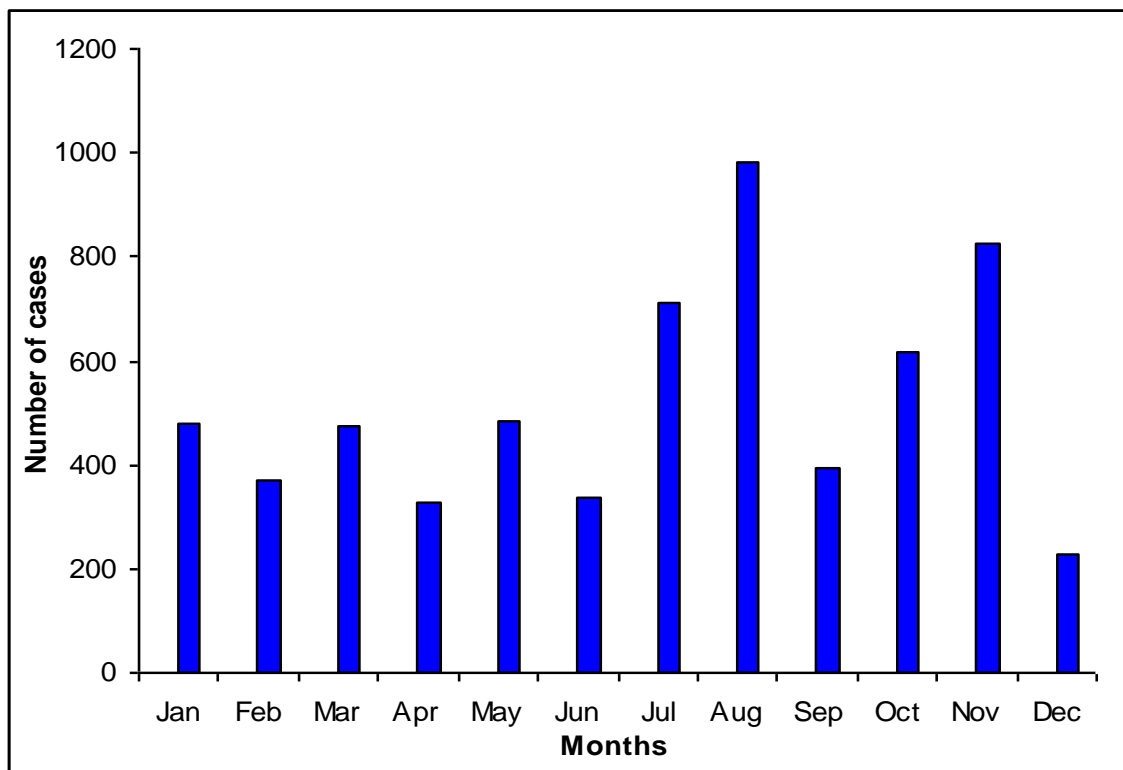


Figure 6.7: Temporal distribution of Bovine brucellosis in 2010

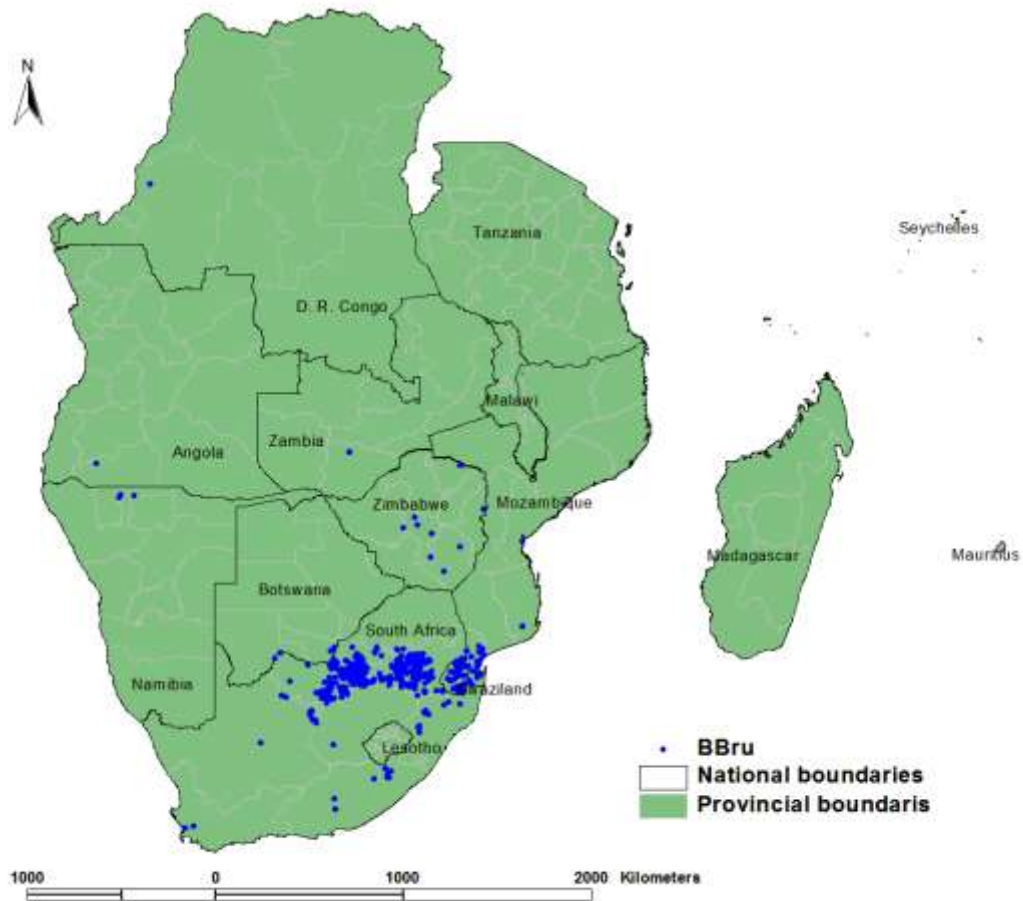


Figure 6.8: Spatial distribution of Bovine brucellosis in 2010

6.6 Bovine Theileriosis

Bovine Theileriosis was reported in six (6) SADC Member States. A total of 231 outbreaks, 12,717 cases and 3,011 deaths were reported. Only Newcastle Disease (34,360), African swine fever (28,635) and Rift Valley Fever (8,798) had higher mortalities than Theileriosis. Zambia reported the highest number of outbreaks (42.4 %), cases (70.9%) and deaths (88.0%). Of the 12,717 cases reported in the region, 24.7% resulted in deaths.

Table 6.9: Member States affected by Bovine theileriosis in 2010

Country	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
D.R. Congo	2	1,340	65	-	1
Malawi	4	15	7	-	-
Mozambique	13	1,093	7	-	-
Tanzania	73	1,072	210	-	-
Zambia	98	9,017	2,649	-	-
Zimbabwe	41	180	73	-	-
Total	231	12,717	3,011	-	1

Table 6.10: Outbreaks of Bovine theileriosis from 2008 to 2010

Parameter	2008	2009	2010
Number of Countries affected	5	6	6
Number of Outbreaks	181	172	231
Number of Cases	17,157	12,218	12,717
Number of Deaths	3,908	1,690	3,011
Number of Death/Number of Cases (%)	22.8%	13.8%	23.7%

The first six months of 2010 generally had higher number of cases per month than the last. January had the highest number of cases and deaths, 24% and 29% respectively.

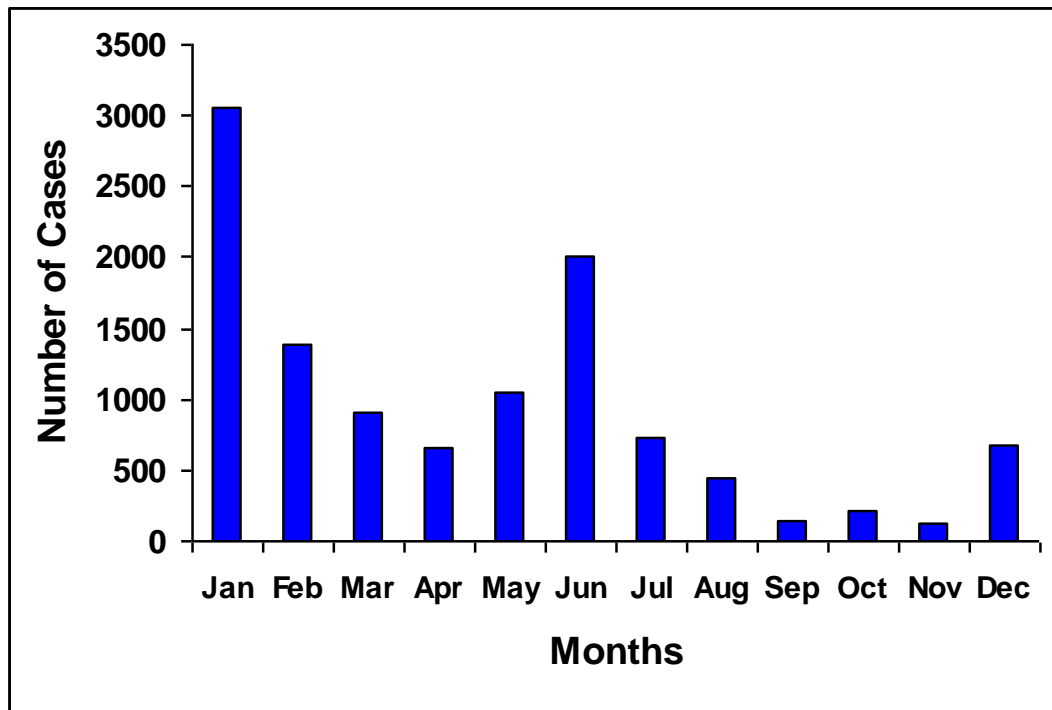


Figure 6.9: Temporal distribution of Theileriosis in 2010

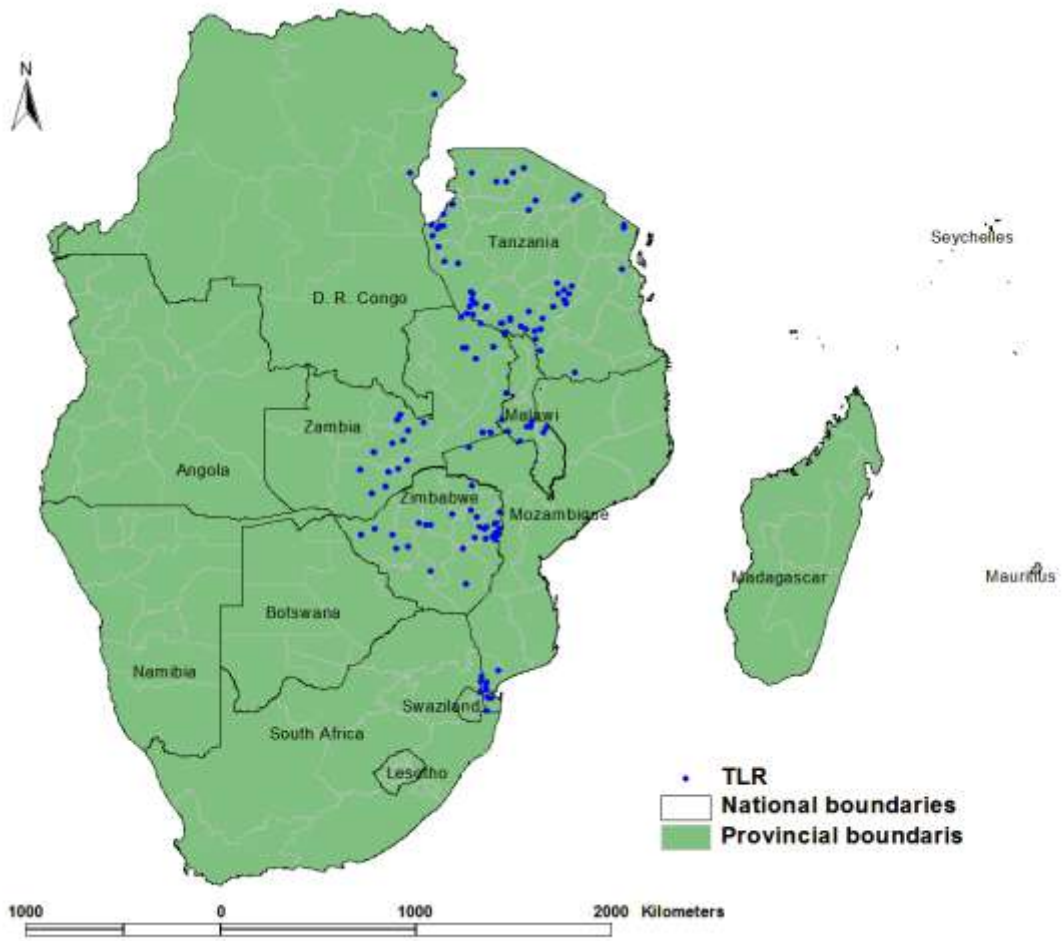


Figure 6.10: Spatial distribution of Theileriosis in 2010

6.7 Bovine Tuberculosis

Reported in 6 SADC Member States in the year, Bovine tuberculosis was the cause of a total of 78 outbreaks, 1,201 cases and 82 deaths. Malawi accounted for 675 (56.2%) of the 1,201 cases and reported a significant increase after having no outbreaks in 2009. Mozambique had the highest livestock loss due to Bovine tuberculosis with 52 deaths. The Democratic Republic of Congo, however, slaughtered all 209 cases of Bovine tuberculosis that occurred in 2010.

Table 6.11: Member States affected by Bovine tuberculosis in 2010

Country	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
Angola	6	102	1	-	-
D.R. Congo	5	209	-	-	209
Malawi	10	675	-	-	-
Mozambique	13	114	52	1	-
South Africa	39	56	7	30	-
Zambia	5	45	22	-	-
Total	78	1,201	82	31	209

Table 6.12: Outbreaks of Bovine tuberculosis from 2008 to 2010

Parameter	2008	2009	2010
Number of Countries affected	Data not available	5	6
Number of Outbreaks	31	29	78
Number of Cases	354	164	1,201
Number of Deaths	78	20	82
Number of Death/Number of Cases (%)	22.8%	13.8%	23.7%

December had the highest number of cases followed closely by November. The two months accounted for 57.2% of total cases reported in the year.

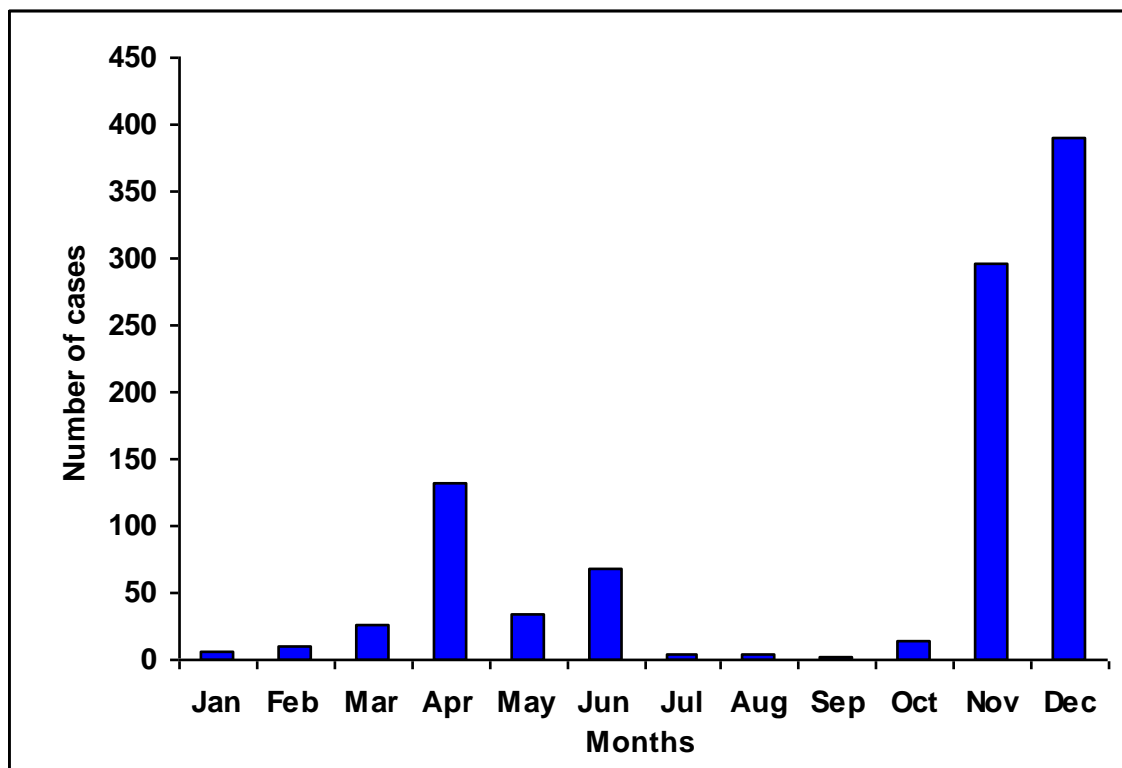


Figure 6.11: Temporal distribution of Bovine tuberculosis

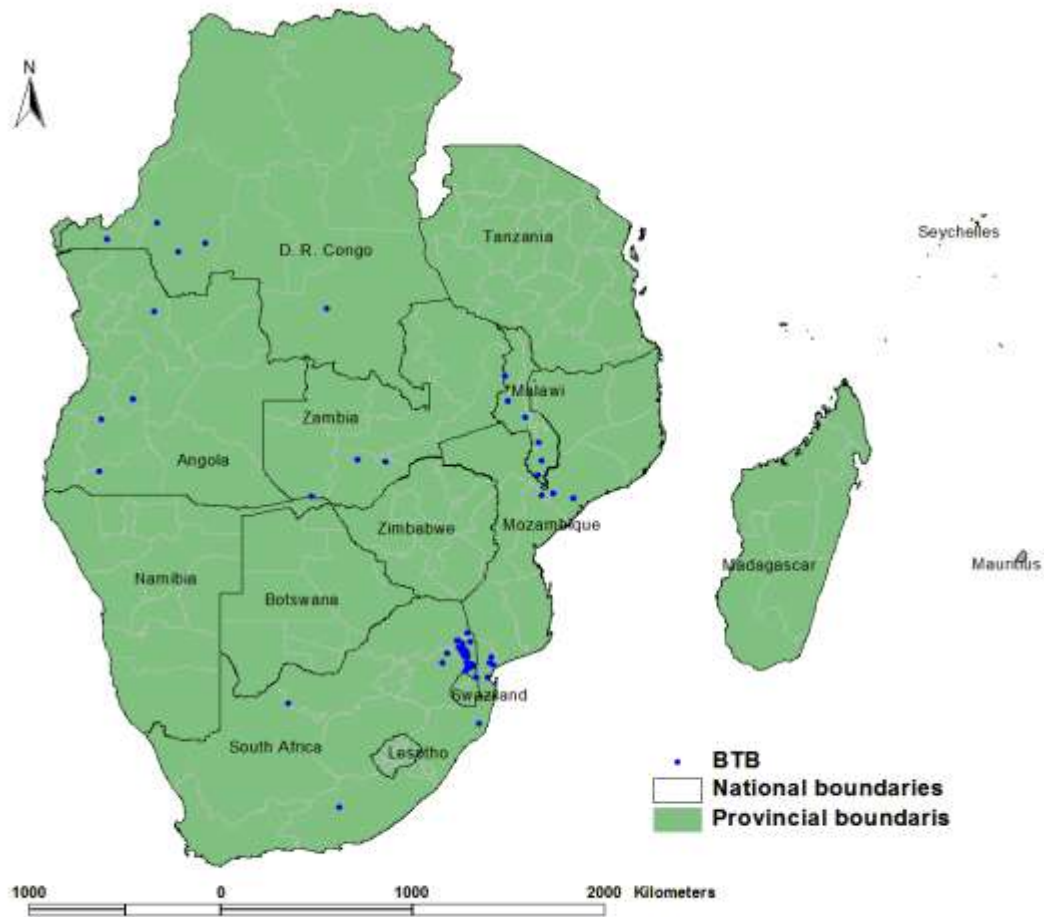


Figure 6.12: Spatial distribution of Bovine tuberculosis in 2010

6.8 Canine Distemper

Canine distemper occurred in seven SADC Member States. A total of 115 outbreaks were reported with South Africa and Zambia accounting for 86.1% of the total outbreaks. Lesotho and Tanzania, which had not reported canine distemper in 2009, had one outbreak each. Zambia reported having 83.3% of all deaths due to canine distemper. Only South Africa (77) destroyed animals because they were infected with Canine distemper

Table 6.13: Member States affected by Canine distemper in 2010

Country	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
Angola	1	3	3	0	0
Lesotho	1	1	0	0	0
Namibia	4	5	1	0	0
Tanzania	1	1	0	0	0
South Africa	54	427	8	77	0
Zambia	45	441	120	0	0
Zimbabwe	9	80	12	0	0
Total	115	958	144	77	0

The number of Canine distemper outbreaks has drastically increased from 18 in 2009 to 115 in 2010. Similarly, cases increased remarkably from 81 to 958 in the same period. This increase cannot be attributed to increase in the number of countries reporting occurrence of the disease from 5 to 7, but rather an increase in the number of outbreaks.

Table 6.14: Outbreaks of Canine distemper from 2008 to 2010

Parameters	2008	2009	2010
Number of Countries affected	Data not available	5	7
Number of Outbreaks	26	18	115
Number of Cases	200	81	958
Number of Deaths	109	29	144
Number of Death/Number of Cases (%)	54.5%	35.8%	15.0%

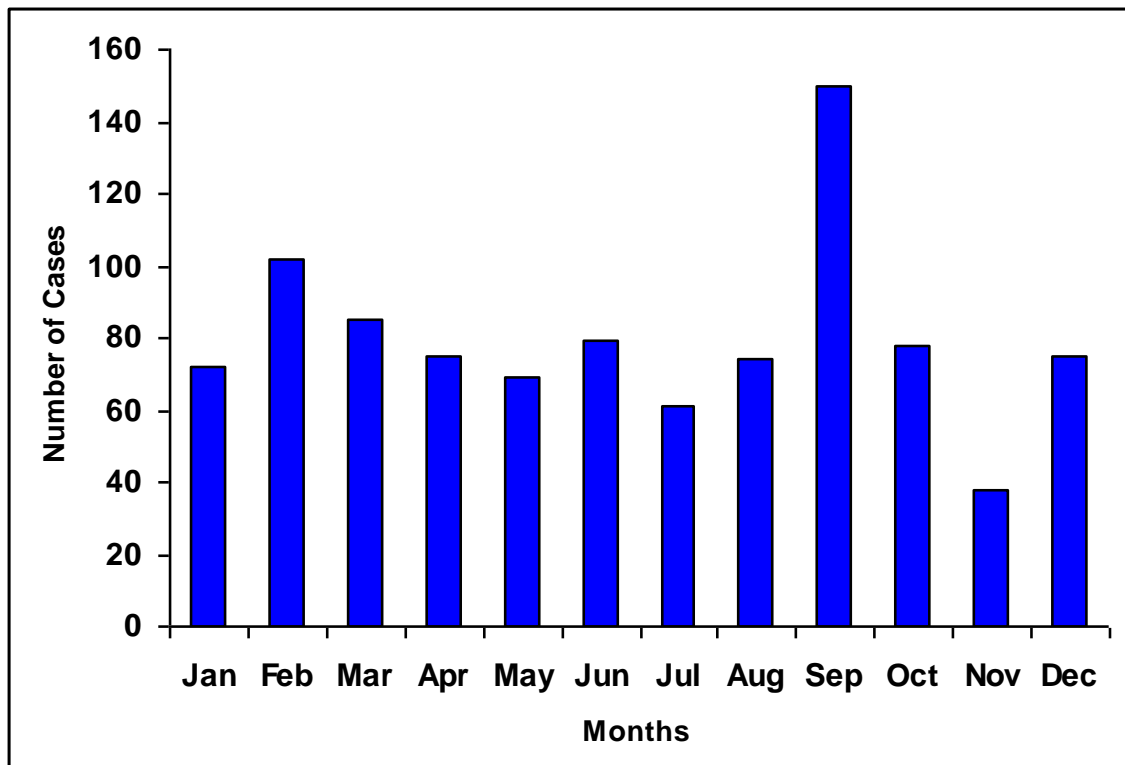


Figure 6.13: Temporal distribution of Canine Distemper in 2010

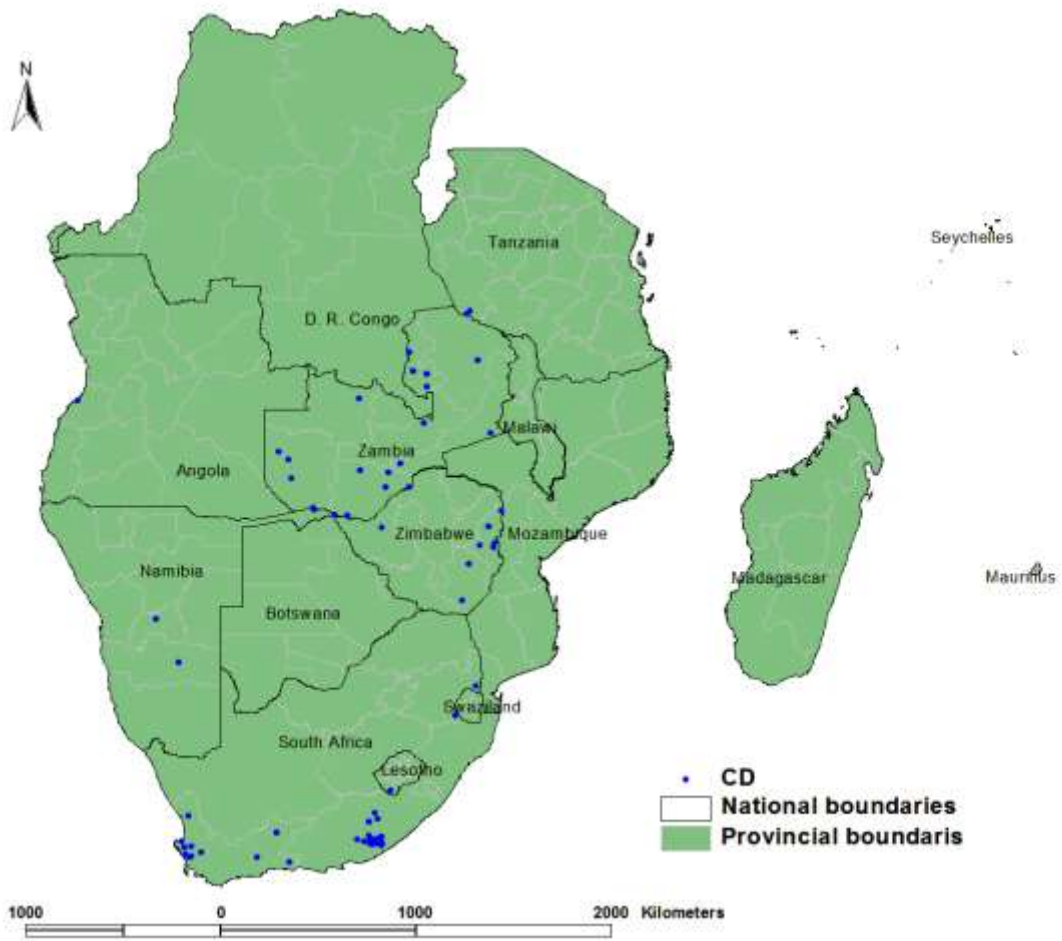


Figure 6.14: Spatial distribution of Canine distemper in 2010

6.9 Contagious Caprine Pleuropneumonia

A total of nine (9) Contagious caprine pleuropneumonia (CCPP) outbreaks were reported in the year. Only two countries reported occurrence of the disease. Tanzania accounted for the bulk of the outbreaks (8 of 9), cases (393 of 411) and deaths (145 of 154). After being the only disease reported in Mauritius in 2009, no CCPP outbreaks were reported in country in 2010.

Table 6.15: Member States affected by CCPP in 2010

Country	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
Angola	1	18	9	0	0
Tanzania	8	393	145	0	0
Total	9	411	154	0	0

Same countries, except for Mauritius, that reported occurrence of CCPP in 2009 reported it once again in 2010. Although there was a decrease in number of outbreaks from 29 in 2009 to 9 in 2010, number of cases increased from 264 to 411. The proportion of deaths relative to cases was much lower in 2010 (37.5%) compared to 2009 (91.7%).

Table 6.16: Outbreaks of CCPP from 2008 to 2010

Parameters	2009	2010
Number of Countries affected	3	2
Number of Outbreaks	29	9
Number of Cases	264	411
Number of Deaths	242	154
Number of Death/Number of Cases (%)	91.7%	37.5%

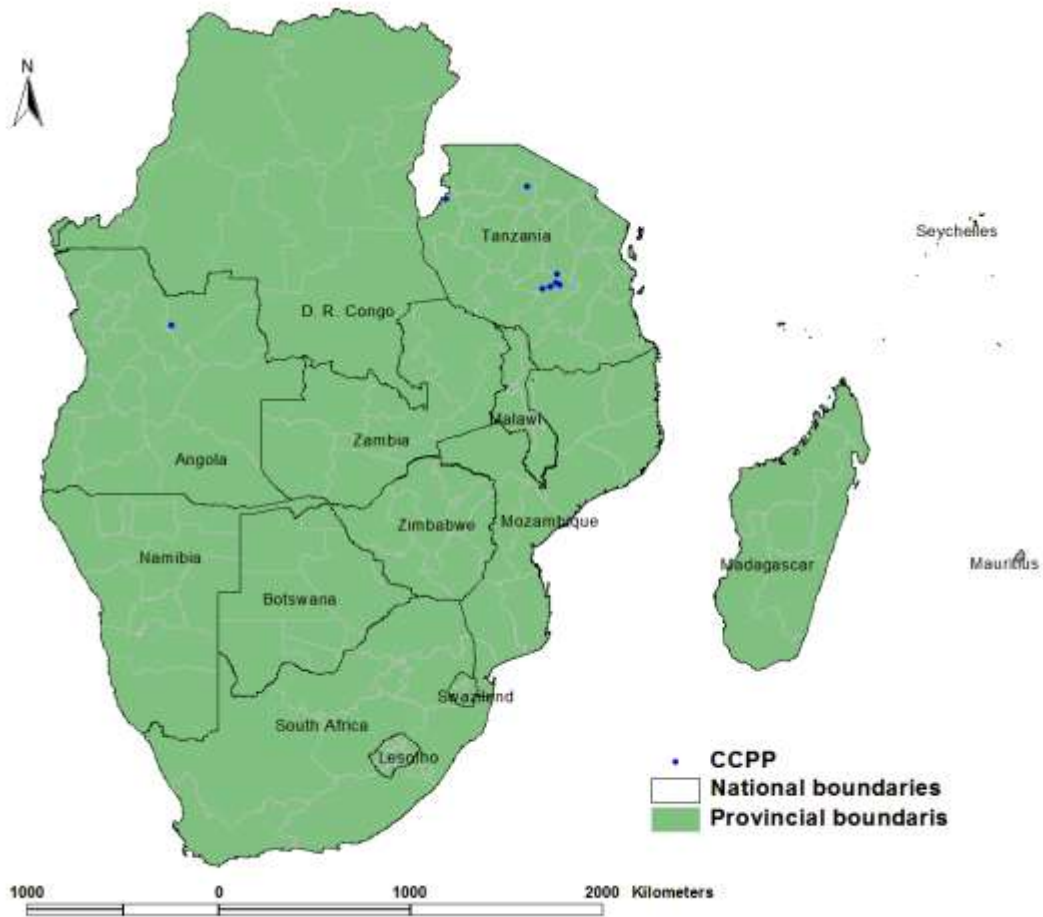


Figure 6.15: Spatial distribution of CCPP in 2010

6.10 Dermatophilosis

A total of 373 outbreaks of Dermatophilosis were reported in 7 SADC Member States. Zimbabwe had the highest number of outbreaks, cases and deaths, accounting for 67% of outbreaks, 50.5% cases and 46.7% deaths caused by Dermatophilosis reported in the region.

Table 6.17: Member States affected by Dermatophilosis in 2010

Country	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
Angola	20	530	58	20	-
Botswana	3	33	-	-	-
Malawi	2	6	-	-	-
Mozambique	3	29	7	-	-
Namibia	2	35	-	-	-
Zambia	93	1,657	66	-	-
Zimbabwe	250	2,340	115	-	-
Total	373	4,630	246	20	-

Only Namibia did not report the disease in 2009 of the seven countries that reported occurrence of Dermatophilosis in 2010. The number of outbreaks, cases and death are highest in 2010 since 2008.

Table 6.18: Outbreaks of Dermatophilosis from 2008 to 2010

Parameter	2008	2009	2010
Number of Countries affected	9	7	7
Number of Outbreaks	271	245	373
Number of Cases	2,979	2,194	4,630
Number of Deaths	131	175	246
Number of Death/Number of Cases (%)	4.4%	8.0%	5.3%

Majority of Dermatophilosis outbreaks and cases were reported in the first half of 2010. The period January to June 2010 had 86.7% of the total number of cases recorded in the year. This same trend was noticed in 2009 for the disease. March alone had the highest number of cases. A total of 1,513 cases were reported in the month.

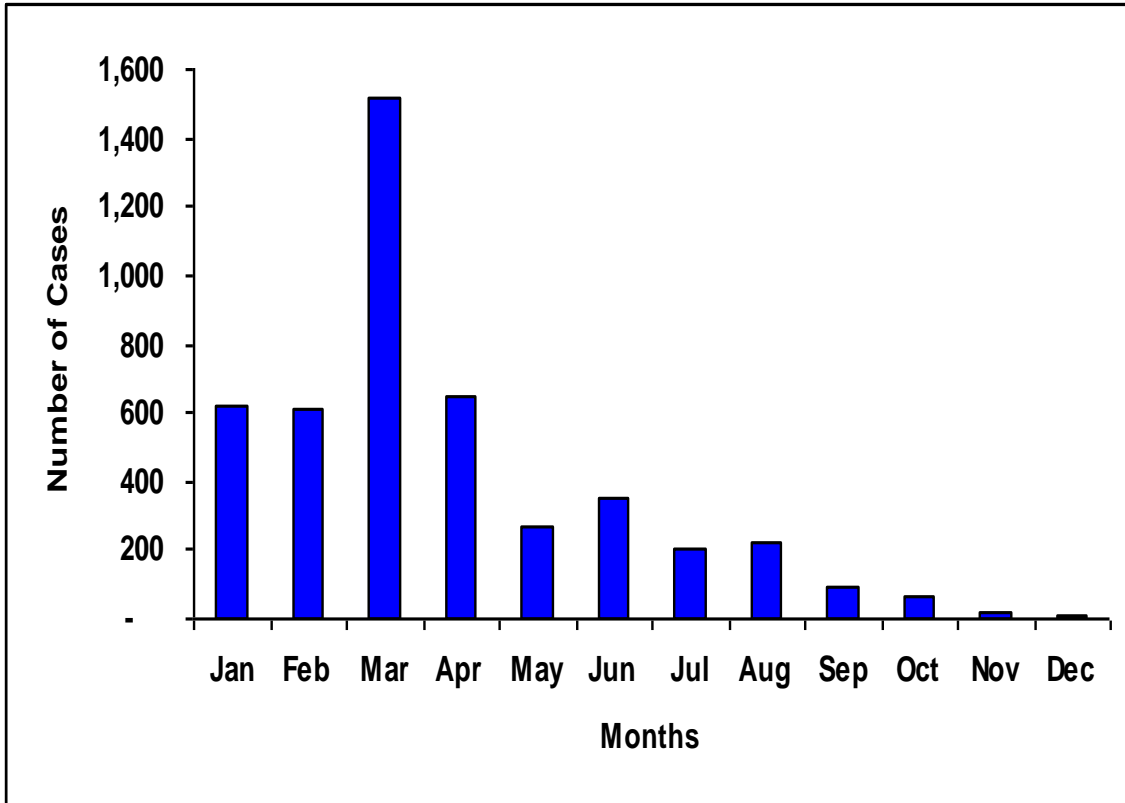


Figure 6.16: Temporal distribution of Dermatophilosis cases in 2010

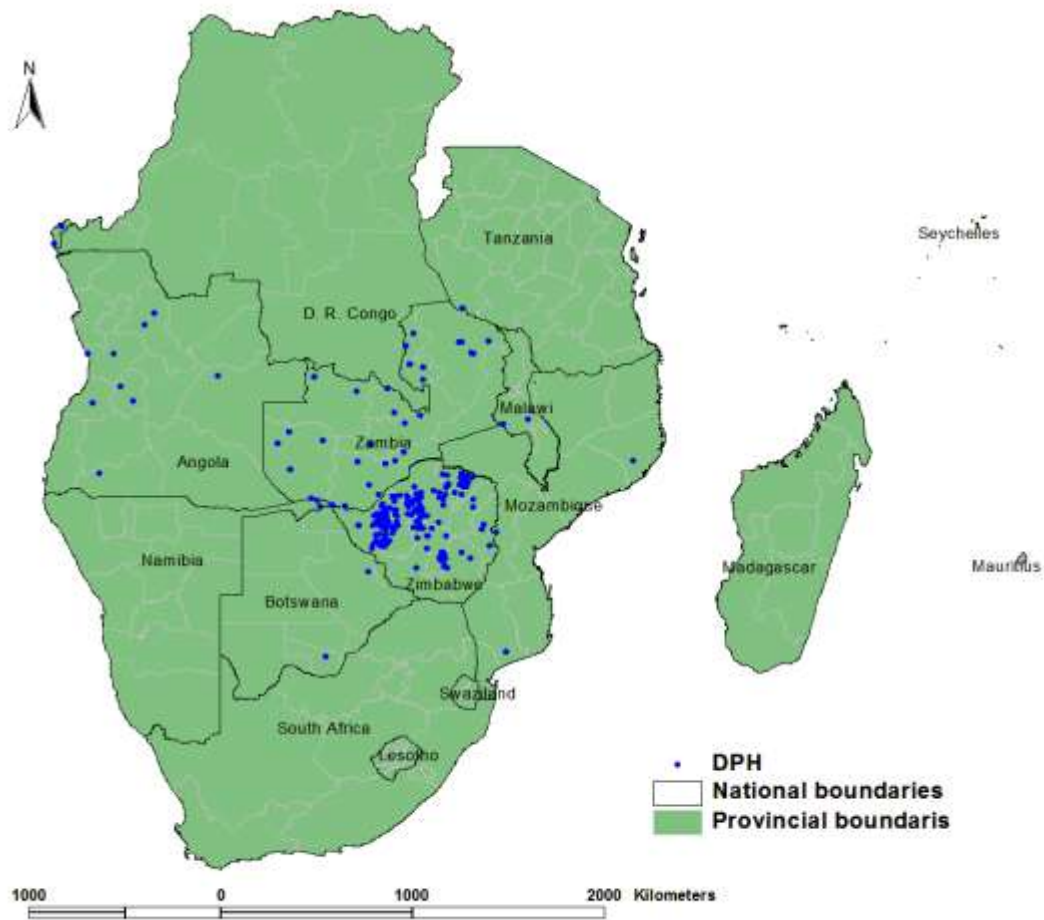


Figure 6.17: Spatial distribution of Dermatophilosis in 2010

6.11 Fowl Pox

A total of 279 Fowl pox outbreaks were reported in seven SADC member States. Zimbabwe had the highest number of fowl pox outbreaks, cases and deaths amounting to 78.9% 73.9% and 70.3% respectively. Number of Fowl pox deaths relative to number of cases was 23.8% with 1,539 birds reported to have died.

Table 6.19: Member States affected by Fowl pox in 2010

Country	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
Botswana	17	161	55	0	0
Namibia	3	16	6	0	0
Swaziland	3	68	63	1	0
Tanzania	3	398	92	0	0
South Africa	3	30	0	0	0
Zambia	30	1,009	241	0	0
Zimbabwe	220	4771	1,082	0	0
Total	279	6,453	1,539	1	0

Although the number of Fowl pox cases has increased significantly from 4,016 in 2009 to 6,453 in 2010, the number of birds that have died has decreased from 3,312 to 1,539.

Table 6.20: Outbreaks of Fowl pox from 2008 to 2010

Parameters	2008	2009	2010
Number of Countries affected	Data not available	8	7
Number of Outbreaks	121	71	279
Number of Cases	1,914	4,016	6,453
Number of Deaths	822	3,312	1,539
Number of Death/Number of Cases (%)	42.9%	82.5%	23.8%

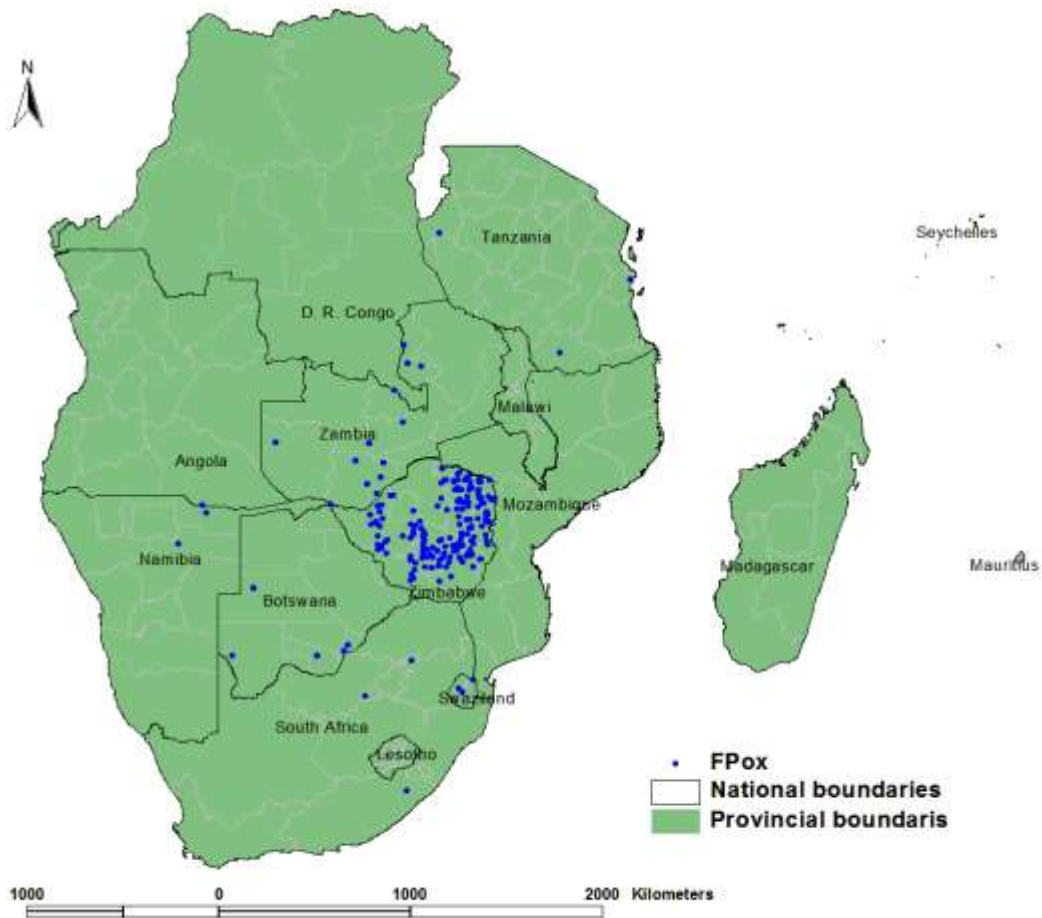


Figure 6.18: spatial distribution of Fowl pox in 2010

6.12 Goat Mange

Goat mange occurred in seven countries of the region. The Democratic Republic of Congo (1,766) and Angola (1,400) had the highest and second highest number of cases respectively. Only 259 of the 4,067 cases reported resulted in deaths which ranged from 37.8% for Angola to 13.9% for D.R. Congo.

Table 6.21: Member States affected by Goat mange in 2010

Country	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
Angola	8	1,400	98	30	0
Botswana	1	42	7	0	0
D.R. Congo	7	1,766	36	0	240
Namibia	17	349	46	0	0
Swaziland	5	110	0	0	0
South Africa	5	24	6	0	0
Zimbabwe	62	376	66	0	0
Total	105	4,067	259	30	240

Table 6.22: Outbreaks of Goat mange from 2008 to 2010

Parameters	2009	2010
Number of Countries affected	6	7
Number of Outbreaks	48	105
Number of Cases	1,658	4,067
Number of Deaths	118	259
Number of Death/Number of Cases (%)	7.1%	6.4%

Number of goat mange cases reported in the month of January 2010 appears to be highly unlikely in comparison to the trend noticed in previous years. Without considering January, number of Goat mange cases is normally distributed throughout the year peaking in the month of June.

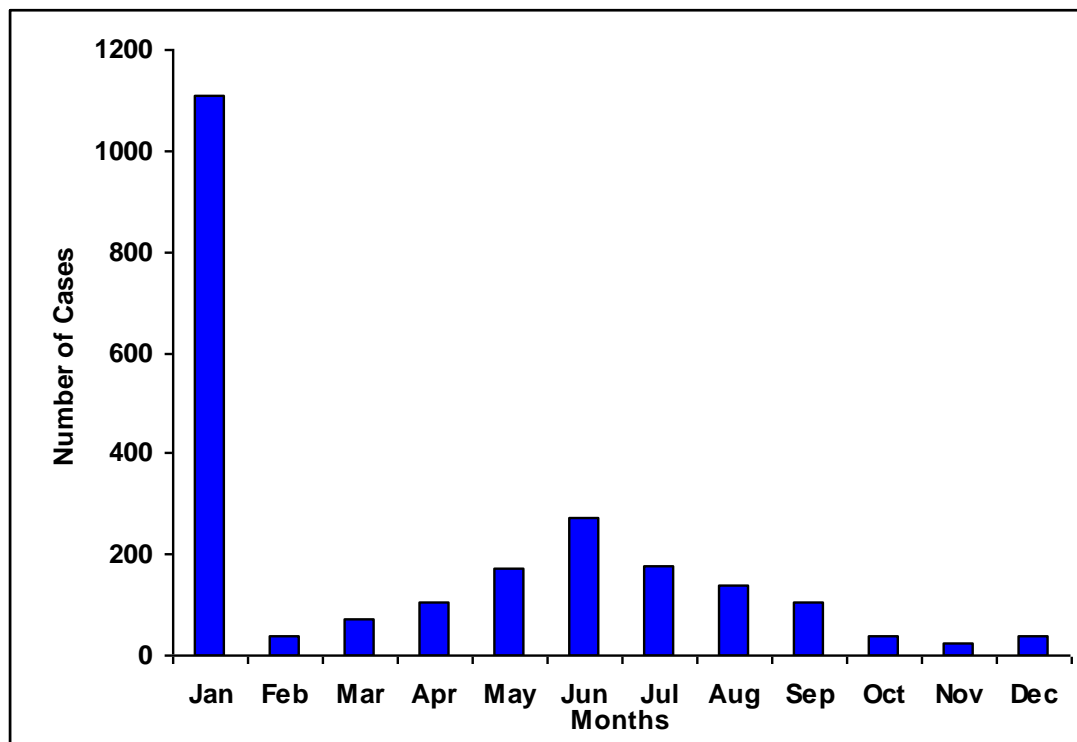


Figure 6.19: Temporal distribution of Goat mange in 2010

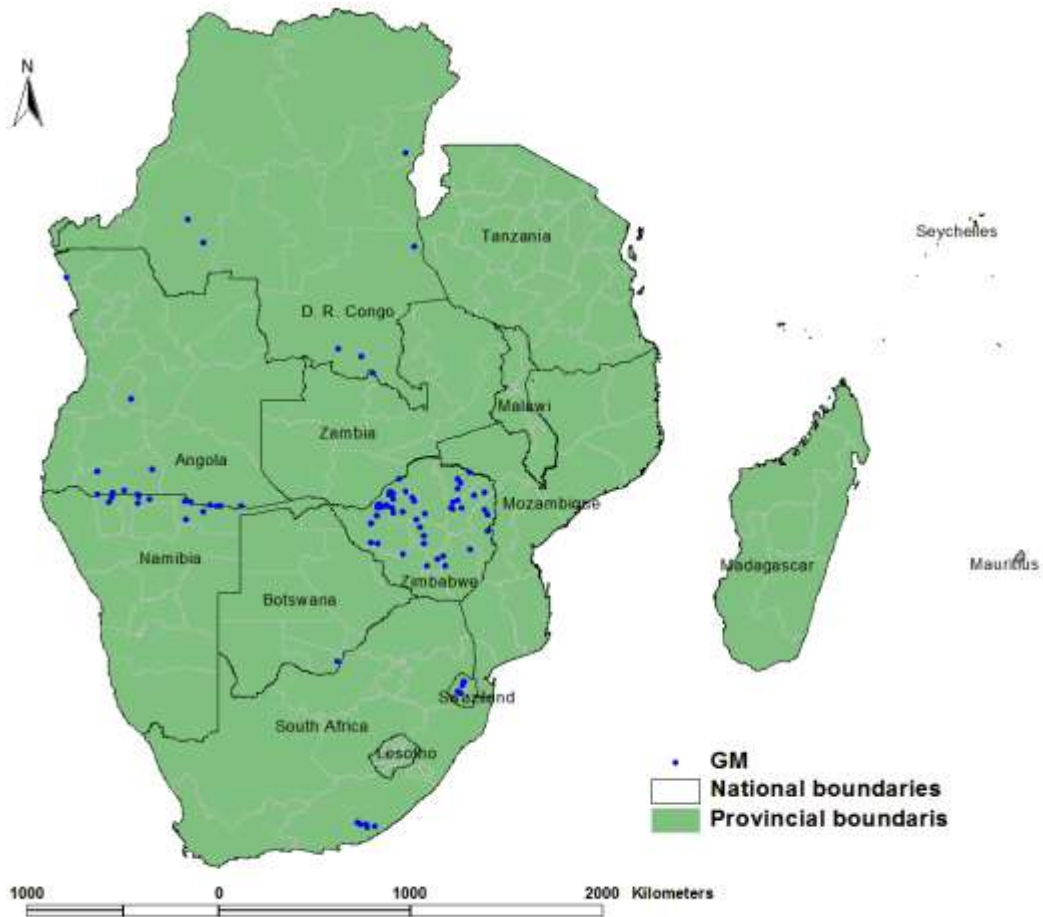


Figure 6.20: Spatial distribution of Goat mange in 2010

6.13 Heartwater

Reported in 10 SADC Member States in the year, Heartwater is an important tick-borne disease of the region. The disease killed 1,138 animals, mainly cattle, sheep and goats. Botswana (288) had the highest number of Heartwater deaths, six more than Zimbabwe.

Table 6.23: Member States affected by Goat mange in 2010

Country	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
Botswana	116	379	288	-	-
Mozambique	7	24	8	-	-
Namibia	2	14	11	-	-
Swaziland	29	124	62	-	-
Tanzania	20	217	46	-	-
South Africa	153	511	195	1	-
Zambia	85	825	246	-	-
Zimbabwe	325	821	282	-	-
Total	737	2,915	1,138	1	-

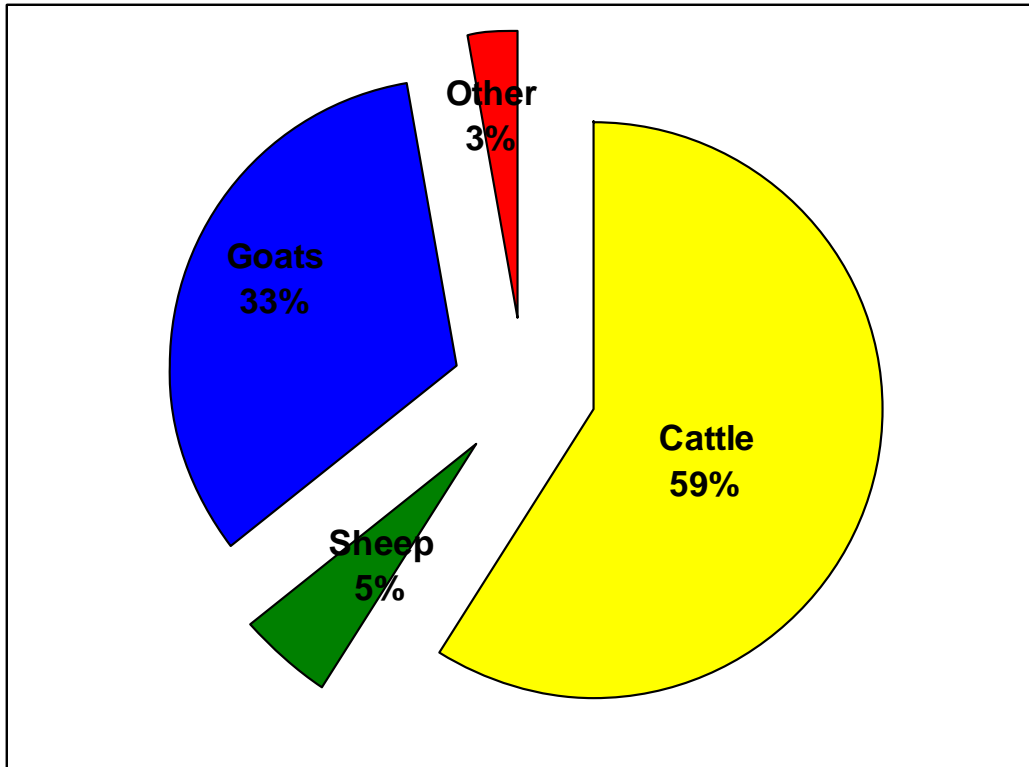


Figure 6.21: Species affected by Heartwater in 2010

Cattle (59%) were the main species affected by Heartwater. Goats and sheep accounted for 33% and 5% of the outbreaks respectively. The other 3% was for wildlife and other livestock species. Number of outbreaks and deaths followed a similar pattern as the ones of 2008 and 2009.

Table 6.24: Outbreaks of Heartwater from 2008 to 2010

Parameter	2008	2009	2010
Number of Countries affected	9	7	8
Number of Outbreaks	612	506	737
Number of Cases	4,726	5,582	2,915
Number of Deaths	1,013	1,347	1,138
Number of Death/Number of Cases (%)	21.4%	24.1%	39.0%

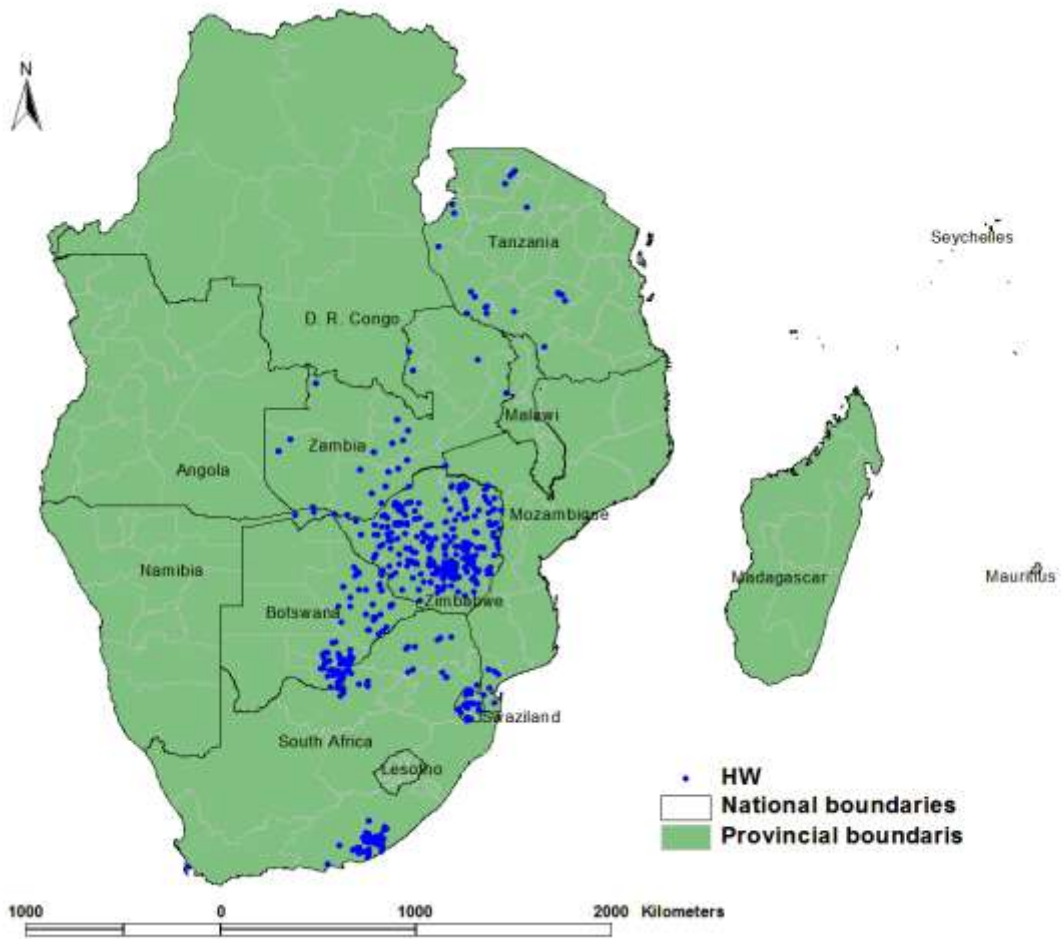


Table 6.25: Spatial distribution of Heartwater in 2010

6.14 Sheep Scab

The same four countries that reported sheep scab in 2009 had outbreaks in 2010. A total of 122 outbreaks and 11,997 cases of Sheep scab were reported in the year. Mortality relative to number of case was 0.7% (87 deaths from 11, 997 cases). South Africa and Lesotho accounted for bulk of cases and deaths.

Table 6.26: Member States affected by Sheep scab in 2010

Country	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
Lesotho	37	1,280	40	-	-
Namibia	1	500	-	-	-
South Africa	80	10,191	45	-	-
Zimbabwe	4	26	2	-	-
Total	122	11,997	87	-	-

Table 6.27: Outbreaks of Sheep scab from 2008 to 2010

Parameter	2008	2009	2010
Number of Countries affected	3	4	4
Number of Outbreaks	129	101	122
Number of Cases	14,954	5,322	11,997
Number of Deaths	107	51	87
Number of Death/Number of Cases (%)	0.7%	1.0%	0.7%

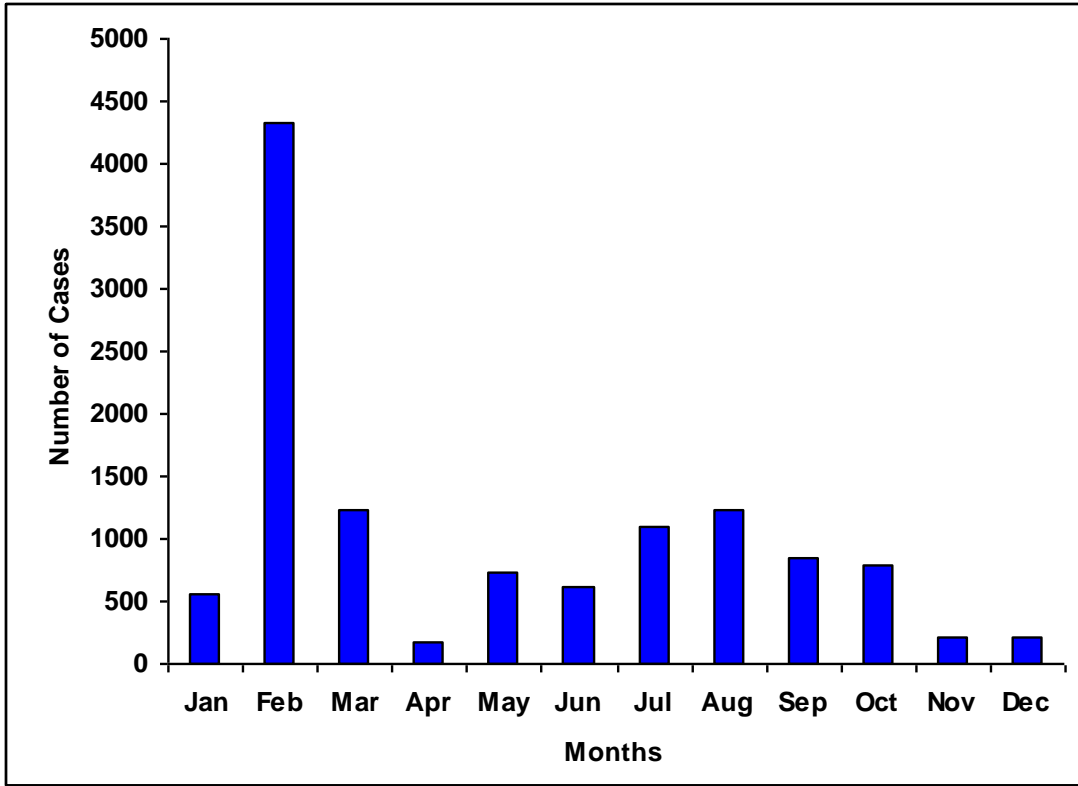


Figure 6.22: Temporal distribution of Sheep scab cases in 2010

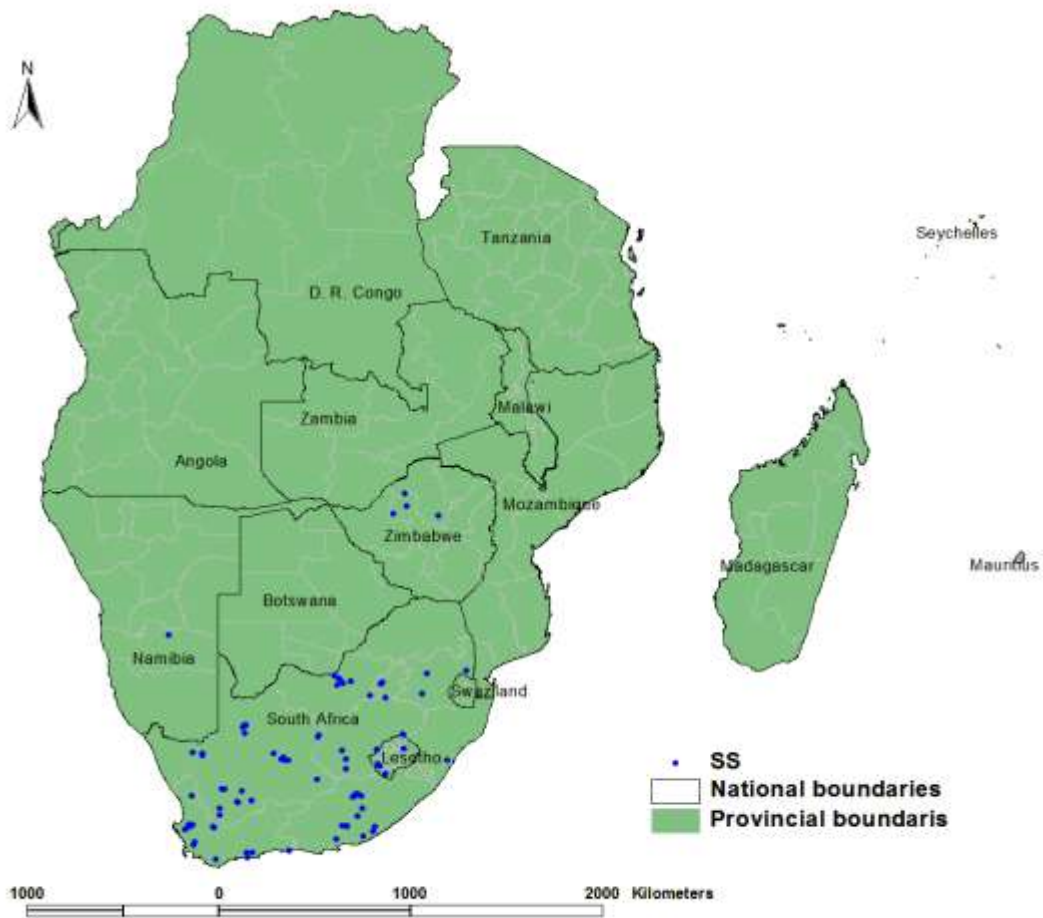


Figure 6.23: Spatial distribution of Sheep scab in 2010

6.15 Trypanosomosis

A total of 96 Trypanosomosis outbreaks were reported in 8 SADC Member States. Zambia reported 47 of the 96 outbreaks in 2010 in the region, involving 2,941 animals.

Table 6.28: Member States affected by Trypanosomosis in 2010

Country	Outbreaks	Cases	Deaths	Destroyed	Slaughtered
Angola	1	3	-	-	-
D.R. Congo	2	2	-	-	-
Malawi	1	1	-	-	-
Mozambique	7	65	22	-	-
Tanzania	19	390	37	-	-
South Africa	9	234	-	26	-
Zambia	47	2,168	86	-	-
Zimbabwe	10	78	13	-	-
Total	96	2,941	158	26	-

Table 6.29: Outbreaks of Trypanosomosis from 2008 to 2010

Parameter	2008	2009	2010
Number of Countries affected	Data not available	7	8
Number of Outbreaks	127	86	96
Number of Cases	3,811	1,854	2,941
Number of Deaths	296	511	158
Number of Death/Number of Cases (%)	7.8%	27.6%	5.4%

One more Member State (D. R. Congo) reported Trypanosomosis in 2010 than in 2009 and the number of cases increased by 58.6% from 1,854 to 2,941. Trypanosomosis cases were reported throughout the year but peaked during the period March to June 2010. This four month period accounted for 59.1% of the total cases reported in 2010.

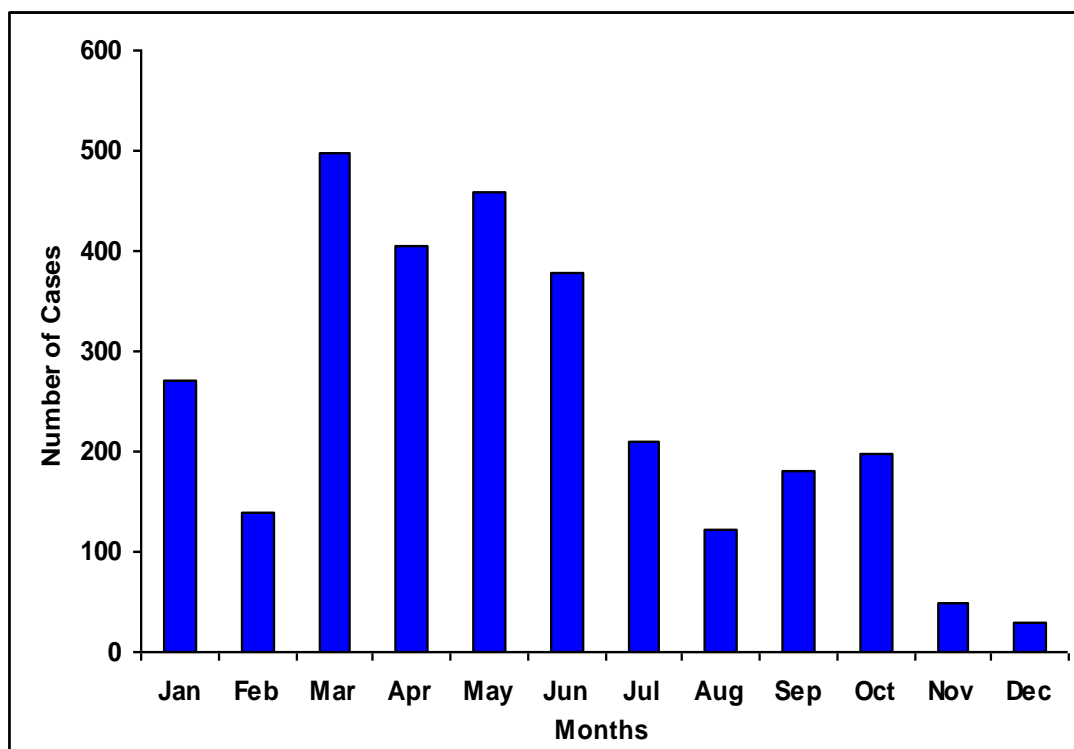


Figure 6.24: Temporal distribution of Trypanosomosis in 2010

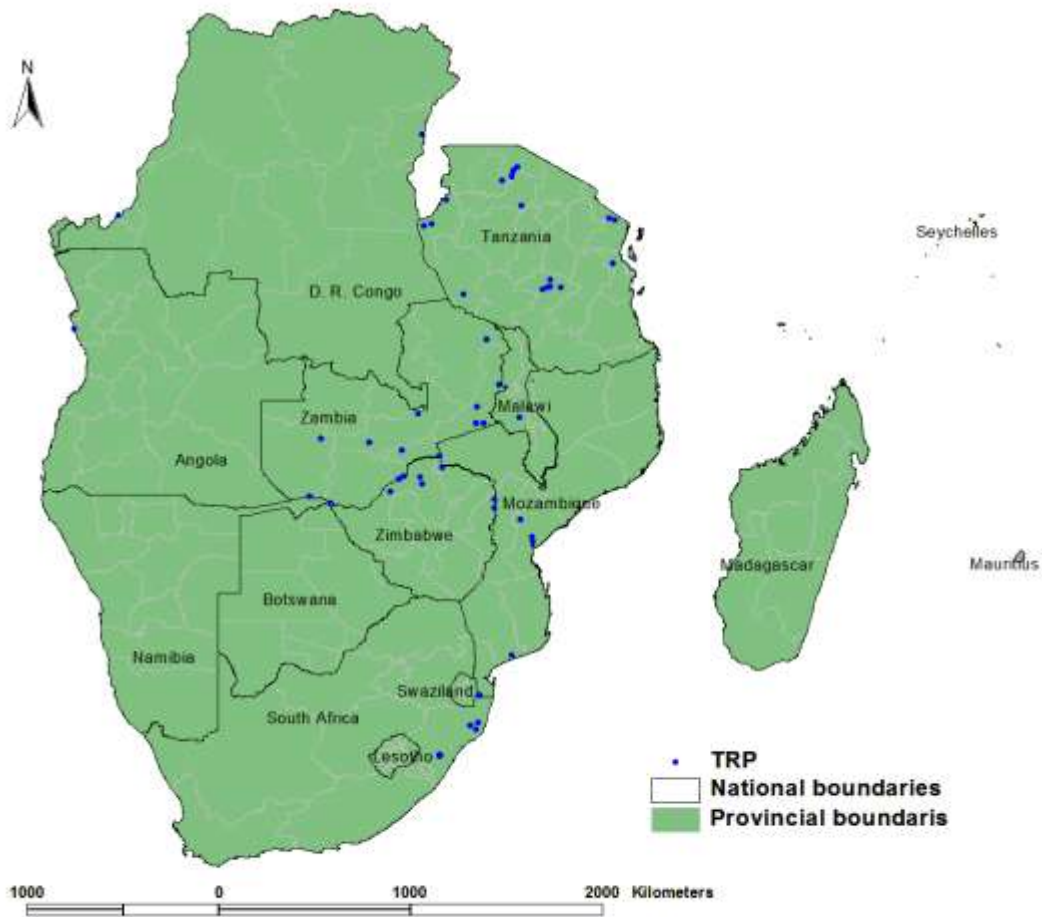


Figure 6.25: Spatial distribution of Trypanosomosis in 2010

7 CONCLUSION AND RECOMMENDATIONS

There has been a tremendous improvement in submission of disease reports by Member States to SADC over the years since LIMS was established. However, there is still room for improvement on the timeliness of submissions and quality of the data. The recruitment of SADC Agricultural Information Management System (AIMS) officers, of which the Livestock Information Management System (LIMS) is a component, is a positive move that should be followed up by similar moves in Member States. Member States should establish sub national LIMS units and ensure availability of trained personal to improve data flow (quality and timeliness) from field to national LIMS units.

The use of the in Animal Health component and general improvement in disease occurrence reporting that has been observed since LIMS was established should be matched for other components especially Animal Production and Marketing. If this is done, the Animal Health Yearbook may become the Animal Health and Production Yearbook.

The continued improvement of LIMS system is essential if utilisation is to be improved and maximum benefits are to be derived from LIMS. Member states and SADC should continuously review the entire process of collecting, transferring, storing and analysing livestock data. This means that the software (LIMS application) and the agreed procedures need to be continuously improved.

8 ANNEXES

Annex 8.1: List of Diseases that occurred in the SADC region in 2010

No	Disease	outbreaks	cases	deaths	destroyed	slaughtered
1.	Actinomycosis	6	11	1	1	-
2.	African horse sickness	142	211	45	1	-
3.	African swine fever	35	28,635	27,798	383	29
4.	Anthrax	245	563	460	5	-
5.	Avian chlamydiosis	5	12	2	-	-
6.	Avian infectious bronchitis	2	3,226	10	-	-
7.	Avian leukosis	2	12	6	-	-
8.	Avian mycoplasmosis (M. gallisepticum)	5	41	26	-	-
9.	Avian salmonellosis	1	14	12	-	-
10.	Blackleg	524	4,026	1,282	19	2
11.	Bluetongue	26	171	37	1	-
12.	Botulism	28	92	37	-	-
13.	Bovine anaplasmosis	811	4,698	1,240	10	-
14.	Bovine babesiosis	423	2,171	489	1	-
15.	Bovine brucellosis	658	6,228	59	813	9
16.	Bovine cysticercosis	137	3,976	3	3,896	-
17.	Bovine genital campylobacteriosis	14	20	1	-	-
18.	Bovine tuberculosis	68	1,201	82	31	209
19.	Canine distemper	115	958	144	77	-
20.	Caprine and ovine brucellosis (excl B. ovis)	12	185	5	-	-
21.	Coccidiosis	180	2,642	493	-	-
22.	Contagious agalactia	4	4	-	-	-
23.	Contagious bovine pleuropneumonia	41	1,078	108	18	310
24.	Contagious cap. pleuropneumonia	9	411	154	-	-
25.	Contagious ophthalmia	181	455	1	-	-
26.	Contagious pustular dermatitis	59	1,117	31	-	-
27.	Corridor disease (T.p. lawrencei)	10	225	217	1	-
28.	Dermatophilosis	373	4,630	246	20	-
29.	Distomatosis (Liver Fluke)	43	483	19	-	-
30.	Dourine	37	78	3	1	-
31.	East Coast fever (T.p. parva)	9	291	252	-	-
32.	Echinococcosis/hydatidosis	8	395	24	24	-
33.	Enterotoxaemia	31	149	64	-	-
34.	Enzootic bovine leukosis	1	1	-	-	-
35.	Equine piroplasmiasis	19	22	1	-	-
36.	Equine rhinopneumonitis	6	23	20	-	-
37.	Foot and mouth disease	90	18,386	218	9	-

38.	Footrot	117	380	-	15	1
39.	Fowl cholera	3	28	15	3	-
40.	Fowl pox	279	6,453	1,539	1	-
41.	Fowl typhoid	6	1,064	1,029	-	-
42.	Goat mange	105	4,067	259	30	240
43.	Haemorrhagic septicaemia	29	146	42	-	-
44.	Heartwater	737	2,915	1,138	1	-
45.	Horse mange	5	17	-	-	-
46.	Infectious bovine rhinotracheitis / infectious pus	9	45	3	-	-
47.	Infectious bursal disease (Gumboro disease)	64	2,847	1,129	-	-
48.	Infectious coryza	146	2,774	518	-	-
49.	Intestinal Salmonella Infections	1	2,000	-	-	-
50.	Lumpy skin disease	618	5,645	1,595	12	1
51.	Malignant catarrhal fever	19	26	16	2	-
52.	Marek's disease	3	5	3	-	-
53.	Mastitis	264	422	3	-	-
54.	Mucosal Disease/Bovine Virus Diarrhoea	6	26	-	-	-
55.	Newcastle disease Not typed	153	42,271	34,434	345	25
56.	Old World screwworm (Chrysomya bezziana)	101	534	6	-	-
57.	Other Clostridial Infections	3	6	2	-	-
58.	Other Pasteurellosis	10	219	110	12	-
59.	Ovine epididymitis (Brucella ovis)	97	707	-	318	-
60.	Ovine pulmonary adenomatosis	1	1	1	-	-
61.	Paratuberculosis	3	24	6	18	-
62.	Peste des petits ruminants	11	650	620	-	-
63.	Porcine cysticercosis	1	1	-	1	-
64.	Rabies	1,118	3,251	1,444	309	2
65.	Rift Valley fever	552	14,624	8,798	521	-
66.	Salmonellosis (S. abortusovis)	7	72	17	-	-
67.	Sheep Scab (mange)	122	11,997	87	-	-
68.	Strangles	2	2	1	-	-
69.	Swine erysipelas	6	35	4	3	-
70.	Theileriosis Not typed	231	12,717	3,011	-	1
71.	Trichomonosis	32	60	-	10	-
72.	Trypanosomosis (tsetse-transmitted)	96	2,941	158	26	-
	Total	9,317	205,813	89,578	6,938	829

Annex 8.2: Nature of outbreak diagnosis in the SADC region

Disease	outbreaks	Clinical (%)	Lab (%)	Post mortem (%)	Owners (%)	Rumor (%)
Actinomycosis	6	6 (100)	0 (0)	0 (0)	0 (0)	0 (0)
African horse sickness	142	134 (94)	8 (6)	0 (0)	0 (0)	0 (0)
African swine fever	35	52 (61)	32 (38)	1 (1)	0 (0)	0 (0)
Anthrax	245	211 (86)	17 (7)	3 (1)	14 (6)	0 (0)
Avian chlamydiosis	5	5 (100)	0 (0)	0 (0)	0 (0)	0 (0)
Avian infectious bronchitis	2	2 (100)	0 (0)	0 (0)	0 (0)	0 (0)
Avian leukosis	2	1 (50)	0 (0)	1 (50)	0 (0)	0 (0)
Avian mycoplasmosis (M. gallisepticum)	5	0 (0)	5 (100)	0 (0)	0 (0)	0 (0)
Avian salmonellosis (excluding B308 and B313)	1	0 (0)	1 (100)	0 (0)	0 (0)	0 (0)
Blackleg	524	365 (67)	4 (1)	79 (15)	93 (17)	0 (0)
Bluetongue	26	19 (73)	3 (12)	0 (0)	3 (12)	0 (0)
Botulism	28	24 (86)	1 (4)	0 (0)	1 (4)	0 (0)
Bovine anaplasmosis	811	664 (80)	39 (5)	61 (7)	64 (8)	1 (0)
Bovine babesiosis	423	373 (86)	25 (6)	20 (5)	16 (4)	0 (0)
Bovine brucellosis	658	555 (83)	108 (16)	0 (0)	4 (1)	0 (0)
Bovine cysticercosis	137	135 (98)	1 (1)	2 (1)	0 (0)	0 (0)
Bovine genital campylobacteriosis	14	5 (36)	9 (64)	0 (0)	0 (0)	0 (0)
Bovine tuberculosis	68	54 (69)	6 (8)	18 (23)	0 (0)	0 (0)
Canine distemper	115	112 (97)	1 (1)	0 (0)	2 (2)	0 (0)
Caprine and ovine brucellosis (excluding B. ovis)	12	4 (33)	6 (50)	0 (0)	2 (17)	0 (0)
Coccidiosis	180	149 (83)	1 (1)	9 (5)	21 (12)	0 (0)
Contagious agalactia	4	2 (50)	0 (0)	0 (0)	2 (50)	0 (0)
Contagious bovine pleuropneumonia	41	29 (71)	2 (5)	9 (22)	1 (2)	0 (0)
Contagious cap. pleuropneumonia	9	9 (100)	0 (0)	0 (0)	0 (0)	0 (0)
Contagious ophthalmia	181	175 (97)	0 (0)	1 (1)	5 (3)	0 (0)
Contagious pustular dermatitis	59	44 (75)	15 (25)	0 (0)	0 (0)	0 (0)
Corridor disease (T.p. lawrencei)	10	10 (100)	0 (0)	0 (0)	0 (0)	0 (0)
Dermatophilosis	373	342 (91)	13 (3)	0 (0)	22 (6)	0 (0)
Distomatosis (Liver Fluke)	43	18 (42)	0 (0)	21 (49)	4 (9)	0 (0)
Dourine	37	5 (13)	33 (87)	0 (0)	0 (0)	0 (0)
East Coast fever (T.p. parva)	9	0 (0)	43 (100)	0 (0)	0 (0)	0 (0)
Echinococcosis/hydatidosis	8	0 (0)	0 (0)	8 (100)	0 (0)	0 (0)
Enterotoxaemia	31	25 (81)	1 (3)	2 (6)	3 (10)	0 (0)

Enzootic bovine leukosis	1	1 (100)	0 (0)	0 (0)	0 (0)	0 (0)
Equine piroplasmiasis	19	19 (100)	0 (0)	0 (0)	0 (0)	0 (0)
Equine rhinopneumonitis	6	6 (100)	0 (0)	0 (0)	0 (0)	0 (0)
Foot and mouth disease	90	81 (90)	3 (3)	0 (0)	6 (7)	0 (0)
Footrot	117	107 (91)	0 (0)	0 (0)	10 (9)	0 (0)
Fowl cholera	3	3 (100)	0 (0)	0 (0)	0 (0)	0 (0)
Fowl pox	279	234 (84)	19 (7)	1 (0)	25 (9)	0 (0)
Fowl typhoid	6	6 (100)	0 (0)	0 (0)	0 (0)	0 (0)
Goat mange	105	98 (93)	2 (2)	1 (1)	4 (4)	0 (0)
Haemorrhagic septicaemia	29	27 (93)	0 (0)	2 (7)	0 (0)	0 (0)
Heartwater	737	511 (66)	154 (20)	52 (7)	53 (7)	0 (0)
Horse mange	5	5 (100)	0 (0)	0 (0)	0 (0)	0 (0)
Infectious bovine rhinotracheitis	9	6 (67)	2 (22)	1 (11)	0 (0)	0 (0)
Infectious bursal disease (Gumboro disease)	64	22 (34)	1 (2)	33 (52)	8 (13)	0 (0)
Infectious coryza	146	108 (74)	3 (2)	7 (5)	28 (19)	0 (0)
Intestinal Salmonella Infections	1	1 (100)	0 (0)	0 (0)	0 (0)	0 (0)
Lumpy skin disease	618	537 (87)	20 (3)	9 (1)	52 (8)	0 (0)
Malignant catarrhal fever	19	18 (95)	1 (5)	0 (0)	0 (0)	0 (0)
Marek's disease	3	2 (67)	1 (33)	0 (0)	0 (0)	0 (0)
Mastitis	264	237 (90)	3 (1)	0 (0)	24 (9)	0 (0)
Mucosal Disease/Bovine Virus Diarrhoea	6	4 (67)	0 (0)	0 (0)	2 (33)	0 (0)
Newcastle disease Not typed	153	103 (67)	4 (3)	43 (28)	2 (1)	0 (0)
Old World screwworm (Chrysomya bezziana)	101	99 (98)	0 (0)	1 (1)	1 (1)	0 (0)
Other Clostridial Infections	3	3 (100)	0 (0)	0 (0)	0 (0)	0 (0)
Other Pasteurellosis	10	6 (60)	4 (40)	0 (0)	0 (0)	0 (0)
Ovine epididymitis (Brucella ovis)	97	96 (99)	1 (1)	0 (0)	0 (0)	0 (0)
Ovine pulmonary adenomatosis	1	1 (100)	0 (0)	0 (0)	0 (0)	0 (0)
Paratuberculosis	3	3 (100)	0 (0)	0 (0)	0 (0)	0 (0)
Peste des petits ruminants	11	5 (45)	0 (0)	0 (0)	0 (0)	6 (55)
Porcine cysticercosis	1	1 (100)	0 (0)	0 (0)	0 (0)	0 (0)
Rabies	1,118	563 (49)	550 (48)	5 (0)	31 (3)	0 (0)
Rift Valley fever	552	547 (99)	5 (1)	0 (0)	0 (0)	0 (0)
Salmonellosis (S. abortusovis)	7	6 (86)	0 (0)	1 (14)	0 (0)	0 (0)
Sheep Scab (mange)	122	116 (91)	0 (0)	0 (0)	12 (9)	0 (0)
Strangles	2	2 (100)	0 (0)	0 (0)	0 (0)	0 (0)
Swine erysipelas	6	6 (100)	0 (0)	0 (0)	0 (0)	0 (0)
Theileriosis Not typed	231	187 (79)	33 (14)	13 (6)	3 (1)	0 (0)

Trichomonosis	32	21 (66)	10 (31)	0 (0)	0 (0)	0 (0)
Trypanosomosis (tsetse-transmitted)	96	83 (86)	14 (14)	0 (0)	0 (0)	0 (0)
Total	9,317	7410 (78)	1204 (13)	404 (4)	518 (5)	7 (0) ⁱⁱ

ⁱⁱ *In brackets is the % of outbreaks*