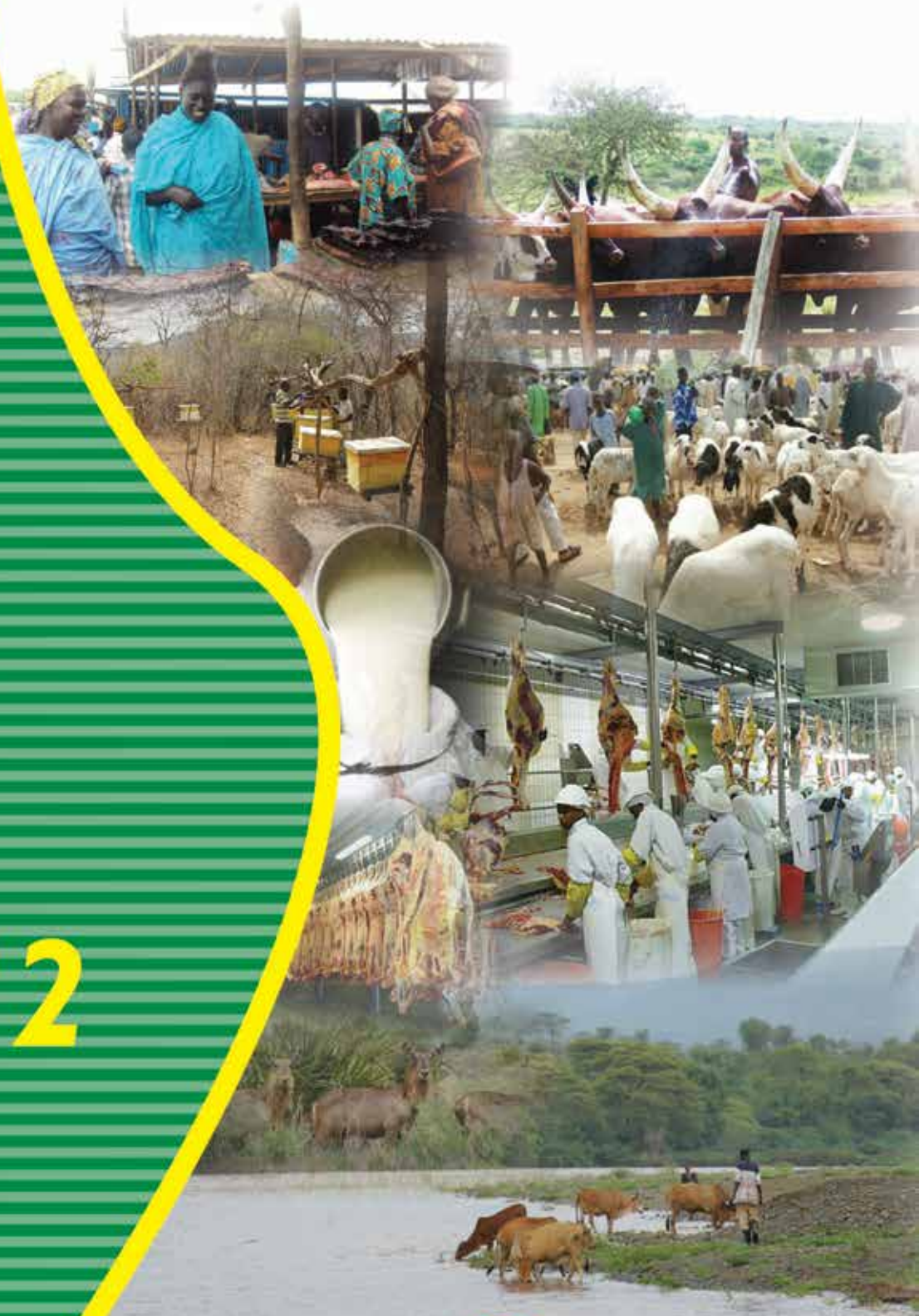
Panafrican Animal Health Yearbook



2012

AFRICAN UNION
INTERAFRICAN BUREAU
FOR ANIMAL RESOURCES

Pan African Animal Health Yearbook
2012

Interafrican Bureau for Animal Resources
African Union
P.O Box 30786 code 00100
Nairobi, Kenya
reports@au-ibar.org
www.au-ibar.org

Pan African Animal Health Yearbook

An AU-IBAR Publication

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PREFACE

The first edition of the "Bulletin of Epizootics in Africa", the precursor to the PAHYB was published in 1953 with the aim of sharing information and knowledge on disease occurrences in Africa and with the objective of development of a coordinated approach to managing animal health control in the African continent. In addition the PAHYB supports sharing of sanitary information and preaches transparency in disease reporting in line with international standards. As we prepare to mark the 60th anniversary of the establishment of AU-IBAR, this objective has remained the same and even more pertinent in view of the challenges being faced with regards to animal disease control which has remained a key factor in the development of animal resources in Africa for many years.

While a lot of effort is being made to control animal diseases on the continent, one of the major challenges is the lack of accurate and timely data to accurately assess the impact of diseases and plan viable control and preventive measures; as well as assess progress being made in controlling animal diseases. The AHYB presents tacit evidence of the progress being made in control and coordination efforts for all the major transboundary animal diseases (TADs) and Zoonoses in Africa.

As AU-IBAR gradually evolves from a purely AH institution to other areas of AR, the contents of the Yearbook will be gradually improved to cover all areas of ARs. Future editions of this book will include data and information on animal population, trade and marketing, and capacity etc, in order to provide more comprehensive information for decision making and give more impetus to inter- and cross-sectoral collaboration.

The Animal Resources Information System (ARIS) is one of the tools that will contribute to this gradual transformation in data management from purely AH to a focus on all areas of AR, and will at the same time help to the improve quality, timeliness data submission; coverage within MSs; report public

Prof. Ahmed El-Sawalhy
Director AU-IBAR/Head of Mission

ACKNOWLEDGEMENT

The Director of AU-IBAR hereby acknowledges the collaboration of AU Member States for their continuous efforts in report submission and for their commitment in supporting transparency and sharing of sanitary information to facilitate livestock development in the continent.

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ABBREVIATIONS AND ACRONYMS

AHS	African Horse Sickness
ASF	African Swine Fever
AUC	African Union Commission
AU-IBAR	African Union- Interafrican Bureau for Animal Resources
CAC	Codex Alimentarius Commission
CAP	Caprine
CAR	Central Africa Republic
CBPP	Contagious Bovine Pleuropneumonia
CCPP	Contagious Caprine Pleuropneumonia
DRC	Democratic Republic of Congo
ECF	East Coast Fever
FAO	Food and Agriculture Organization
FMD	Foot and Mouth Disease
GDP	Gross Domestic Product
HPAI	Highly Pathogenic Avian Influenza
IBD	Infectious Bursa Disease
ILRI	International Livestock Research Institute
INAP	Integrated National Action Plans
IPPC	International Plant Protection Convention
IRCM	Integrated Regional Coordination Mechanism
LIMS	Livestock information Management System
LEISOM	Livestock Emergency Interventions to Mitigate food crisis in Somalia
LSD	Lumpy Skin Disease
MCF	Malignant Catarrhal Fever
MS	Member States
ND	Newcastle Disease
OIE	World Organisation for Animal Health
PAAT	Program Against African Trypanosomiasis
PANVAC	Pan African Vaccine Center
PPR	Peste des Petits Ruminants
PATTEC	Pan African Tsetse and Trypanosomiasis Eradication Campaign
REC	Regional Economic Community
RVF	Rift Valley Fever
S&GP	Sheep and goat Pox
TADs	Trans-boundary Animal Diseases
TB	Tuberculosis
USAID	United States Agency for International Development
VSF	Vétérinaires Sans Frontières
WAHIS	World Animal Health Information System
WTO	World Trade Organization

DEFINITION OF TERMS

Wherever used in this book, these terms have the following meanings:-

- **Epidemiological Unit:** refers to a unit of area containing a group of animals (herd or flock) in a farm or village/larger geographical area sharing a communal animal handling facility depending on the production system of the area. It is defined and used by a Veterinary Services of a country to define and count an outbreak of a disease.

  According to the OIE Terrestrial Code, [1]Epidemiological unit means a group of animals with a defined epidemiological relationship that share approximately the same likelihood of exposure to a pathogen. This may be because they share a common environment (e.g. animals in a pen), or because of common management practices. Usually, this is a herd or a flock. However, an epidemiological unit may also refer to groups such as animals belonging to residents of a village, or animals sharing a communal animal handling facility.

- **Outbreak[2] :** means the occurrence of one or more cases in an epidemiological unit.
- **Number of susceptible animals (population at risk) -** the number of animals that can be affected by a disease within an epidemiological unit.
- **Number of cases[3] :** the number of animals infected (diseased) by a pathogenic agent, with or without clinical signs.
- **Number of deaths:** the number of animals died from a disease within an epidemiological unit
- **Number of slaughtered animals -** means the number of sick or in-contact animals that are slaughtered to control a disease within an epidemiological unit, without restriction on the consumption of the meat by a human being.
- **Number of destroyed animals:** the number of animals destroyed and disposed in an epidemiological unit to control the spread of a disease.

[1]Definition of Epidemiological Unit by OIE Terrestrial Code
[2]Definition by the OIE Terrestrial Code
[3]Definition of CASE by OIE Terrestrial Code

EXECUTIVE SUMMARY

During the year under review 47 Member States (MSs) of the African Union (AU) submitted disease reports to the Interafrican Bureau for Animal Resources of African Union (AU-IBAR) compared to the 42 that submitted reports in 2011. Although an improvement of nearly 12% over the number of MSs that submitted reports in 2011, this figure is still lower than the 49 received in 2010.

A total of 84 animal diseases were recorded in 2012 involving 23,769 outbreaks, and 1,863,628 cases, causing 516,320 deaths and the slaughter and destruction of 163,127 and 358,284 animals, respectively. The highest number of outbreaks were registered in Cattle while the highest of number of cases and loses in terms deaths, slaughter and destruction were reported on the avian species followed by small ruminants and swine.

The most widely distributed animal disease on the African continent based on the number of countries affected is Rabies which was reported by 33 countries in the year 2012, almost similar to 2011 where 34 MSs reported outbreak(s) of the disease. Other diseases with significant spatial distribution in Africa which affected more than 20 countries include Newcastle Disease (32), lumpy skin disease (29), Peste des Petits Ruminants (29), Foot and Mouth Disease (28), Contagious Bovine Pleuropneumonia (26), Anthrax (25), Blackleg (22), Trypanosomosis (22) and African swine fever (21) in a decreasing order. However based on the number of outbreaks reported, LSD appeared the most prevalent with 1695 outbreaks, followed by Rabies (1343), Theileriosis (1339) and Trypanosomosis (1336). The deadliest diseases on the other hand that caused the highest loses in terms of deaths, slaughter and destruction of animals are ND, PPR and ASF.

The delay in submission of reports and poor quality of data have for many years remained a big challenge in Africa. Less than 5% of MSs submit reports on time, while the poor quality and technical details of the reports submitted by many countries coupled with plenty errors makes data analysis a big challenge at the continental level. This situation affects to a very large extent a good understanding the epidemiological situation of animal diseases on the continent and affects good preparation for prevention and control of animal diseases in a coordinated manner. Very few countries submit immediate notification of outbreaks which is essential as an early warning tool against the spread of new diseases. The rolling out and operationalization of the Animal Resource Information System (ARIS2) at the national level is expected to ameliorate some of these challenges.

AU–IBAR implemented a number of projects and interventions within the year to support MSs in advancement of animal health throughout the continent. These include the VETGOV project, PANSPSO, IRCM, ARIS, development of a continental PPR and ASF control strategy as well as hosting of the ISCTRC secretariat.

1. INTRODUCTION

The Panafrican Animal Health Yearbook (PAHYB) is produced annually by AU-IBAR to promote transparency in disease reporting and the sharing of animal health information in Africa. The principal content of this edition of the Yearbook is the analysis of monthly disease outbreaks based on the reports submitted by AU-MS within the year. A section of the book is devoted to providing information on the interventions carried out by AU-IBAR to ameliorate and improve the animal health situation on the continent through its various projects.

This edition of the Yearbook follows the same pattern as the previous editions and provides the status of the major TADs and Zoonoses and some important diseases that are prevalent on the continent. While providing an analysis of the disease situation on the continent, many of the issues and the problems associated with data quality and disease control in Africa in general become apparent. These include the lack of adequate diagnostic capacity in many countries, which is further exacerbated by ineffective laboratory networking on the continent. Thus, the changes in the behavior of infectious agents and their pathogenicity as well as changes in the epidemiology of diseases and the threat they pose appear not to be adequately assessed. Other challenges include the ineffective application of disease control measures, lack of adequate trained/skilled staff and poor record keeping, among others.

The animal health data contained in the Yearbook are sourced from the monthly disease reports that MS submit to AU-IBAR most of which are based on passive data collection methods. Therefore while the Yearbook contains some analysis of disease outbreak data as reported by MS, it is not a detailed academic study of the disease situation at national or the continent level, and as such does not contain detailed epidemiological parameters and outputs. It should also be noted that while the reporting rate from MS has continued to improve over the years, there are still cases of under reporting especially at the sub-national levels. The Yearbook should therefore be viewed as the general reflection of the animal health situation on the continent during the year and used as such. It is nevertheless a very good guide for decision making on animal health matters at the country, regional and continental level, which is its main purpose.

An update of the interventions being carried out by AU-IBAR through its various projects in the area of animal health and animal resource development is also provided. These include the VET-GOV, IRCM, VACNADA, PANSPSO and the ARIS-2 projects and interventions.

2. GENERAL STATUS OF MONTHLY ANIMAL DISEASE REPORTING

2.1. Trend of Disease Reporting by countries from 2000 to 2012

During the year 2012, 47 out of the 54 African countries have submitted their animal disease reports to AU-IBAR against the 42 countries that reported in 2011. The number of countries expected to report has increased to 54 with the creation of a new member state, South Sudan, to the family. Impressively South Sudan has submitted reported reports for the whole year including the first 6 months of the year even though the country came into being in July 2012.

The reporting rate for the year has increased to 87.04% compared to the 80.77% in 2011, but still lower than 92.45% achieved in 2010 (Table 1 and figure 1). The decline in the previous year, 2011 represented the lowest reporting rate by countries since 2008 and it is expected that the upward trend will continue from now on. This optimism is borne out of the gradual improvement in ownership of the process and continuous awareness creation campaigns in Member States (MSs) through workshops, meetings, conferences, etc. It is also expected that the roll out of the Animal Resource Information System (ARIS-2) and the operationalization of the VetGov policy hubs in member states will help to steadily improve disease report submission by all MSs of the African Union.

It is noteworthy that most reporting countries on the continent fulfilled their obligation by submitting their animal disease reports to AU-IBAR and the World organization for animal health (OIE) (figure 2).

Table 1: *Trend of disease reports to AU-IBAR (2000-2012)*

Year	No. of countries that reported	Expected number of countries	% of countries reporting
2000	10	53	18.87
2001	11	53	20.75
2002	37	53	69.81
2003	40	53	75.47
2004	40	53	75.47
2005	37	53	69.81
2006	35	53	66.04
2007	37	53	69.81
2008	44	53	83.02
2009	47	53	88.68
2010	49	53	92.45
2011	42	53	80.77
2012	47	54	87.04

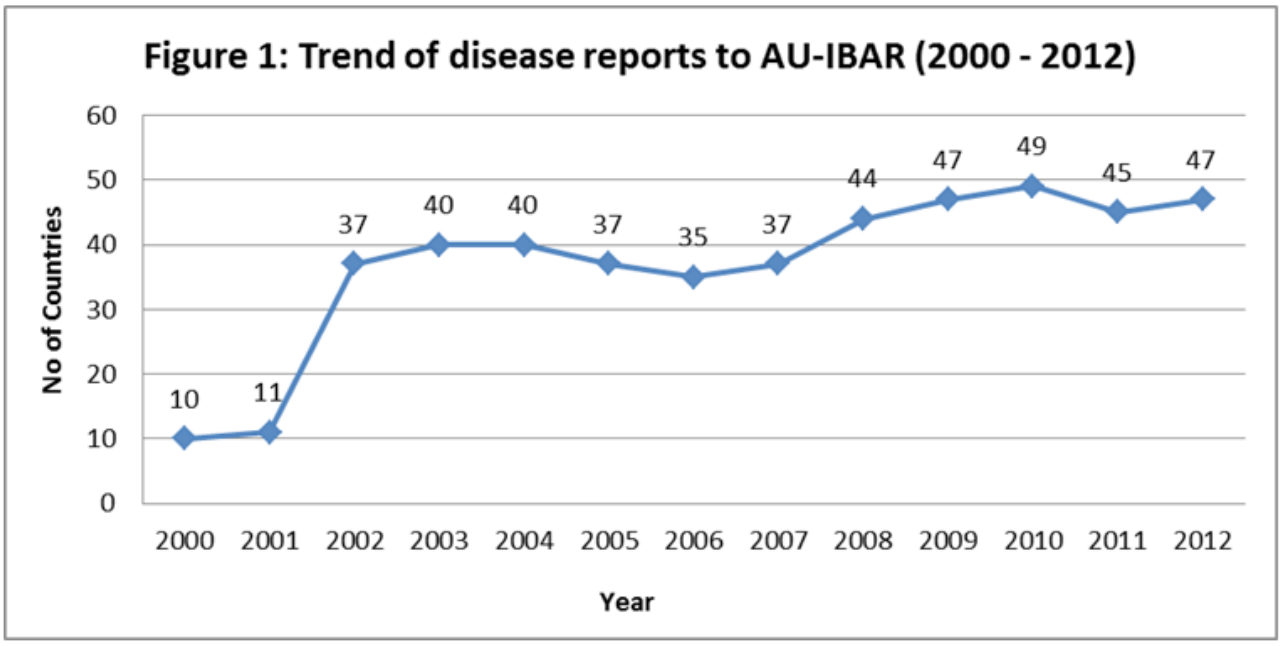


Figure 1: *Trend of disease reports to AU-IBAR (2000-2012)*

2.2. Status of monthly disease reporting in 2012

Similar to 2011, a total of 84.75% of the expected monthly disease reports were received from Member States against 94.23% and 88.46% respectively in 2010 and 2009 (Annex 1). Although the greater majority of African countries submit disease reports to both AU-IBAR and OIE, since 2009 the submission rate to AU-IBAR has consistently been higher than the OIE. During 2012, 45 countries submitted reports to OIE compared to 47 countries that submitted reports to AU-IBAR (Figure 2). Nevertheless, there was improvement in submission rate to both organization compared to 2011. Some countries submitted "zero reports", indicating the absence of disease outbreaks during the reporting periods. Even though the importance of zero reporting in situations where there are really no disease outbreaks is appreciated, this indicator should be interpreted and/or used with caution for in some instances it might be due to under-reporting.

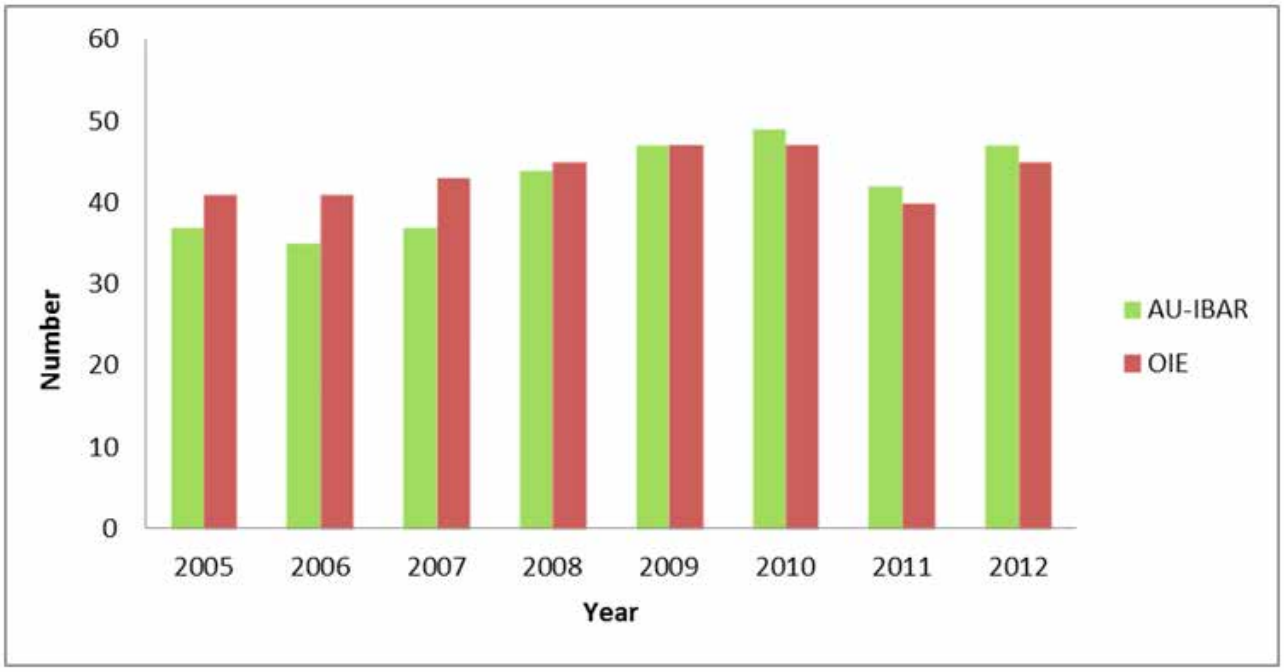


Figure 2: *Disease reporting status from African countries to AU-IBAR and OIE*

The main challenges associated with data analysis over the years has remained the poor quality, inconsistency and lack of details of some important data components such as the population at risk, species, age and sex differentiation, details of laboratory diagnostic tests and results, geo-reference data, etc. Better analysis and interpretation of results will be done as the quality of reports and timeliness of submission improve.

2.3 Reporting formats

While MSs are encouraged to use the AU-IBAR report format, reports created in different format are still received which are then transferred into a central database and analyzed. In the year 2012, twenty four (24) countries (51.06%) – up from 21 countries in 2011 - used the standard AU-IBAR format to submit their reports to AU-IBAR. Other formats used within the year include, OIE format (7countries-14.89%), SADC/LIMS format (5 countries – 10.64%), FAO/TAD-Info format (2 countries – 4.26%) and non-specific/country own format (9 countries – 19.15%) (Figure 3).

With gradual roll out of the ARIS interoperability feature, the formats being used for reporting to AU-IBAR, OIE, TAD-Info and LIMS would be unified and the conflict of choice of the format to use would be completely eliminated.

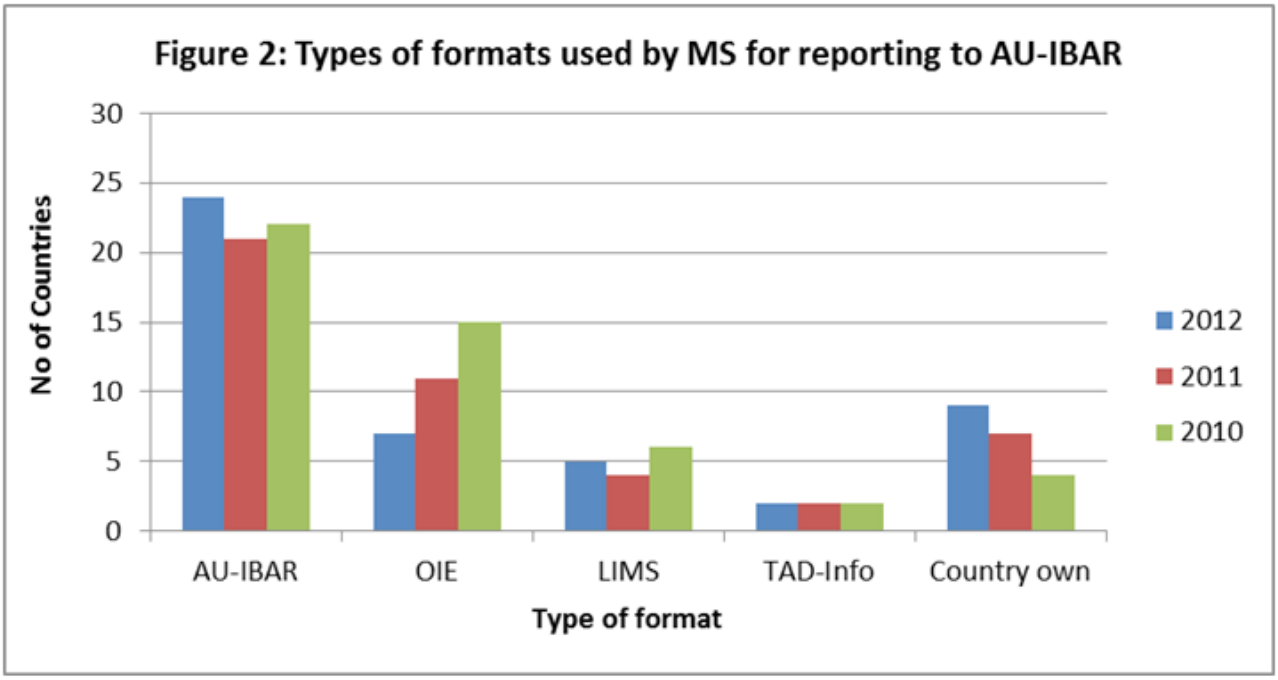


Figure 3: *Different types of formats used by countries for reporting to AU-IBAR*

3. GENERAL STATUS OF DISEASES IN AFRICA IN 2012

In general, except in few cases, there is no significant difference between number of outbreaks, cases and loses in terms of death, animals slaughtered and those destroyed as a result of occurrence of the selected major disease between the year 2011 and 2012. The number of MSs reporting specific diseases has also not changed significantly indicating that the dynamics governing occurrence of the diseases have not changed. This puts to question the effectiveness of current control efforts, and whether or not new strategies need to be developed. However it should also be recognized that quantity and quality of data available is inherently related to reporting capacities which may not have changed significantly.

The general status of animal diseases described in this section and the details provided later for specific diseases are based on the reports received from countries. Where possible, the disease situation in 2012 is compared with that of the previous year. The spatial distribution of outbreaks is presented on shaded maps.

3.1. Diseases reported

A total of 84 animal diseases were recorded in 2012 compared to the 91 reported in 2011 (Annex 1). These are diseases voluntarily reported by countries and sometimes reflect the interest the countries have in those diseases or their capacity in identifying and diagnosing the diseases.

The major TADs with high number of outbreaks, cases and deaths as well as spread within and between countries reported in the year include Newcastle (ND), lumpy skin disease (LSD), sheep pox and goat pox (SGP), peste des petits ruminants (PPR), contagious bovine pleuropneumonia (CBPP), foot and mouth disease (FMD) and African swine fever (ASF).

Other important diseases reported in 2012 include rabies, pasteurellosis, trypanosomosis, blackleg, anthrax, brucellosis, anaplasmosis, babesiosis, heartwater, infectious bursal disease (IBD), tuberculosis, mange and dermatophilosis among others.

3.2. Disease situation by number of countries affected

According to the records received in 2012, the most widely distributed TADs in Africa are ND, LSD, PPR, FMD, CBPP, ASF and SGP. This situation is exactly similar to 2011. Figure 4 below provides details on the number of Member States affected by type of disease in 2012 in comparison to 2011. There is no significant difference in the number of countries affected by specific disease between 2012 and 2011 except in the case of CBPP.

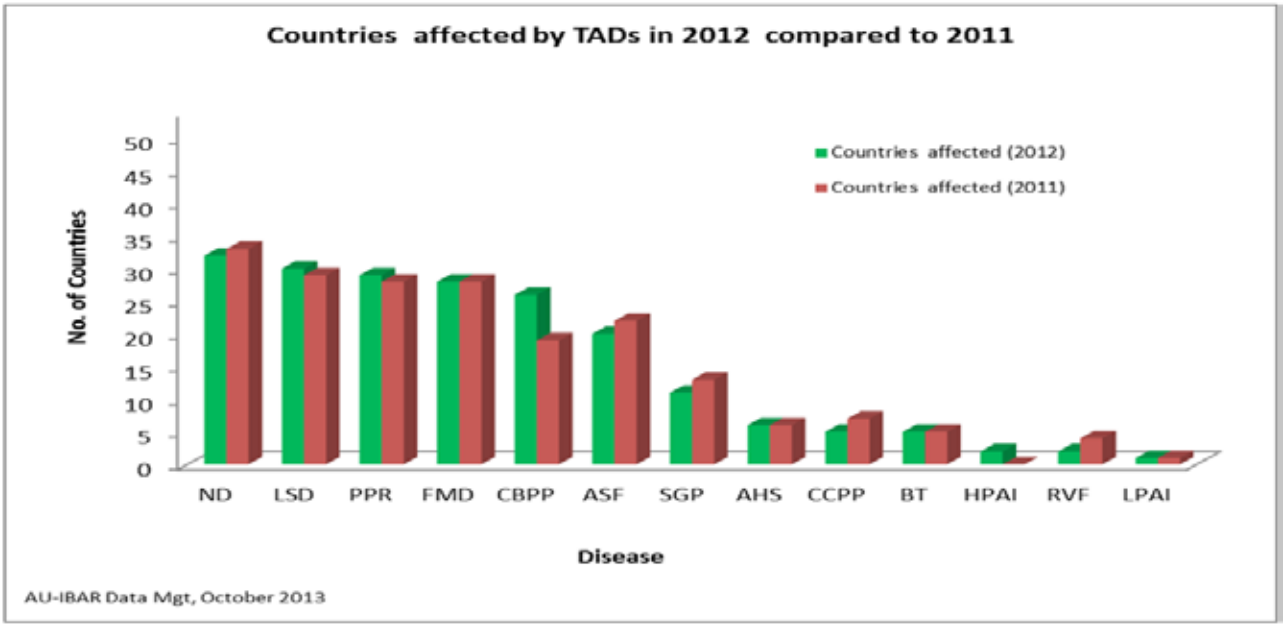


Figure 4: *Number of countries affected by TADs in 2012 compared to 2011*

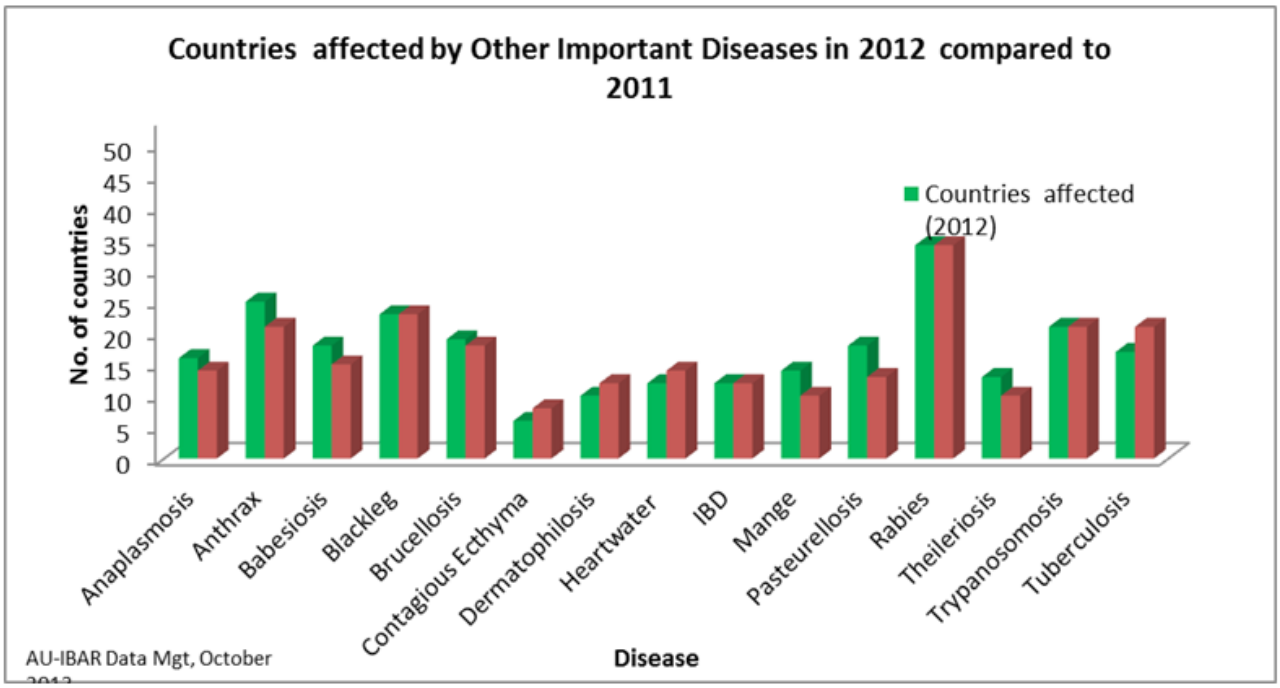


Figure 5: *Number of countries affected by other important diseases in 2012*

Among other important diseases, Rabies as usual had the widest spatial distribution affecting 33 countries, followed by Anthrax, blackleg and trypanosomosis. Figure 5 shows the number of countries affected by the other important diseases in 2012 in comparison with 2011.

In general, the trend of spatial disease distribution within the continent has remained unchanged since 2005. This status is an indication of disease endemicity as well as lack of coordinated and harmonized efforts and interventions in controlling animal diseases at both national and regional levels. The widely reported diseases on the continent are shown in figure 6 below.

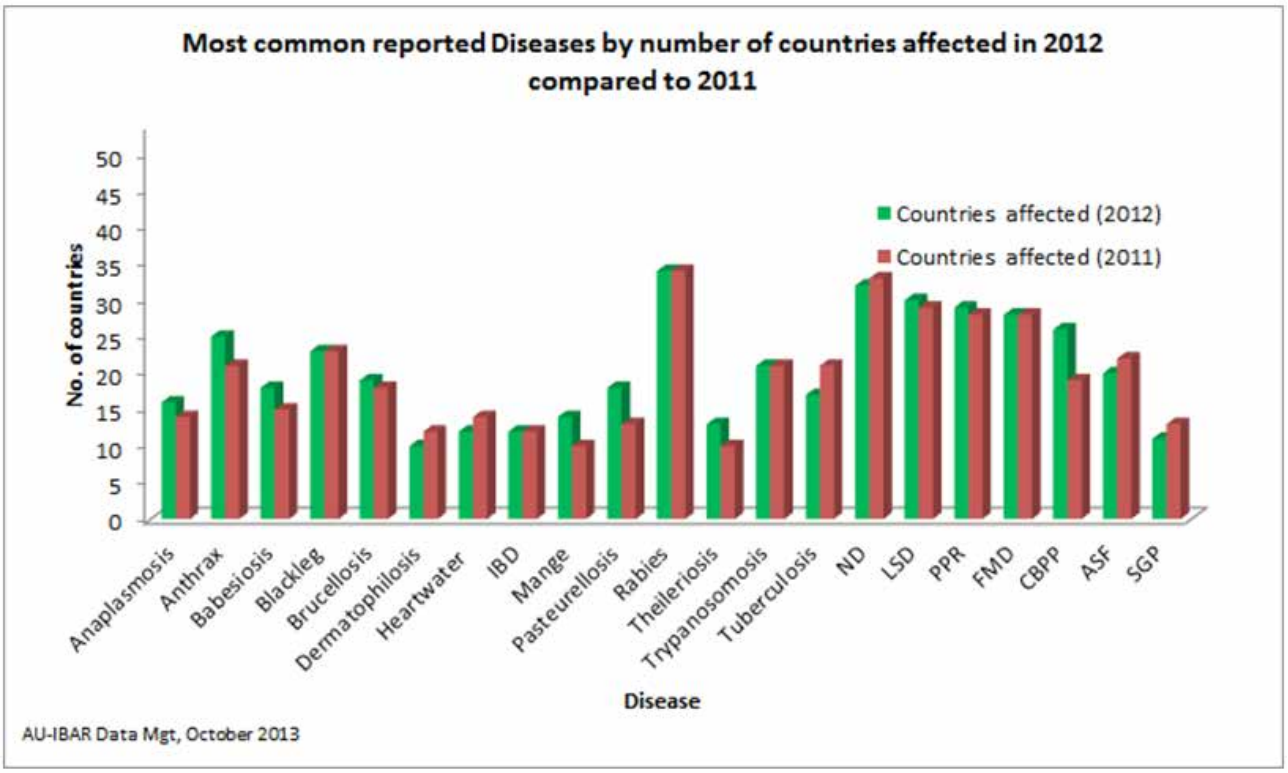


Figure 6: *Most common reported diseases by number of countries affected*

3.3. Disease situation by number of reported outbreaks

A total of 23,679 outbreaks were reported in 2012. Though a slight decrease compared to the 24,201 outbreaks recorded in 2011, it still represents a substantial increase compared to the 17,708 outbreaks reported in 2010. The possible explanation for this slight decrease especially taking into consideration that more countries submitted reports compared to 2011 may be as a result improvement in data generation and reporting in general. It is too early to relate this to the impact of ARIS roll out, but it may still be prudent to suggest that the various trainings conducted under the project may have stimulated general interest in disease reporting. More studies need to be carried out to explain this situation.

In 2012 LSD had the highest number of outbreaks with 1695 followed by rabies (1343), Theileriosis (1339) and Trypanosomosis (1336). In all these the numbers were lower than the number of outbreaks reported in 2011 except LSD. The detailed number of outbreaks and other parameters for all the diseases is provided in Annex 2, while figure 7 shows the most common reported diseases in terms of reported number of outbreaks.

Among the TADs, only LSD and to a lesser degree SGP, had a significant increase in the number of outbreaks compared to 2011 (Figure 8). Despite some variations, the general trend in the number of outbreaks of TADs and other important diseases did not change significantly between the year 2011 and 2012 as indicated in figures 6, 7 and 8 respectively. In 2012, the number of reported outbreaks due to Anthrax, Babesiosis, Pasteurellosis, Anaplasmosis, Blackleg and Dermatophilosis increased slightly while there is slight reduction for the other diseases compared to 2011. There is however a significant reduction in Tuberculosis, AHS and HPAI outbreaks.

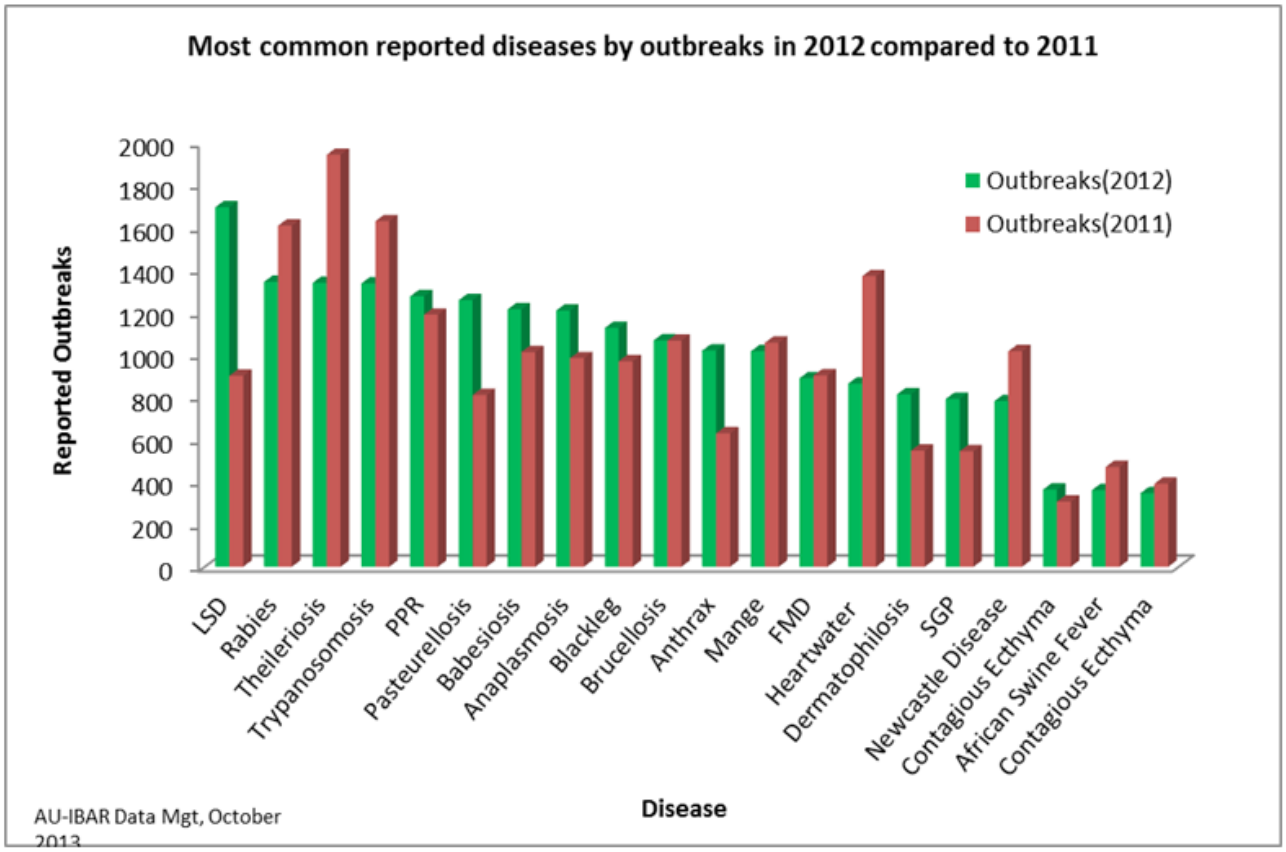


Figure 7: *Most common reported diseases by number of outbreaks*

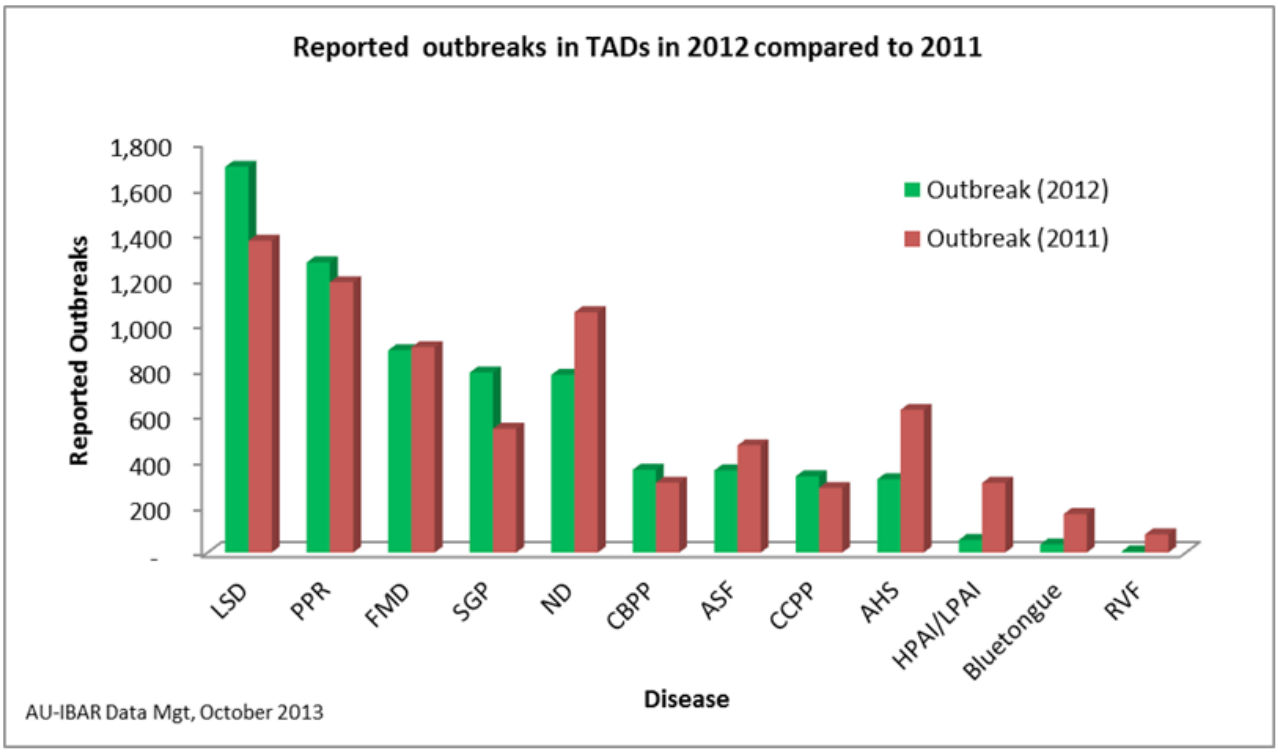


Figure 8: *Comparison of the number of outbreaks in TAD in 2012 and 2011*

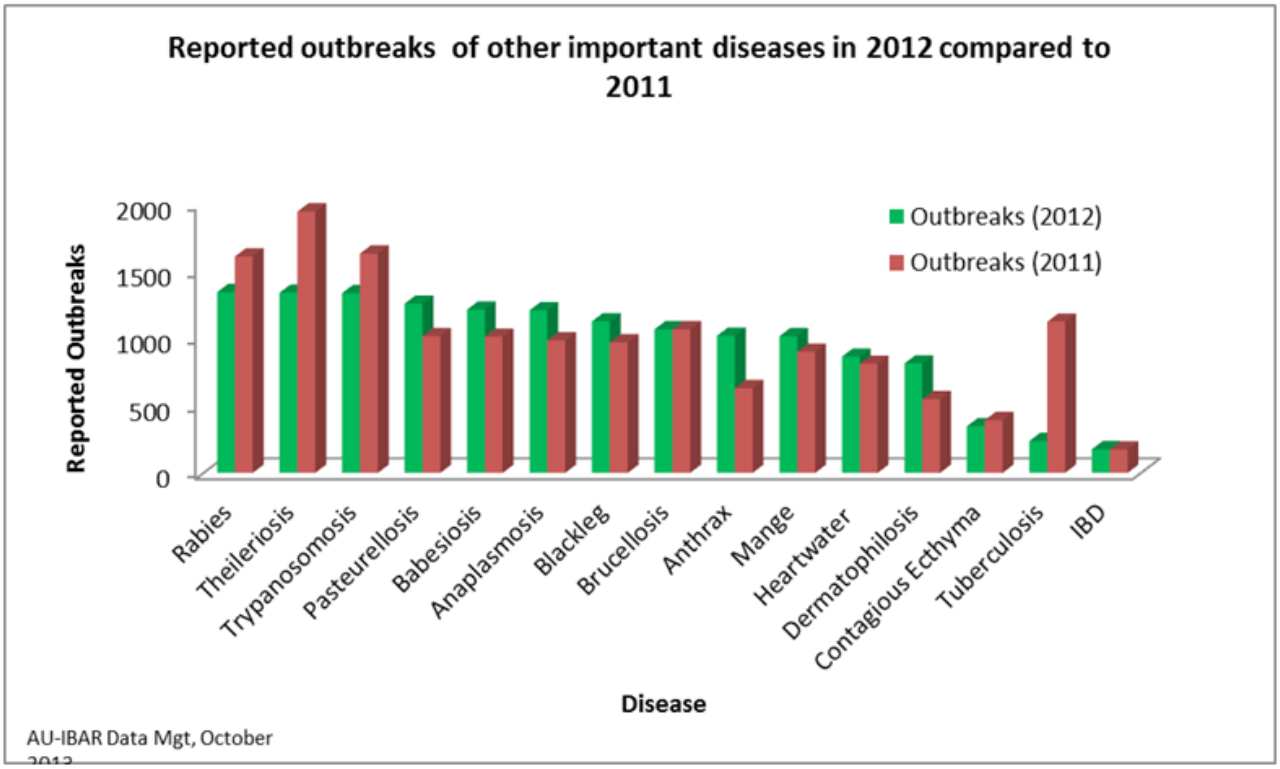


Figure 9: *Comparison of the number of outbreaks in other important diseases in 2012 and 2011*

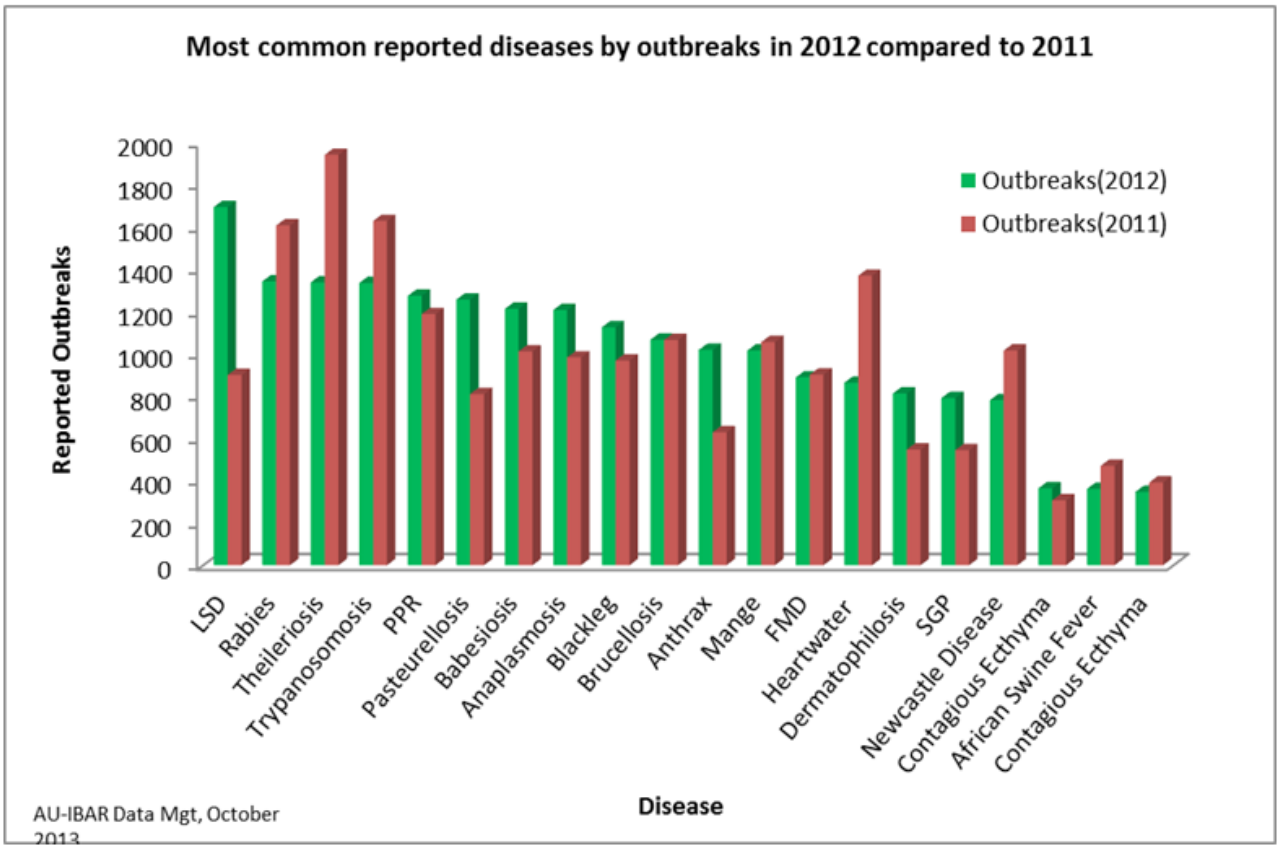


Figure 10: *Comparison of the outbreaks in most commonly reported diseases in 2012 and 2011*

3.4. Disease situation by number of cases in reported outbreaks

For 2 years in a row, the number of cases have been reducing from 5,286,686 in 2010 to 2,025,190 in 2011and 1,572,614 in 2012. This may be a reflection of the reduction in the number of outbreaks affecting poultry as it is the species with usually high number of cases. The highest number of cases resulted from ND, CBPP, salmonellosis, Trypanosomosis and PPR(figures 9 and 11). Similar to the previous years, the avian species recorded the highest number of cases (Figure 12).

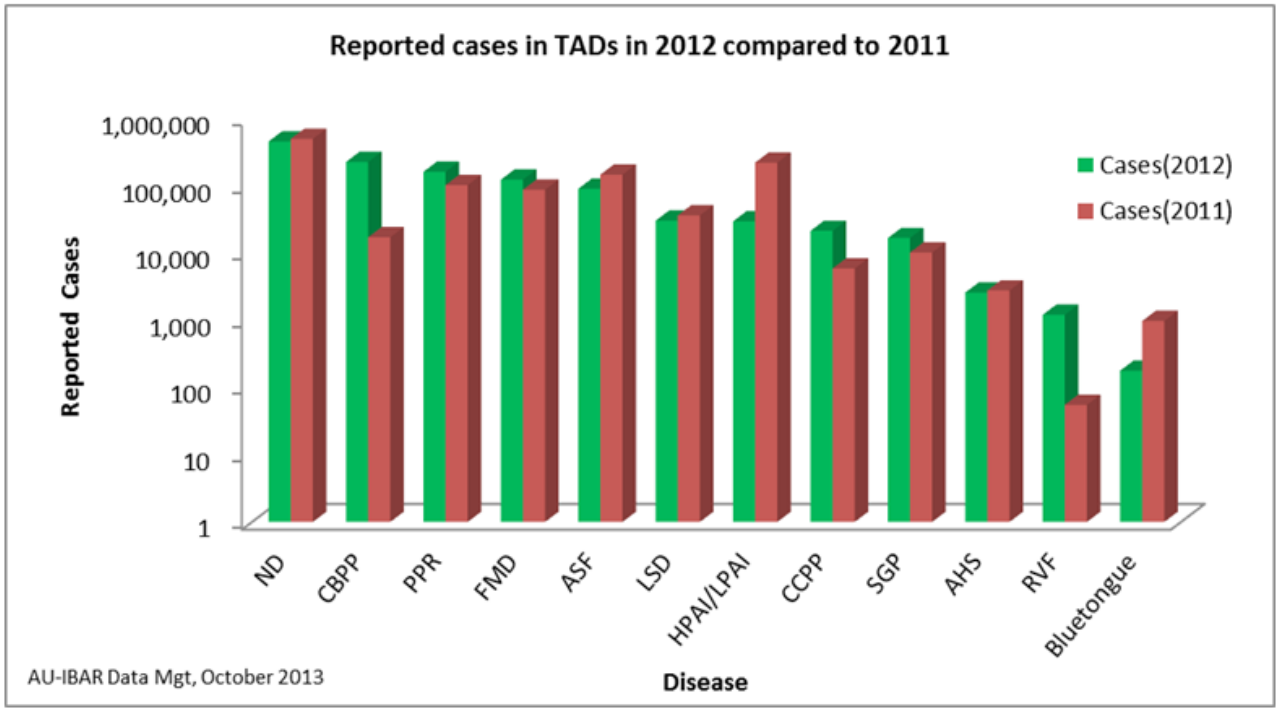


Figure 11: *Reported cases in TADs in 2012 compared to 2011*

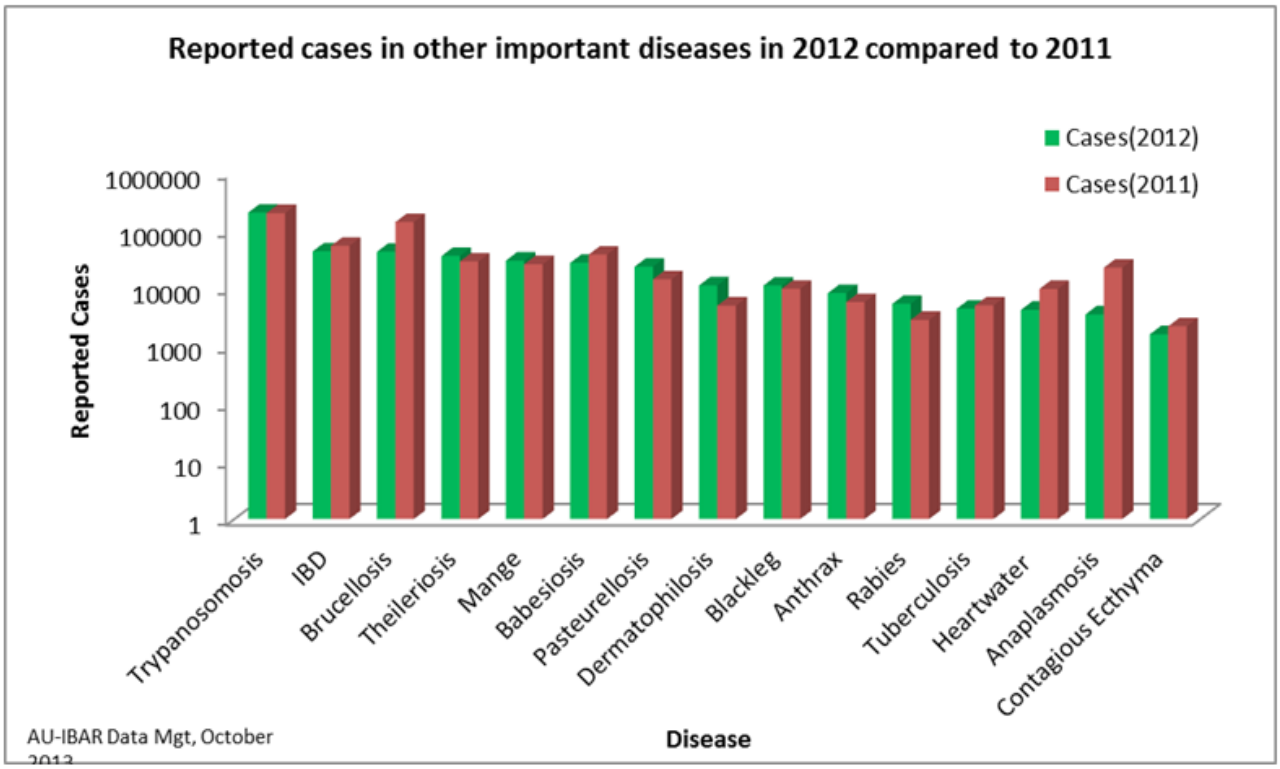


Figure 12: *Reported cases in other important diseases in 2012 compared to 2011*

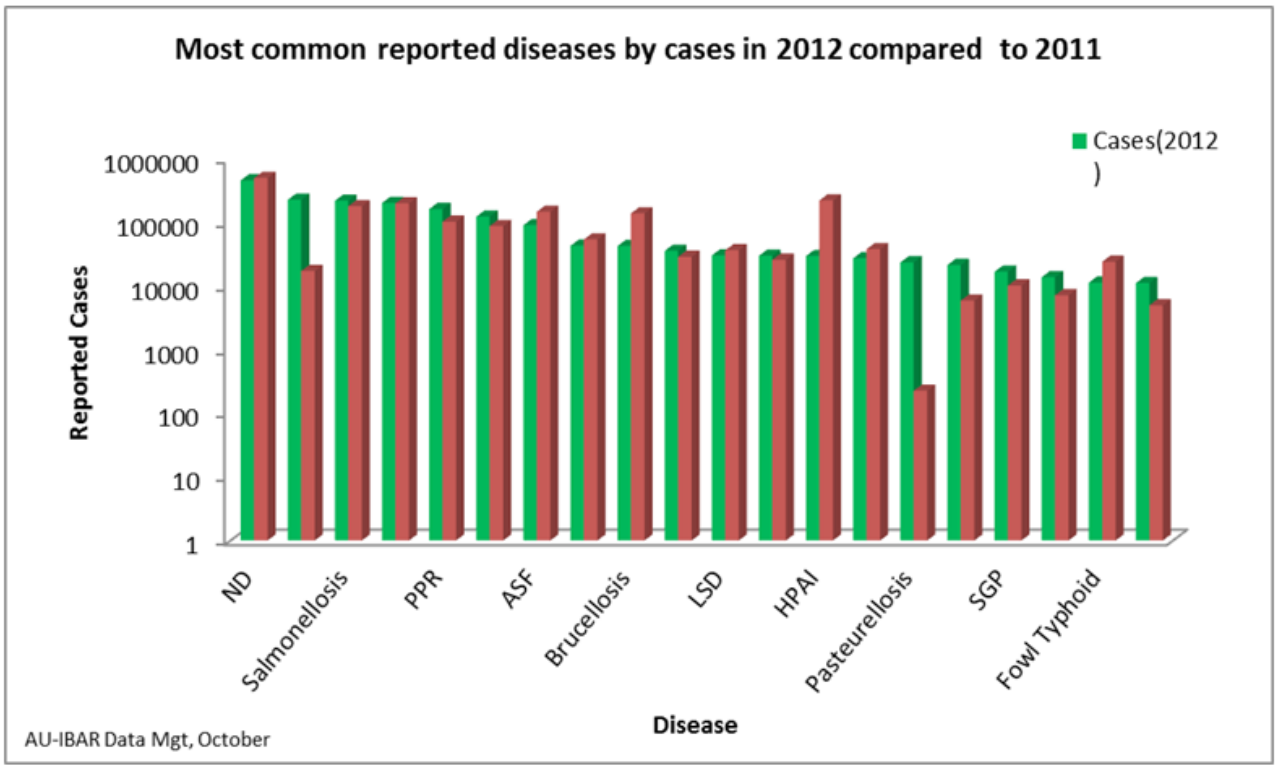


Figure 13: *Most common reported diseases by number of cases in reported outbreaks in 2012*

3.5. Disease situation by number of deaths in reported outbreaks

A total of 498,149 animals died as a result of diseases in 2012, yet another significant reduction compared to the 651,274 animals that died 2011 or the 500,195 that died in 2010. As usual the highest losses were recorded in the avian species as a result of ND outbreaks, followed by PPR, ASF, IBD and CBPP. The total number of animals slaughtered and destroyed as a disease control measure during 2012 was 163,127 and 358,284

respectively as compared to 225,789 slaughtered and 262,339 destroyed in 2011, respectively. These figures indicate that significant numbers of animals are being lost to diseases annually and give justification for greater investment in disease prevention and control across the continent. The significance of this recommendation will even become more apparent when monetary values are attached to indicate the value of loses being incurred annually by low income earners in the continent. Figures 14, 15 and 16 give the status of the reported deaths due to diseases in 2011 as compared to 2010.

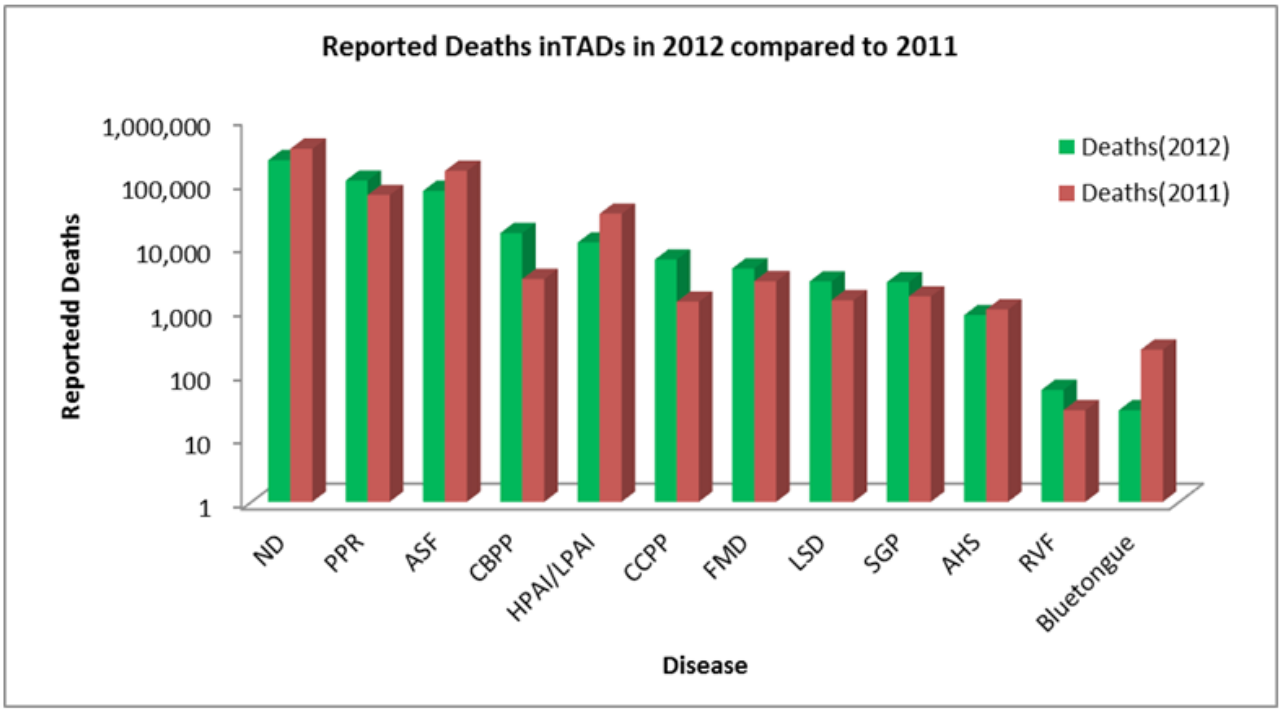


Figure14: *Reported deaths in TADs in 2012 compared to 2011*

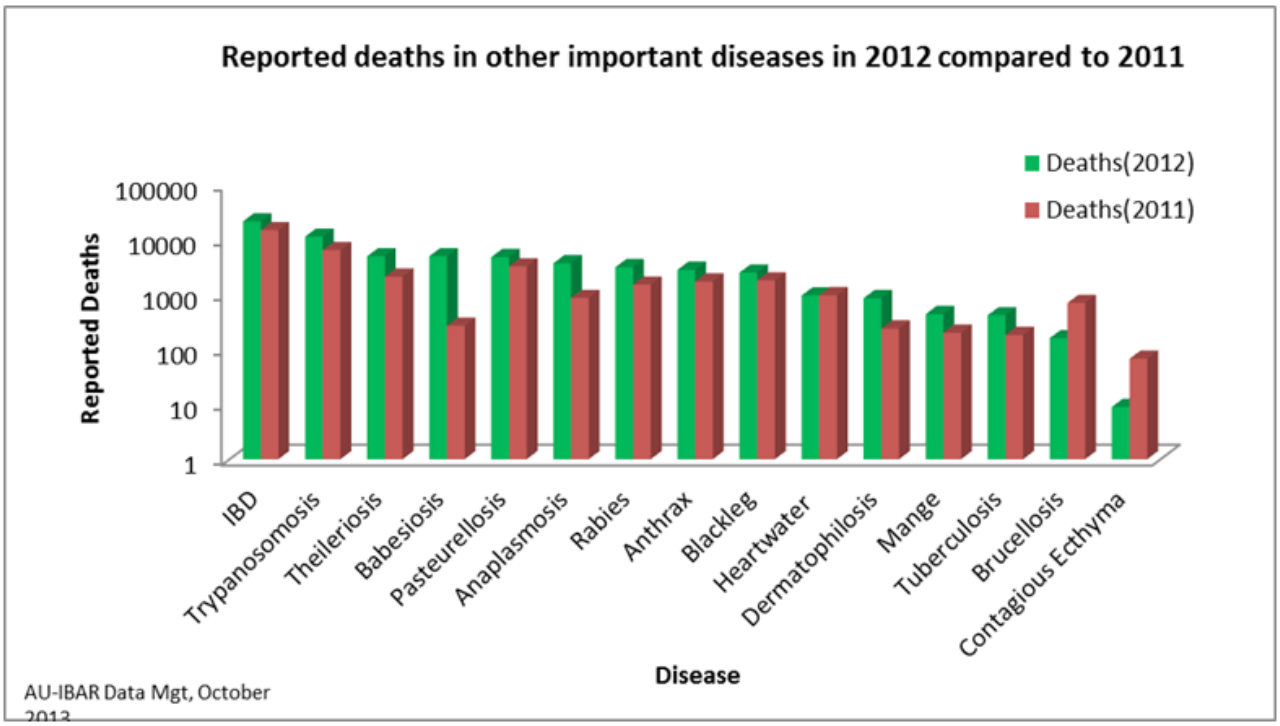


Figure 15: *Reported deaths in other important diseases in 2012 compared to 2011*

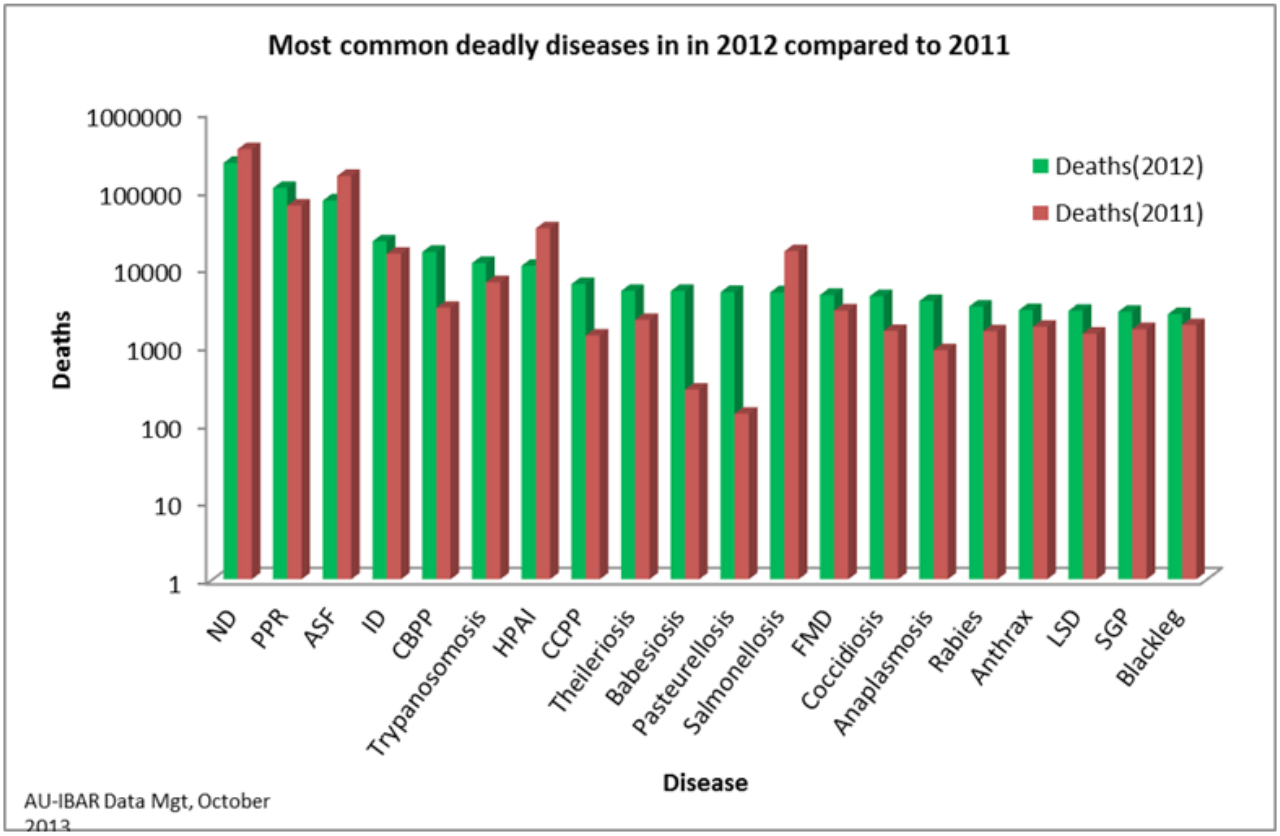


Figure 16: *Most common deadly diseases reported in 2012 compared to 2011*

3.6. Disease situation by species affected in the reported outbreaks in 2012

Despite the high number of cases affecting Poultry, the most affected species in terms of number of outbreaks is the Bovine species accounting for 55% of the outbreaks followed by the Ovine/ Caprine with 23% and Avian species with 7%. Significantly some of the reported outbreaks affected humans as well. (Figure 17).

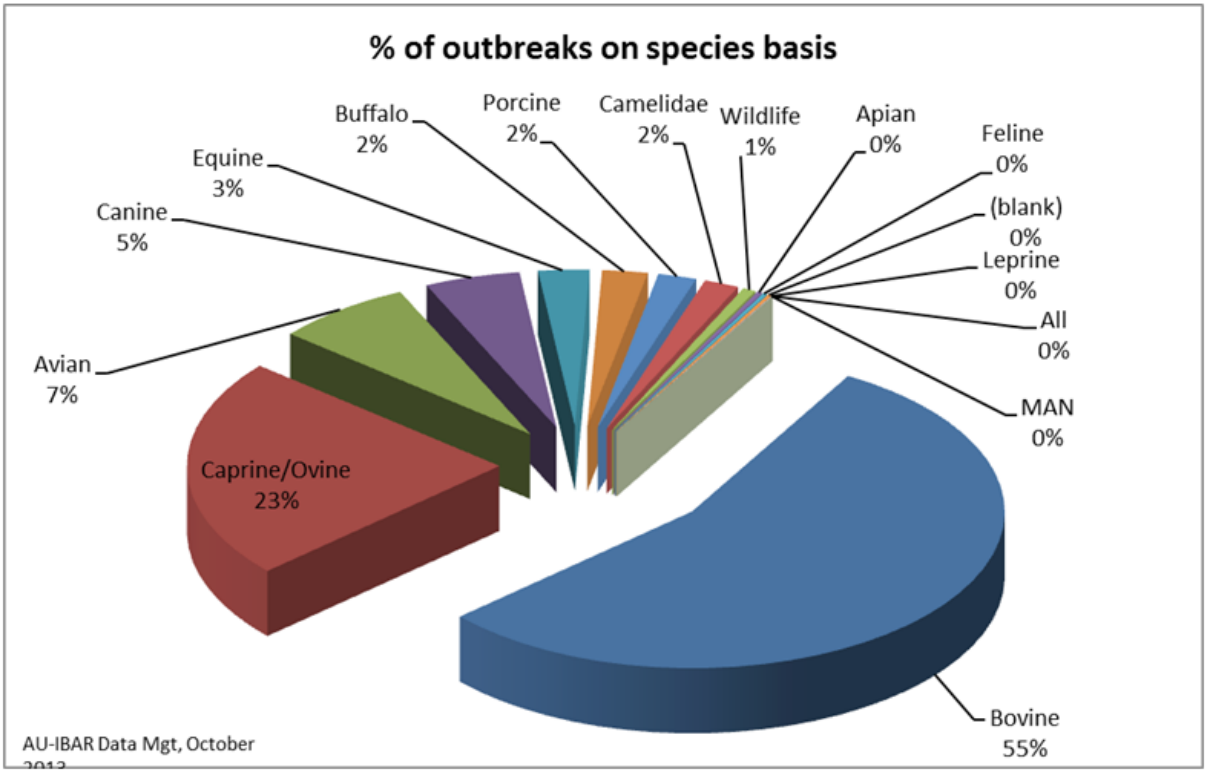


Figure 17: *Disease situation by species affected in the reported outbreaks in 2012*

In terms of the number of cases and deaths the avian species accounted for nearly 41% of cases and 50% of deaths followed by Bovine (37% and 11%), Ovine/Caprine (14% and 23%) and the Porcine species (5% and 14%) respectively. Figure 18 gives the details of species involvement in cases during the reporting period.The proportion of animal species that died and the total loses suffered due to the reported diseases in 2012 is presented in figure 19.

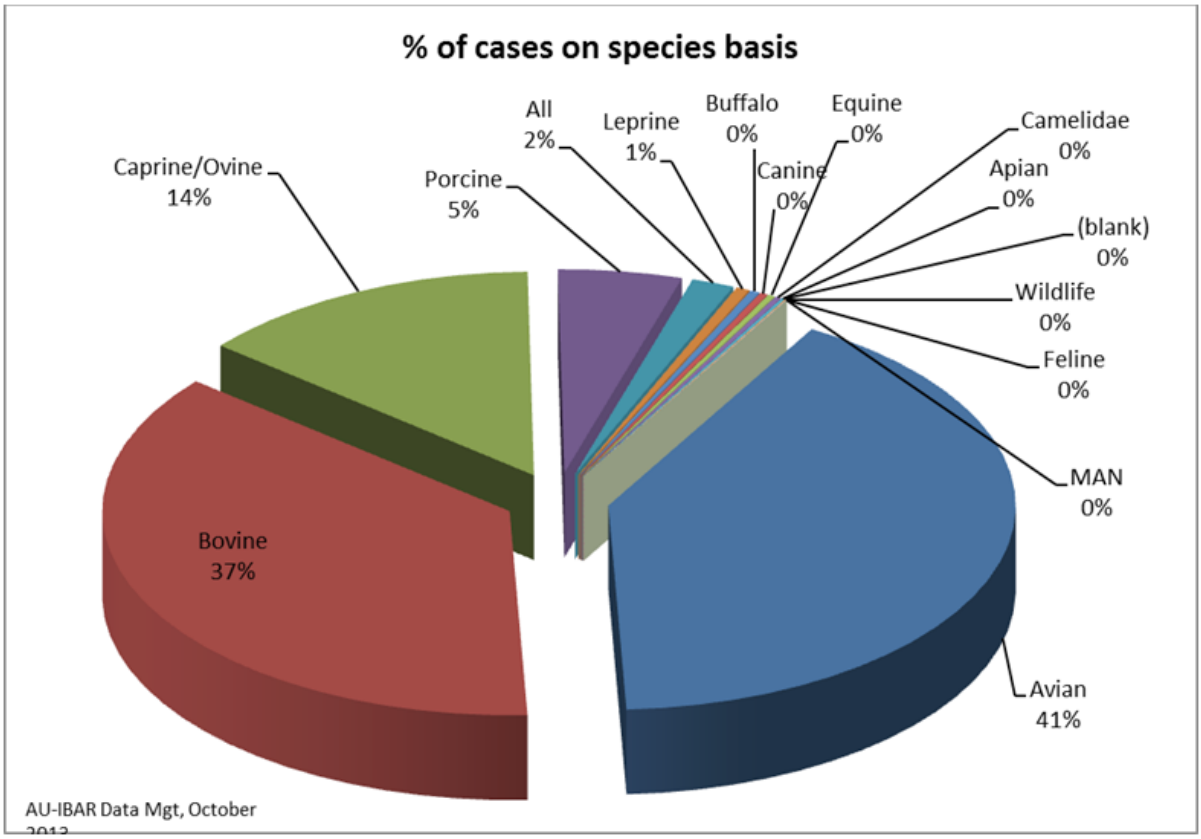


Figure 18: *Proportion of cases by species affected in the reported outbreaks*

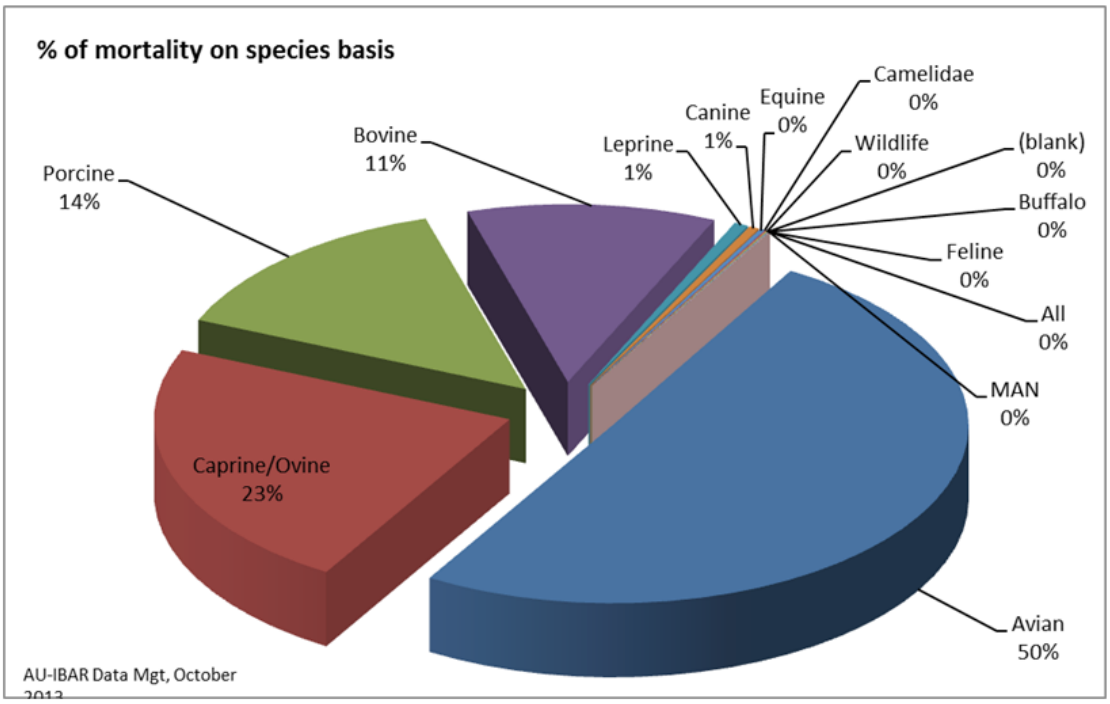


Figure 19: *Proportion of mortalities by species affected in the reported outbreaks*

3.7. Nature of disease outbreak investigation and confirmation by laboratory

In 2012, 26% of the reports received did not provide the diagnostic methods used to determine the disease involved in the outbreaks. Only 0.013% (245 outbreaks) were based on advanced laboratory techniques while 2% were based on basic laboratory and 12% based on a combination of clinical and basic laboratory diagnosis. Coupled with the fact that 48% of the cases reported were determined based on clinical signs alone and 9% based on suspicion puts to question the reliability of the final diagnosis of the cases and provides a troubling indication of the diagnostic capacity existing in MSs. This situation calls for the Veterinary Services of MS to put in extra efforts to strengthen the linkage between epidemiology units and diagnostic laboratories and to improve laboratory networking and diagnostic capacity in general.

The comparative data for methods of diagnosis used to confirm reported outbreaks are shown in Figure 20.

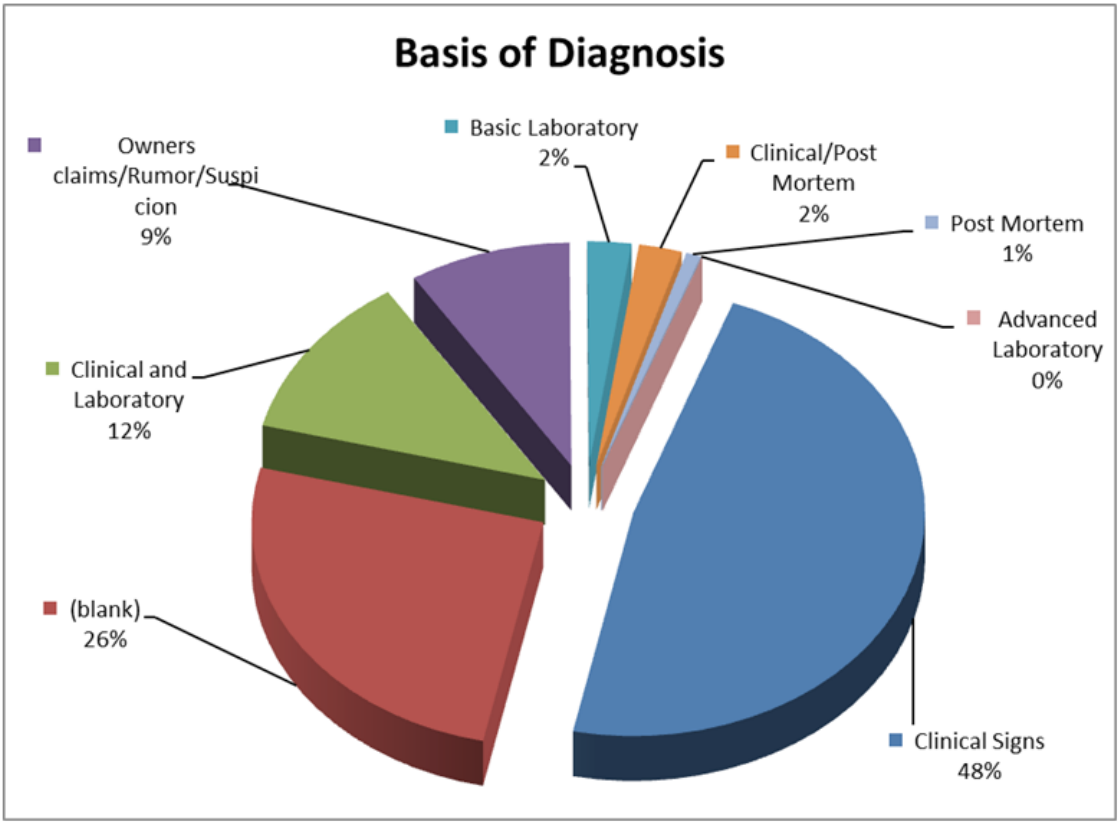


Figure 20: *Nature of disease outbreak investigation and confirmation by laboratory*

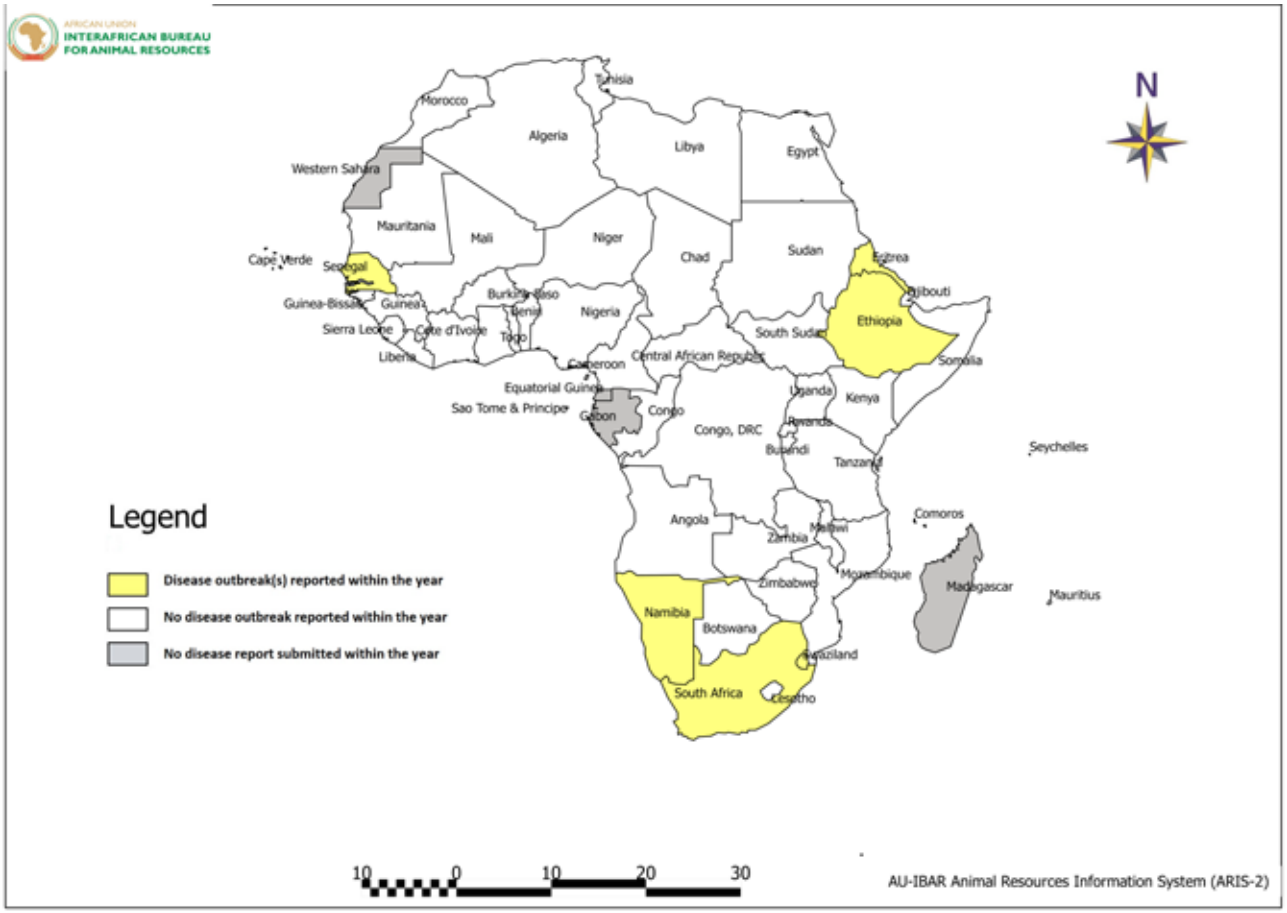
4.1. African horse sickness (AHS)

During 2012, a total of 322 AHS outbreaks were recorded in 6 countries, compared to 627 outbreaks from 6 countries in 2011 and 305 outbreaks from 5 countries in 2010. Although the disease has been reported over the past five years in five of the affected countries, the occurrence of AHS in Eritrea is regarded as a new epidemiological event. The highest number of AHS outbreaks was reported from Ethiopia with 210 (65.2%) outbreaks followed by South Africa with 105 (32.6%) reported outbreaks. Overall, due to the outbreaks of AHS, a total of 2,564 horses were affected with 828 reported mortalities representing a 32.3% case fatality rate.

In terms of temporal distribution, the highest number of outbreaks was reported in the month of March with 55 outbreaks as shown on Chart 1 below.

Table 2: *Countries reporting African horse sickness*

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Eritrea	1	21	6	0	
Ethiopia	210	2406	767	6	
Namibia	2	4	1	0	0
Senegal	1	2	2		
South Africa	105	119	43		0
Swaziland	3	12	9	0	0
Total (6)	**322**	**2564**	**828**	**6**	**0**



Map 1: *Spatial distribution of African Horse Sickness in Africa in 2012*

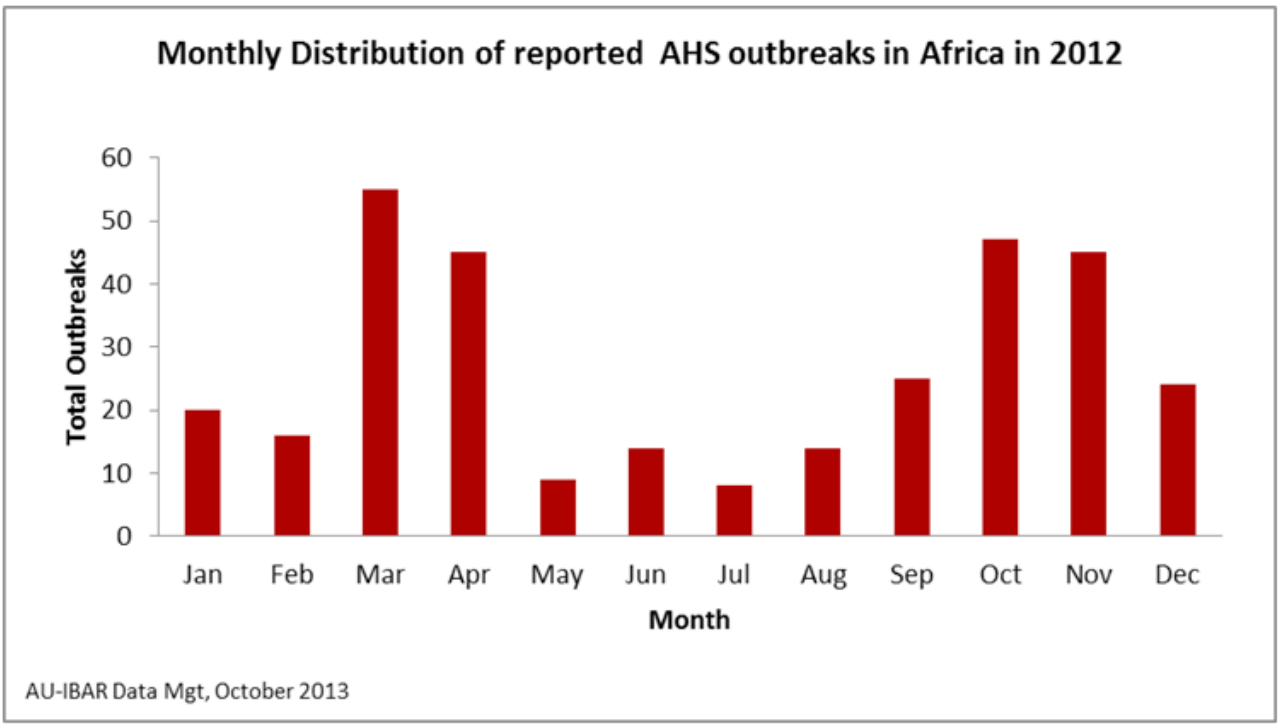


Chart 1: *Monthly Distribution of AHS Outbreaks in the Affected Countries*

4.2. African swine fever

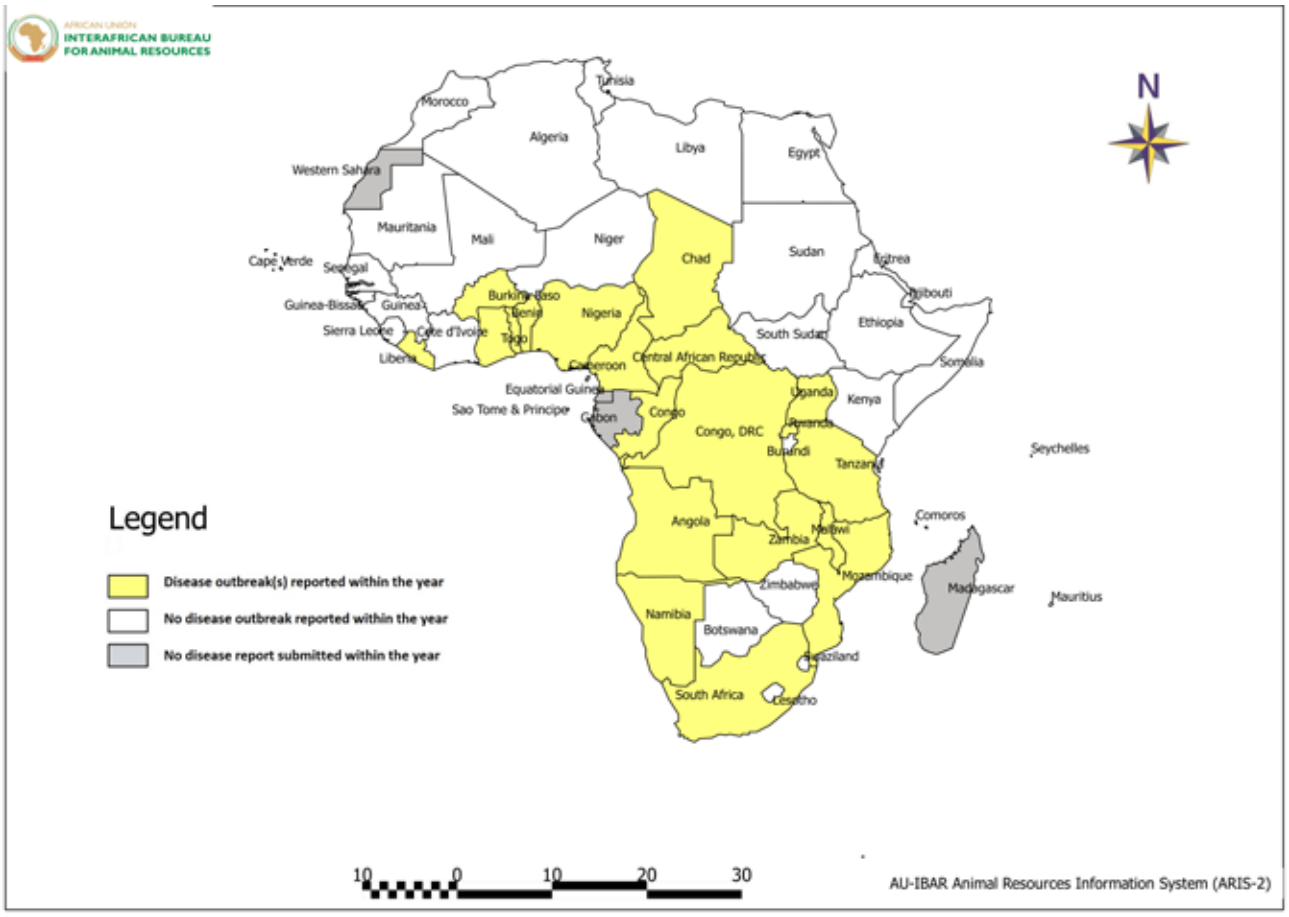
During 2012, ASF outbreaks were reported by 20 countries with a total of 361 affected epidemiological units involving 89,117 cases and 72,392 deaths, representing a case fatality rate of 81.2%. With a similar trend as of last year, the Democratic Republic of Congo registered the highest number of outbreaks (80) accounting for about 22.2% of the reported outbreaks and 36.8% of ASF mortalities.

Furthermore, the number of reported ASF outbreaks in Cameroun increased from 4 in 2011 to 66 in 2012, which signals a significant epidemiological change.

Although ASF was reported throughout the year in Africa, the peaks of outbreaks were recorded in July and August with 79 and 41 outbreaks, respectively as shown on Chart 2.

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Angola	2	188	188		
Benin	29	3457	1327	518	54
Burkina Faso	52	4980	2741		
Cameroon	66	43535	37684	4881	65
Central African Republic	15	3238	1983	0	0
Chad	1	5	4	1	
Congo Brazzaville	4	15	8	0	0
DRC	80	29944	26660	3216	0
Ghana	2	212	181	167	0
Liberia	1	6	1	0	0
Malawi	18	496	487	114	19
Mozambique	2	42	6	0	39
Namibia	1	3	3	0	0
Nigeria	4	137	39	35	
Rwanda	55	612	547	1778	597

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
South Africa	9	119	110		3
Tanzania	1	30	8		
Togo	11	136	79	145	79
Uganda	7	1957	331	797	0
Zambia	1	5	5		
Total	**361**	**89117**	**72392**	**11538**	**837**



Map 2: *Spatial distribution of African swine fever*

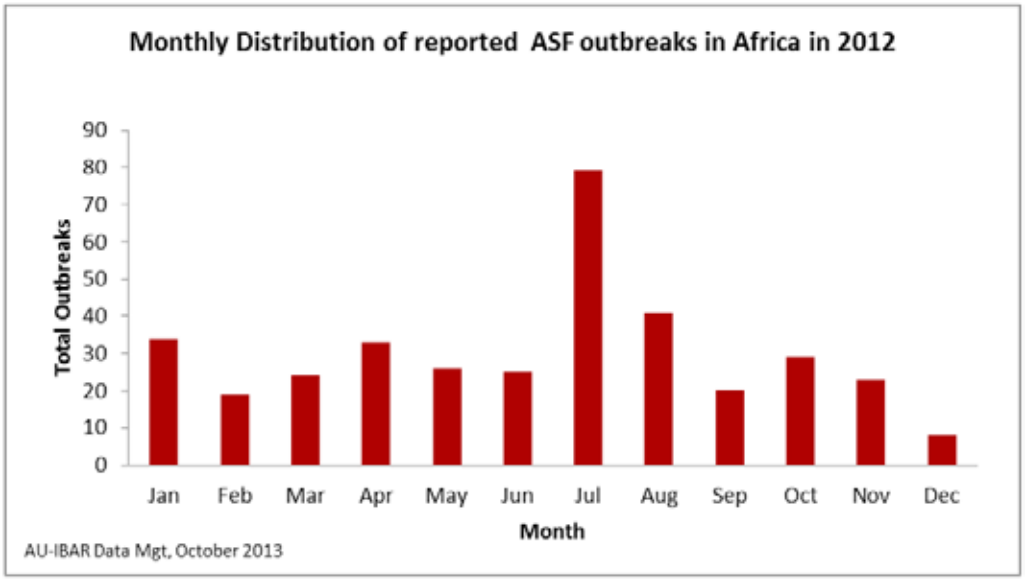


Chart 2: *Monthly Distribution of ASF Outbreaks in the Affected Countries*

4.3. Avian Influenza

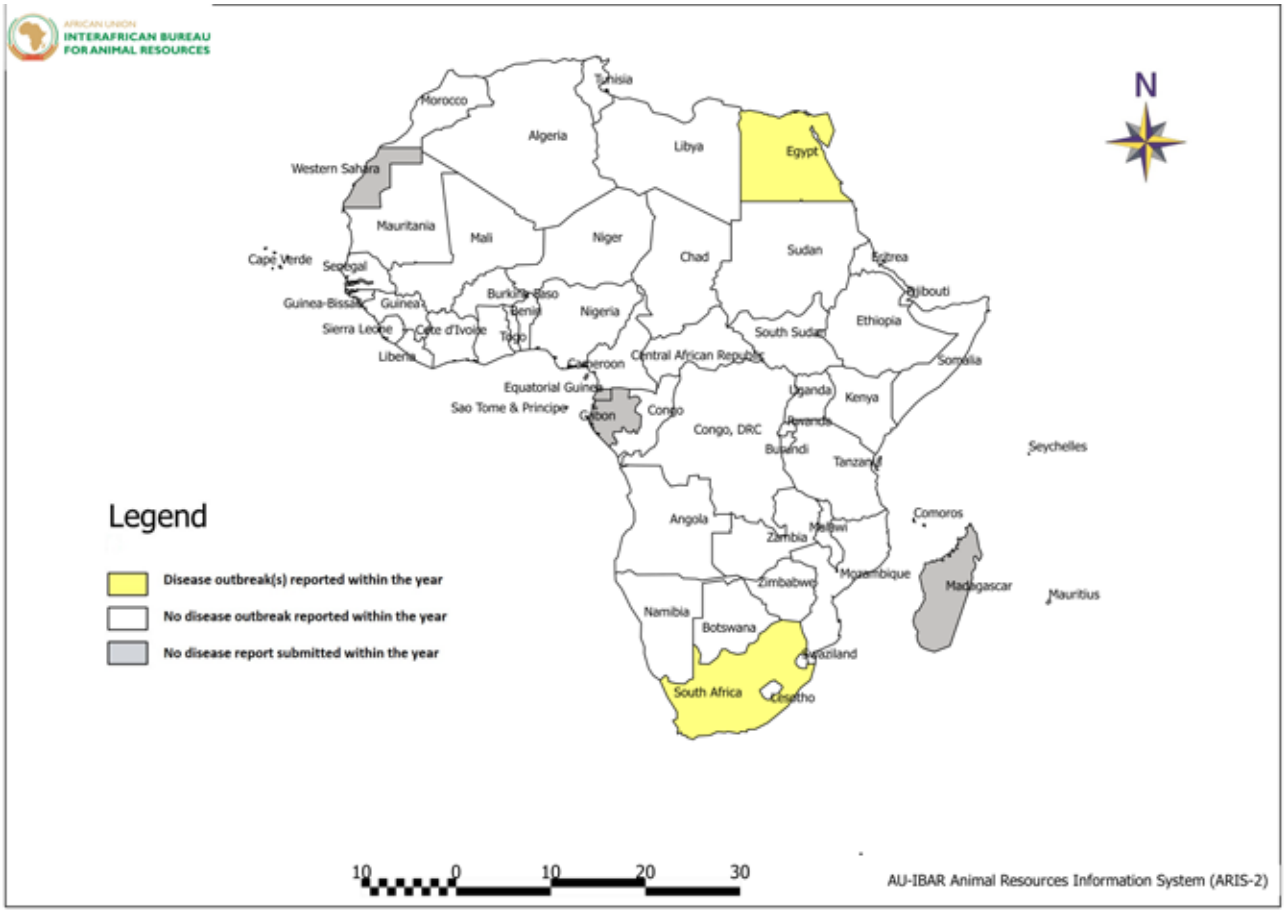
Both highly pathogenic and low pathogenic avian influenza occurred in Africa during the reporting period. Highly Pathogenic Avian Influenza (HPAI) was reported by Egypt and South Africa, while low pathogenic avian influenza (LPAI) occurred only in South Africa.2. The two countries reported a total of 44 outbreaks of HPAI with Egypt accounting for 41 (93.2%) of the total outbreaks. These outbreaks caused a morbidity and mortality of 29,296 and 10,550 birds, respectively with a case fatality rate of 36%. The HPAI affected bird species in Egypt include ….., while in South Africa the disease affected ……. Except for its apparent entrenchment in Egypt, the occurrence of HPAI has significantly diminished on the African continent. The countries that reported occurrence of HPAI in the last few years include Egypt (2009, 2010, 2011 and 2012), South Africa (2010, 2012) and Togo (2008).

In South Africa 11 outbreaks were reported due to LPAI H..N.. causing a total of 751 mortalities in ….species of birds.

The important epidemiological trend worth noting is the occurrence of HPAI in Egypt throughout the year, suggesting that the risk factors that underpin occurrence of the disease have no seasonal trend (chart 3).

Table 4: *Countries reporting avian influenza*

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Egypt (HPAI)	41	26,525	10,550		15,620
South Africa (HPAI)	3	2771	0		0
South Africa (LPAI)	11	20	751		4308
Total (2)	**55**	**29,316**	**11,301**		**19,928**



Map 2: *Spatial distribution of HPAI in Africa in 2012*

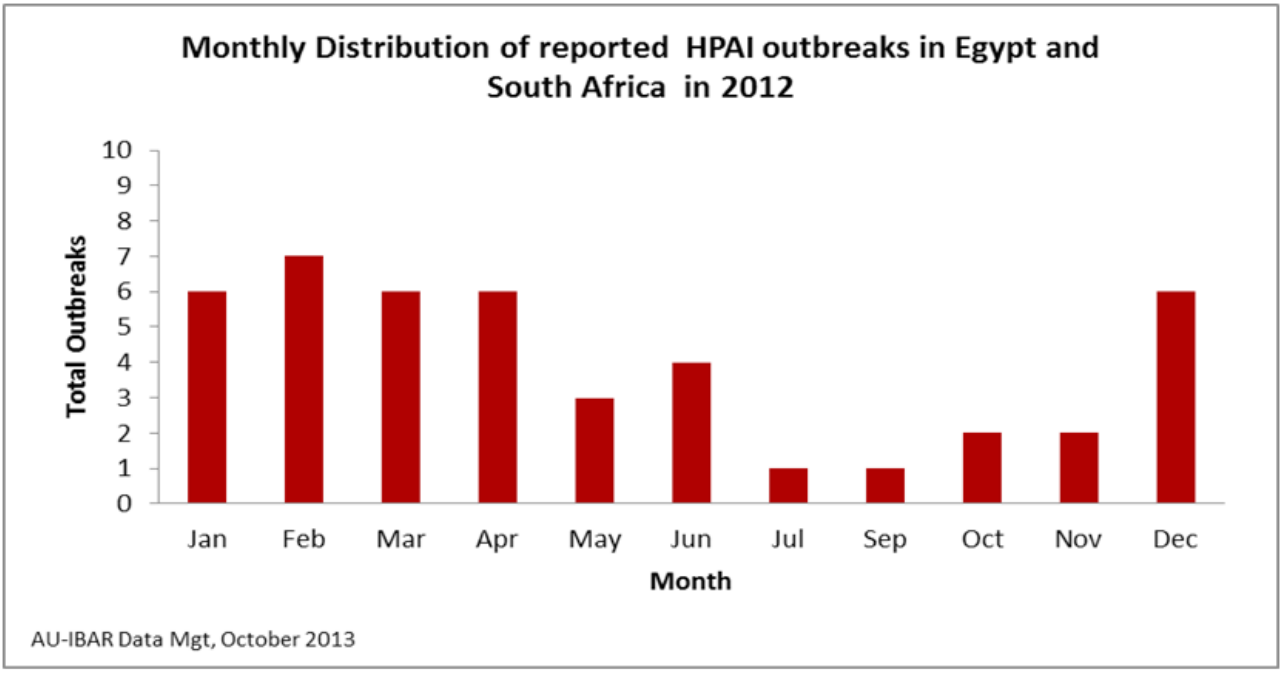


Chart 3: *Monthly Distribution of HPAI Outbreaks in Egypt and South Africa*

4.4 Bluetongue

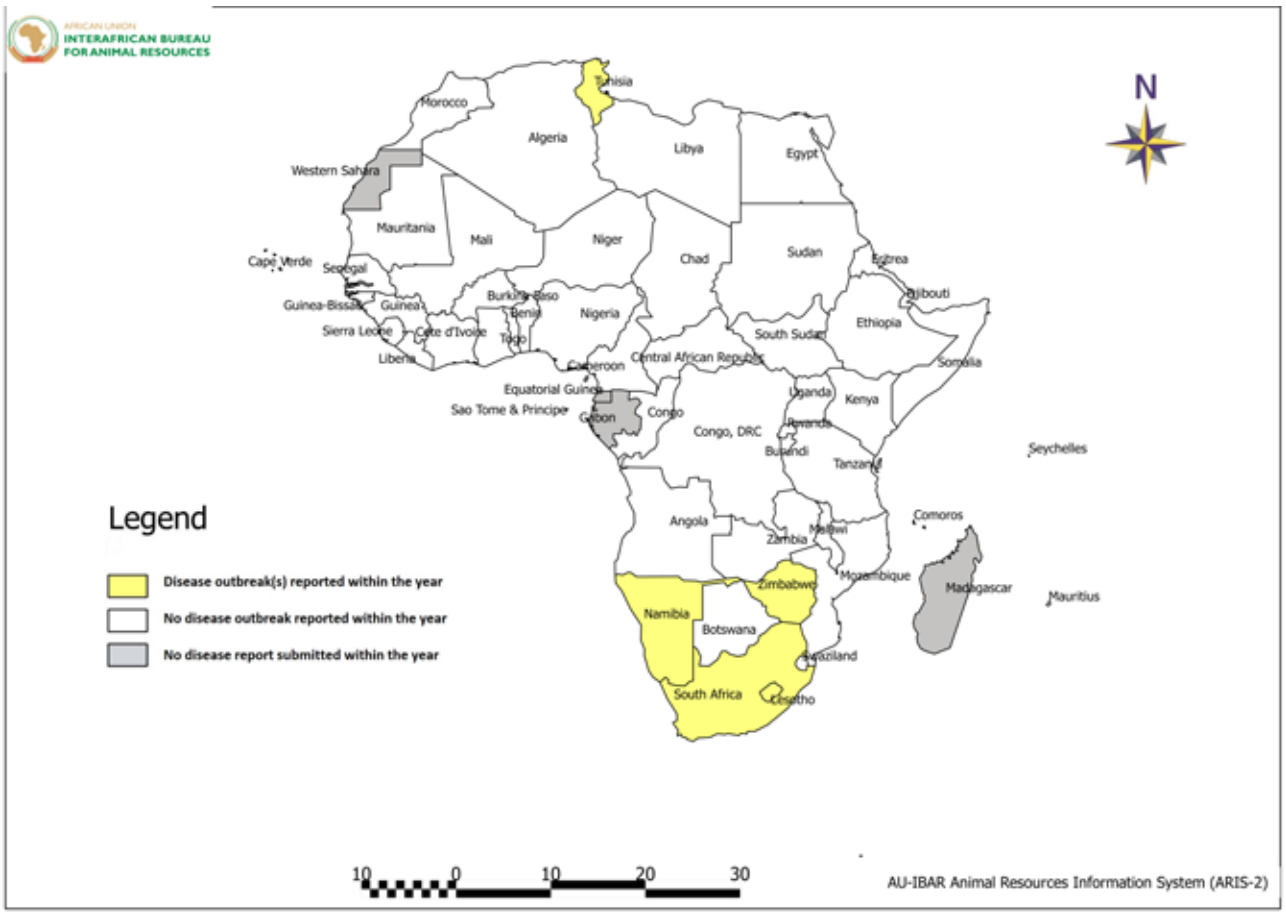
Five countries reported bluetongue in 2012. As was the case in the previous years, the countries that reported bluetongue (BT) in 2012 are from North and Southern Africa regions, namely Tunisia from the North and Lesotho, Namibia, South Africa and Zimbabwe from the South Africa regions (map 4). Since 2008 BT has been reported only in eight Member States of AU, which include Algeria, Botswana, Comoros, Lesotho, Namibia, Tunisia, South Africa and Zimbabwe. However, it may be difficult to rule out circulation of the bluetongue virus in other parts of Africa unless proper and targeted surveillance is undertaken.

The highest number of bluetongue outbreaks were reported by South Africa involving 20 outbreaks (55.6%) followed by Lesotho with 10 outbreak reports (27.8%) (table 5).

The occurrence and distribution of the disease is governed by ecological factors (i.e. high rainfall, temperature, humidity and soil characteristics), hence infections have a seasonal occurrence. Based on the reports submitted by Member States in 2012, the peak season for BT occurrence seem to be during the months of January to March with 24 outbreaks (66.7%) occurring during this season (chart 4). This phenomenon can be attributed to the high shower experienced from December to April in the Southern Africa region.

Table 5: *Countries reporting Bluetongue*

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Lesotho	10	56	8	0	20
Namibia	1	6	0	0	0
South Africa	20	103	19		2
Tunisia	4	11	0	0	0
Zimbabwe	1	1	0		
Total (6)	**36**	**117**	**27**		**22**



Map 4: *Spatial distribution of Bluetongue*

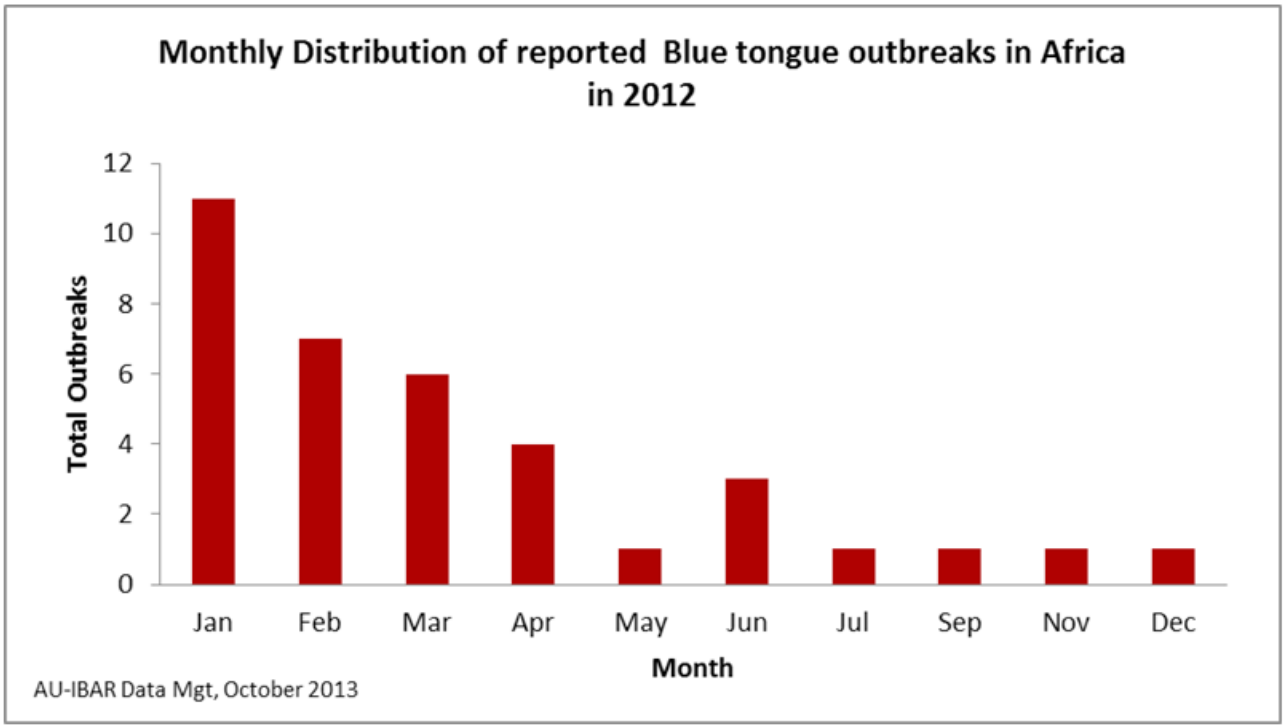


Chart 4: *Monthly Distribution of Bluetongue Outbreaks*

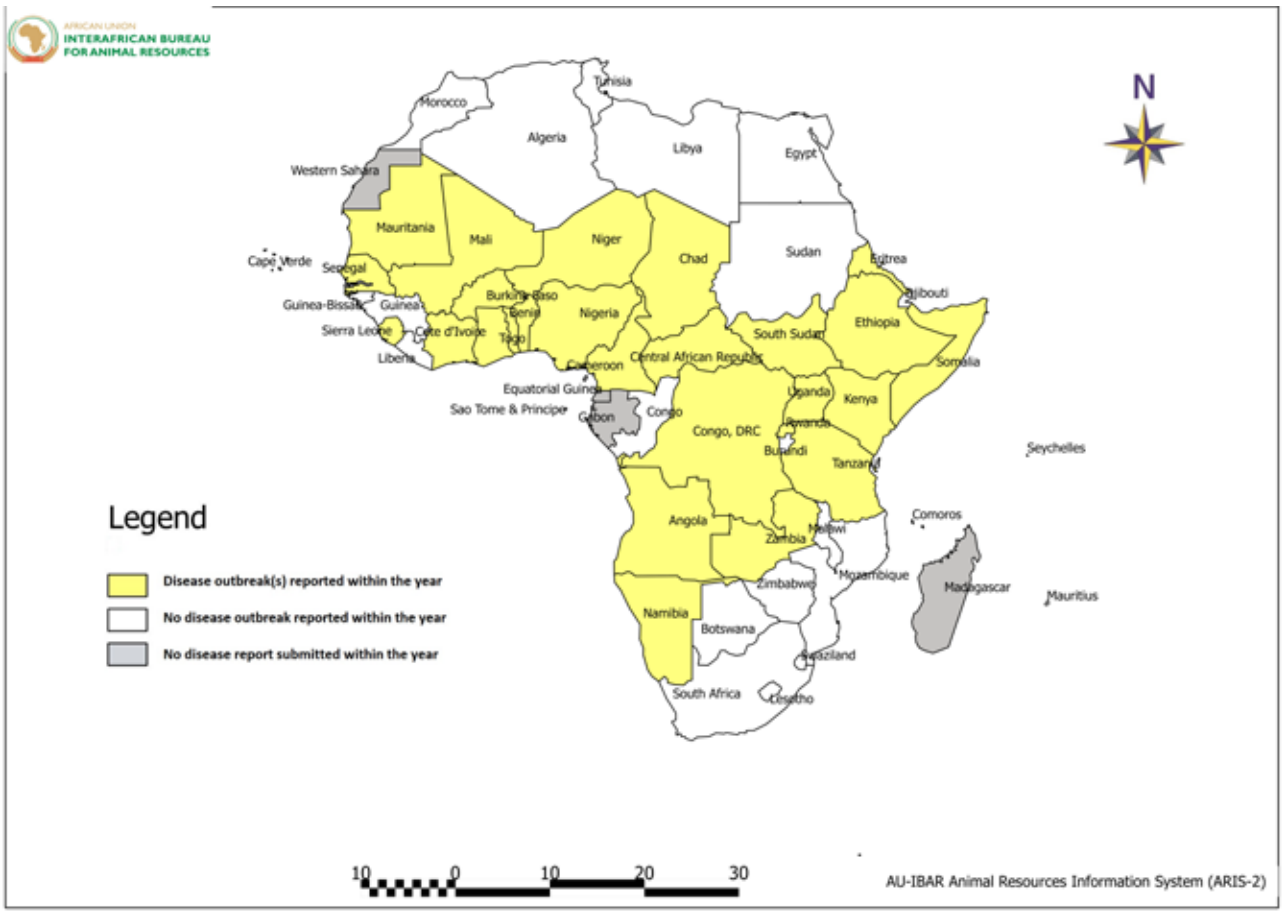
4.5. Contagious Bovine Pleuropneumonia

In 2012, CBPP was reported in twenty-six countries involving countries in the west, central, east and southern Africa regions (map 5). During the reporting period, 364 epidemiological units were affected by CBPP inflicting 223,480 cases and 15868 deaths, with an estimated case fatality rate of 7.1% (table 6). In comparison with the previous year, the percentage increase in the number of outbreaks, cases and deaths were 19.7%, 1227% and 81.1%, respectively marking a significant epidemiological evolution of CBPP on the continent. The highest number of CBPP outbreaks were reported in Ghana with 72 (19.8%), followed by Central African Republic and Ethiopia with 46 (12.6%) and 45 (12.4%) outbreaks, respectively. The Gambia and Senegal encountered CBPP occurrence for the first time after nearly four decades of disappearance.

In terms of seasonality, CBPP appears to have no defined temporal trend in 2012 with the disease having been reported throughout the year without significant variability in the number of reported outbreaks between the months of the year, except for the month of December, which experienced the highest peak of CBPP outbreaks during the year (chart 5).

CBPP control remains a big challenge for

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Angola	28	1235	768		
Benin	19	292	37	35	0
Burkina Faso	5	131	13		
Cameroon	18	325	53	0	
Central African Republic	46	10598	4637	0	0
Chad	14	293	226	26	79
Cote' d'Ivoire	18	261	82	2	2
DRC	19	204620	1065	1499	3
Eritrea	1	10	2	2	
Ethiopia	45	2701	504	286	
Ghana	72	142	0	123	0
Kenya	3	63	0	0	0
Mali	3	71	22	7	7
Mauritania	3	15	2	13	
Namibia	3	135	3	0	130
Niger	2	19	9		
Nigeria	11	1536	33	159	0
Rwanda	3	365	35	230	112
Senegal	1	13	5		
Sierra Leone	1	87	32	0	0
Somalia	4	56	13	2	5
South Sudan	20				
Tanzania	10	94	8305		42
Togo	9	30	0	18	0
Uganda	5	374	8	698	0
Zambia	1	14	14		
Total (26)	**364**	**223480**	**15868**	**3100**	**380**



Map 5: *Spatial distribution of CBPP*

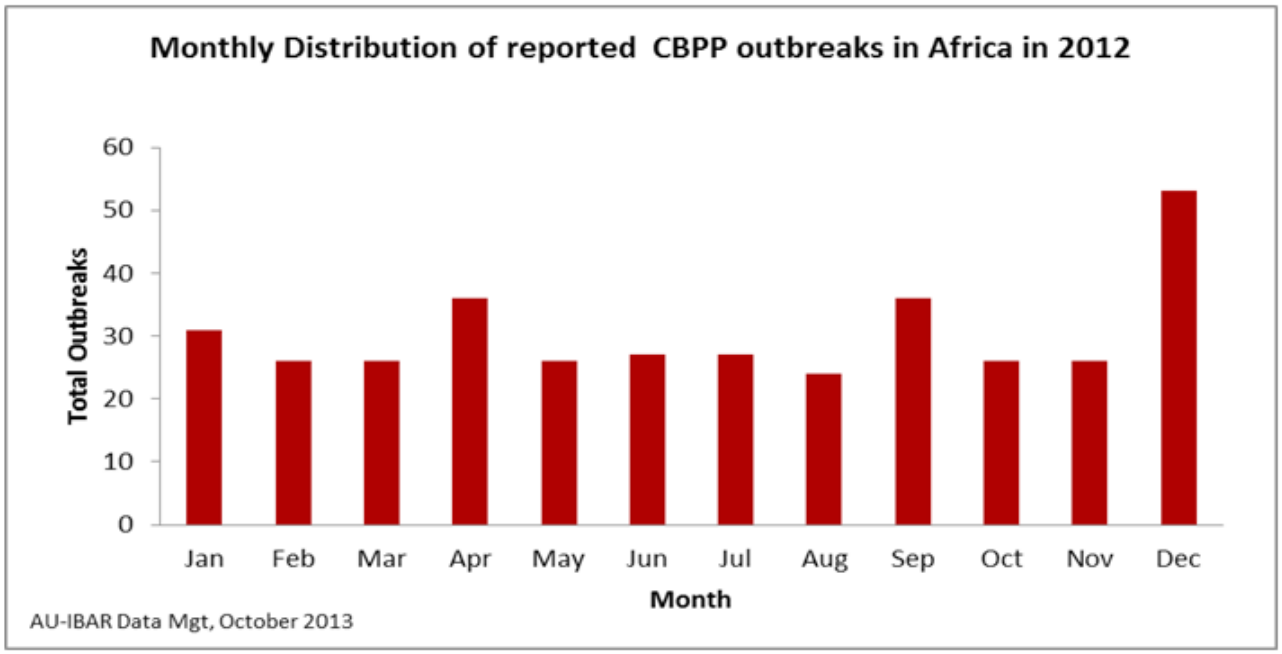


Chart 5: *Monthly Distribution of CBPP Outbreaks*

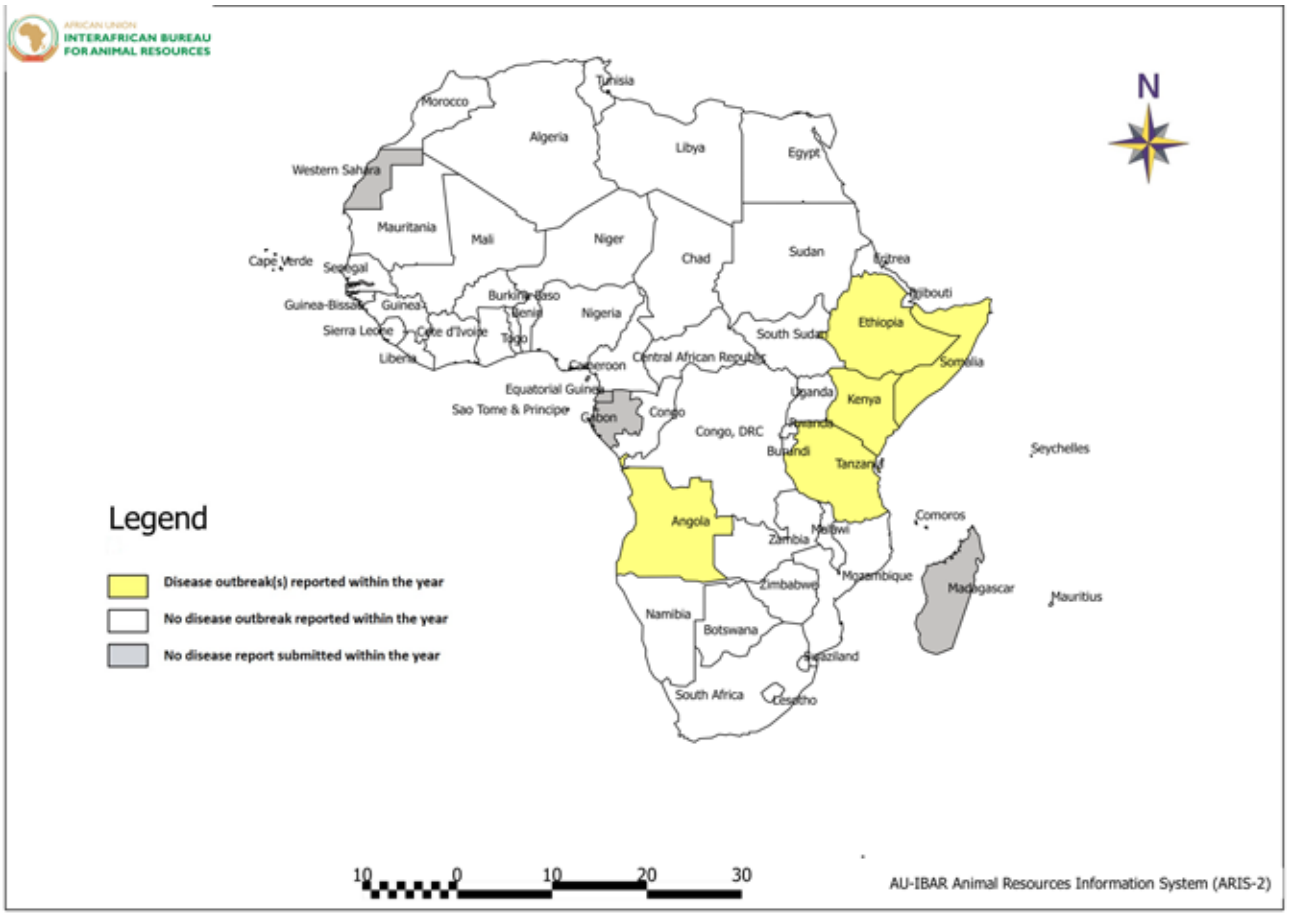
many affected countries as evidenced by the increasing number of reporting countries. The available control measures include vaccination and movement control, but there is reasonable evidence to suggest that a number of cattle owners have resorted to the indiscriminate use of antibiotics to treat clinical cases. Spread of the disease is largely attributed to uncontrolled movement of cattle.

Against this background, there is need to critically evaluate the effectiveness and efficiency of the current methods being employed to control CBPP in Africa.

4.6. Contagious Caprine Pleuropneumonia

Five countries, which include Angola, Ethiopia, Kenya, Somali and Tanzania reported occurrence of CCPP in 2012(Map 6). The East Africa region seems to be the hotspot of CCPP occurrence on the Continent as most reported outbreaks over the past several years originated from this region. . It is; however, difficult to rule out the presence of CCPP in other parts of the continent as cases of under-reporting and lack of adequate laboratory support to correctly diagnose the disease might be contributing factors in many countries.

In 2012, the disease affected 335 epidemiological units (19.4% increase from last year) involving 21,149 cases and 6,124 deaths, with a case fatality rate of 28.9% (Table 7).The highest fatalities were recorded in Tanzania followed by Ethiopia with 4217 and 1233mortalities of goats, respectively..



Map 6: *Spatial distribution of CCPP*

Table 7: *Countries reporting CCPP*

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Angola	1	2	1		
Ethiopia	23	16743	1233	210	
Kenya	20	425	120	3	0
Somalia	285	3856	553	151	20
Tanzania	6	123	4217		55
Total (5)	**335**	**21149**	**6124**	**364**	**75**

The monthly occurrence reports of CCPP in 2012 revealed that higher incidence of the disease was recorded from May to December suggesting that risk factors for occurrence and transmission of the disease are more prevalent during this period in the affected countries (Chart 6). However, CCPP was also reported in other seasons of the year though at a relatively lower level.

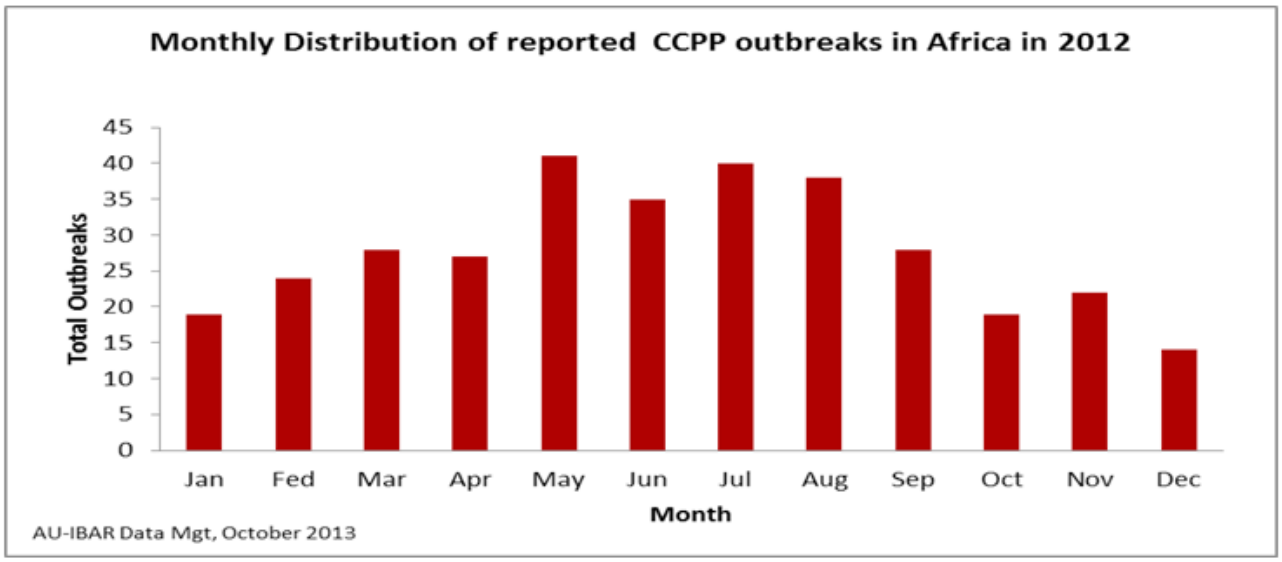


Chart 6: *Monthly Distribution of CCPP Outbreaks*

4.7. Foot and Mouth Disease

Foot and Mouth Disease occurred in 29 countries in 2012, making it the fourth most widely distributed TAD on the African continent after ND, LSD and PPR (map 7).. The occurrence of FMD in Libya for the first time after …….years represents exceptional epidemiological event related to FMD in 2012.

A total of 889 outbreaks of FMD were reported from 29 countries in 2012 compared to 902 outbreaks from 28 countries in 2011 and 454 outbreaks from 24 countries in 2010 . During the year a total of 121, 700 cases leading to 4,441 deaths were reported from the infected countries, with an estimated case fatality rate of 3.65%. Libya (2233) followed by Ethiopia (659), and Tanzania (340) reported the highest number of fatalities (Table 8).

Regarding the monthly distribution, FMD appeared to occur throughout the year (Chart 7). However, the level of FMD occurrence showed a sharp increase between January and June, and a decrease around July and December. It is difficult to explain this kind of trend and draw conclusion unless a comprehensive study is undertaken to understand the main risk factors underpinning FMD's temporal distribution.

Table 8: *Countries reporting FMD*

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Benin	36	2573	60	19	9
Botswana	1	82	0	0	0
Burkina Faso	69	5737	90	10	10
Burundi	14	3291	NS	NS	
Cameroon	35	3609	34	1	1
Central African Republic	4	765	215	0	0
Chad	9	121	12	1	7
Côte d'Ivoire	10	324	91		
DRC	11	8415	263	161	0
Egypt	253	1731	213	2	
Eritrea	1	28	4	4	
Ethiopia	158	84052	659	26	
Ghana	15	519	121	5	7

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Kenya	11	173	2	0	0
Libya	46	5859	2233	NS	NS
Namibia	1	3	0	0	0
Niger	13	61	0	NS	NS
Nigeria	18	889	14	1	
Rwanda	1	8	3	5	3
Senegal	20	903	4	0	0
Somalia	67	360	19	0	0
South Africa	16	118	0		0
South Sudan	5	NS	NS	NS	NS
Sudan	8	567	18	0	0
Tanzania	18	765	340		252
Togo	27	508	27	7	17
Uganda	3	95	19	22	0
Zimbabwe	19	144	0	0	0
Grand Total	**889**	**121,700**	**4441**	**264**	**306**

NS=*Not specified*

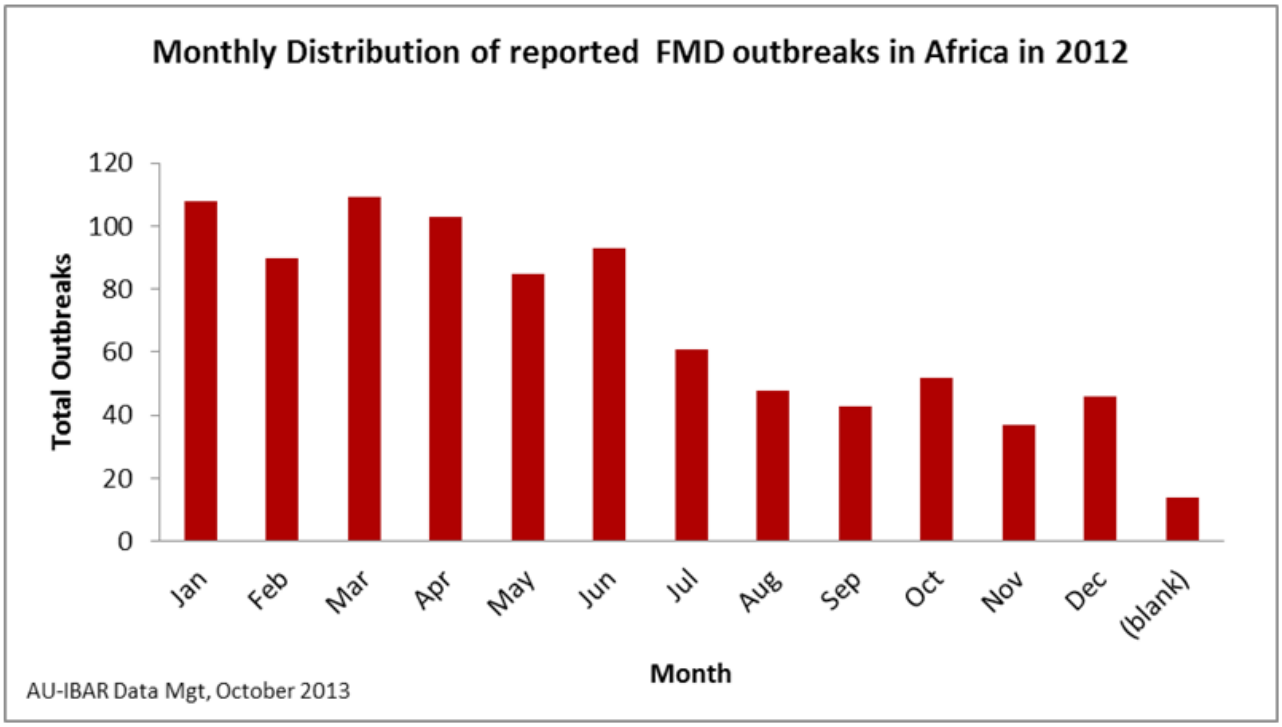


Chart 7: *Monthly Distribution of FMD Outbreaks*

From the reports submitted by MS, it is evident that the serotypes of majority of outbreaks are not known, an indication of either the weakness of the laboratory capacity or lack of laboratory support to FMD outbreak investigations on the continent. It is also apparent that the majority of the reported cases were diagnosed based on clinical signs, further demonstrating the weak link between field epidemiological investigation and laboratory diagnosis. Only Egypt and Libya identified and reported the FMDV serotypes involved in the outbreaks (table 9). For countries that use vaccination as a control measure, effectiveness of the vaccination campaign largely depends on knowledge about the circulating serotypes, as there is no cross protection between different serotypes. Other control measures reportedly used include movement control, slaughter and quarantine.



Map 7: *Spatial distribution of FMD*

Table 9: *Countries that confirmed FMD serotypes in Africa from 2006 to 2012*

	FMD Serotypes					
Country	**2006 & 2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Benin	NS	O, SAT 1 & 2	O, SAT 1 & 2	A, O, SAT 1, SAT 2	A, O, SAT1, SAT2	NS
Botswana	SAT 1 & 2	SAT 2	NS	NS	NS	NS
DRC	O	NS	NS	NS	NS	NS
Egypt	A, O	NS	A, O	NS	NS	A, O, SAT2
Ethiopia	O	NS	NS	NS	NS	NS
Libya	-	-	-	-	-	C, O, SAT2
Mauritania	A	NS	NS	NS	NS	NS
Mozam-bique	NS	NS	NS	SAT 2	SAT 2	NS
Namibia	NS	NS	NS	SAT1	SAT1	NS
Rwanda	NS	A, O, SAT 2	A, O, SAT 2	A, O, SAT2	NS	NS
Senegal	NS	NS	NS	NS	A, O	NS
South Africa	SAT 1 & 3	NS	NS	SAT 2	A, O	NS
Togo	NS	O, SAT 1	O, SAT 1	O, SAT 1	NS	NS
Uganda	NS	NS	NS	NS	A, O	NS
Zimbabwe	NS	NS	NS	SAT 1,SAT 2	NS	NS

NS=*Not specified*

4.8 Lumpy Skin Disease

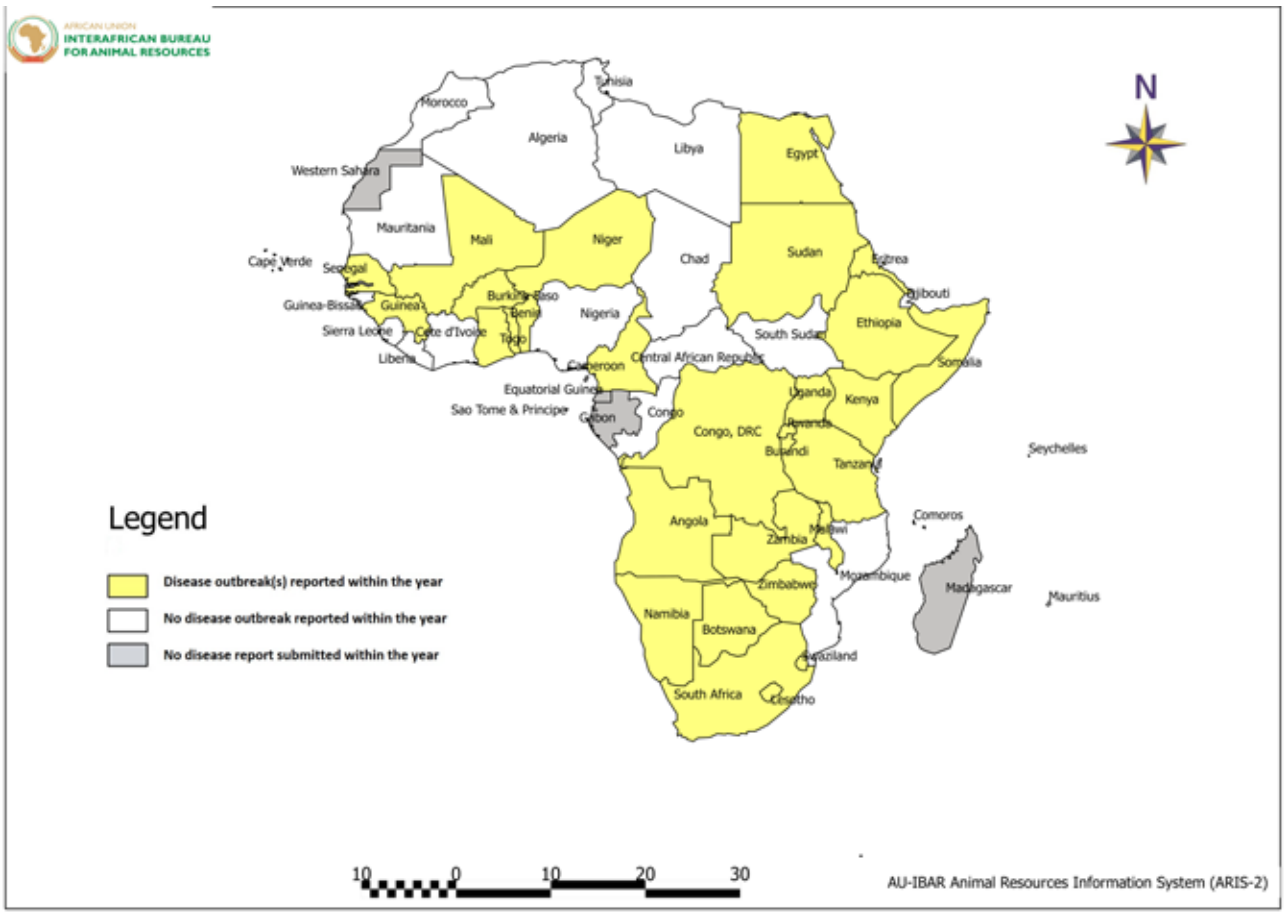
Lumpy skin disease was reported by 30 African countries in 2012, representing a 15% increase from the previous year (table 10). The disease covered all the geographical regions of Africa, making it as the most widely distributed TAD on the continent (map 8). A total of 1695 epidemiological units (87.9% increase from last year) were affected by LSD involving 29,985 cases and 2,785 deaths, representing 113% increase from last year. The highest number of cases in were reported by Ethiopia (9452) followed by Zimbabwe (4694) and Uganda (3449) (Table 10). Considering the mode of transmission of LSD, the low number of cases reported by Cameroon (1), Lesotho (2), Togo (6) and Senegal (8) may reflect underreporting.

Although LSD seems to have occurred throughout the year, a higher incidence of outbreaks were observed during the months of November to April consistent with the trend in 2011, which may be attributed to high vector abundance in the severly affected countries during this period (Chart 8).

Table 10: *Countries reporting LSD*

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Angola	9	570	64		
Benin	11	367	6	1	0
Botswana	7	30	8	0	0
Burkina Faso	20	492	14	6	6
Burundi	13	2503			
Cameroon	1	1	0		
DRC	8	820	343	25	12
Egypt	2	14			
Eritrea	1	12	0		
Ethiopia	197	9452	369	11	
Ghana	3	12	0	0	0
Guinea Conakry	10	122	8		
Kenya	20	325	2	0	0
Lesotho	1	2	0		
Malawi	21	461	10	2	
Mali	1	15	6		
Namibia	20	493	2	0	437
Niger	14	87	7		
Rwanda	14	44	7	6	6
Senegal	2	8			
Somalia	2	77	2	0	3
South Africa	96	357	15		1
Sudan	5	86	7	0	0
Swaziland	214	3004	249	0	0
Tanzania	9	52	1023		16
The Gambia	2	10	1	0	0
Togo	4	6	0	9	0
Uganda	9	3449	72	70	0
Zambia	33	2430	179		
Zimbabwe	948	4694	392	3	2

NS=*Not specified*



Map 8: *Spatial distribution of LSD in 2012 in Africa.*

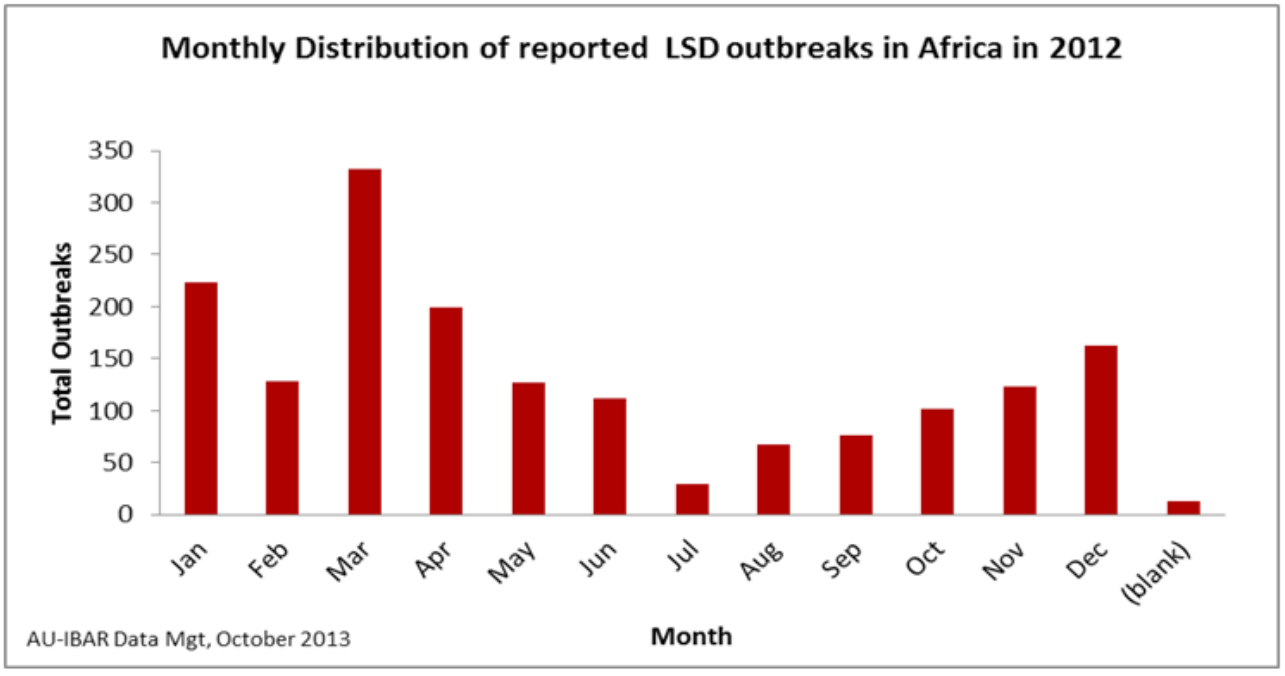


Chart 8: *Monthly Distribution of LSD Outbreaks*

4.9. Newcastle Disease

Newcastle disease is the most widely distributed TAD on the continent reported by 32 African countries covering the west, central, east and southern Africa regions in 2012 (Map 9). Overall, the disease affected a total of 781 epidemiological units involving 450,477 cases and 219,592 deaths, with a case fatality rate of 48.7% (table 11). The 3 countries with the highest number of outbreaks are Benin (167), Ghana (126), and Ethiopia with 102 reported outbreaks. Benin and Ghana also had the highest number of ND outbreaks in 2011.

No temporal trend have been observed for ND occurrence on the continent, suggesting the lack of seasonality for the risk factors that determine occurrence and maintenance of the disease (Chart 9).

Table 11: *Countries reporting ND*

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Angola	1	58	55		
Benin	167	19292	10543	129	113
Burkina Faso	27	5914	3090	0	0
Burundi	8	2206			
Cameroon	1	16	10	0	
CAR	20	11635	6649	0	0
Chad	19	551	389	42	67
Congo	15	2108	1430	23	5
Cote d'Ivoire	10	5290	3233		
DRC	26	89303	84214	5089	0
Eritrea	1	2346	1400		
Ethiopia	102	5341	3139	171	
Ghana	126	17753	3504	0	2
Guinea – Bissau	2	42	37	0	0
Guinea - Conakry	10	345	173	26	7
Kenya	30	1129	561	10	0
Lesotho	2	100	100	650	0
Liberia	1	15	15	0	0
Malawi	6	153	131		
Namibia	4	59	47	0	0
Niger	2	40	9		
Nigeria	53	21003	8611	228	55
Rwanda	2	NS	10	1	9
Senegal	3	251	151		
Sierra Leone	1	40	40	0	0
South Africa	31	48358	48781		618619
South Sudan	6	NS	NS	NS	NS
Swaziland	7	582	488	0	0
Tanzania	13	2474	23661		14
Togo	22	1000	716	155	75
Uganda	10	208934	15186	13,618	209
Zambia	53	4139	3219	0	0
Total (31)	**781**	**450477**	**219592**	**20142**	**619175**

NS=*Not specified*



Map 9: *Spatial distribution of ND during 2011*

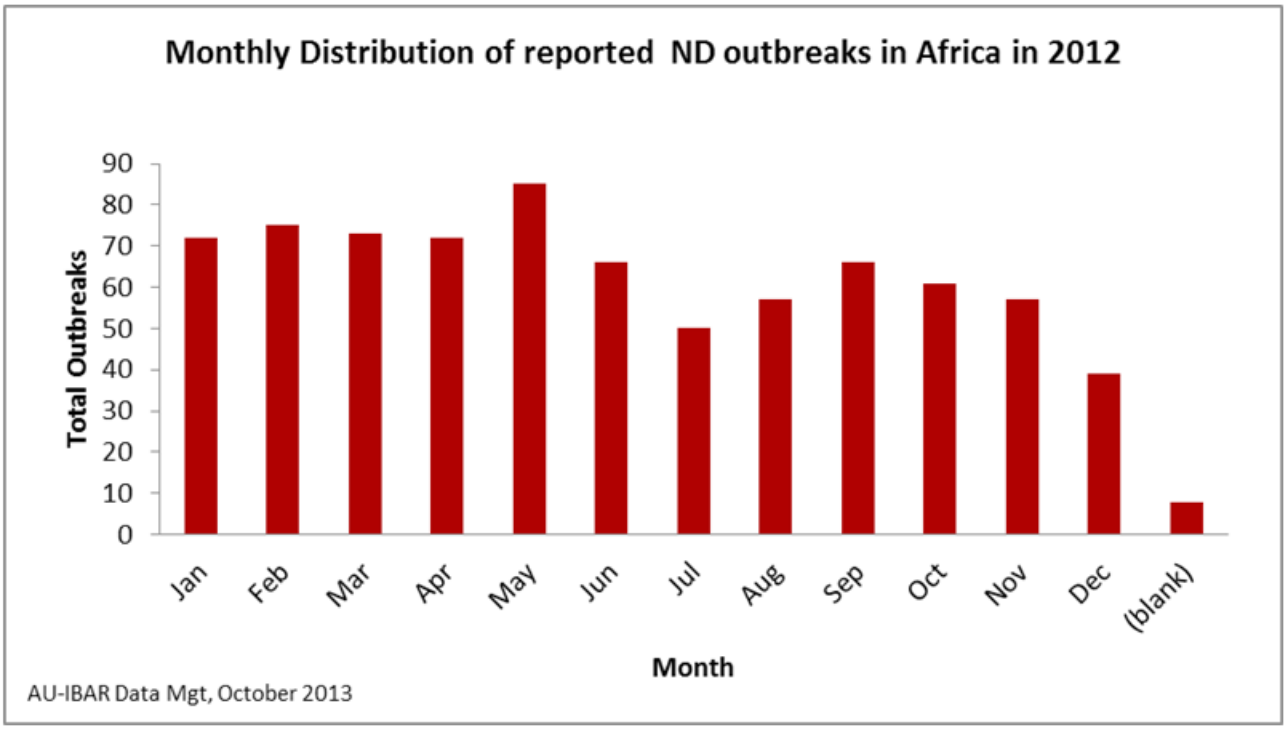


Chart 9: *Monthly Distribution of ND Outbreaks*

4.10. Peste des Petits Ruminants

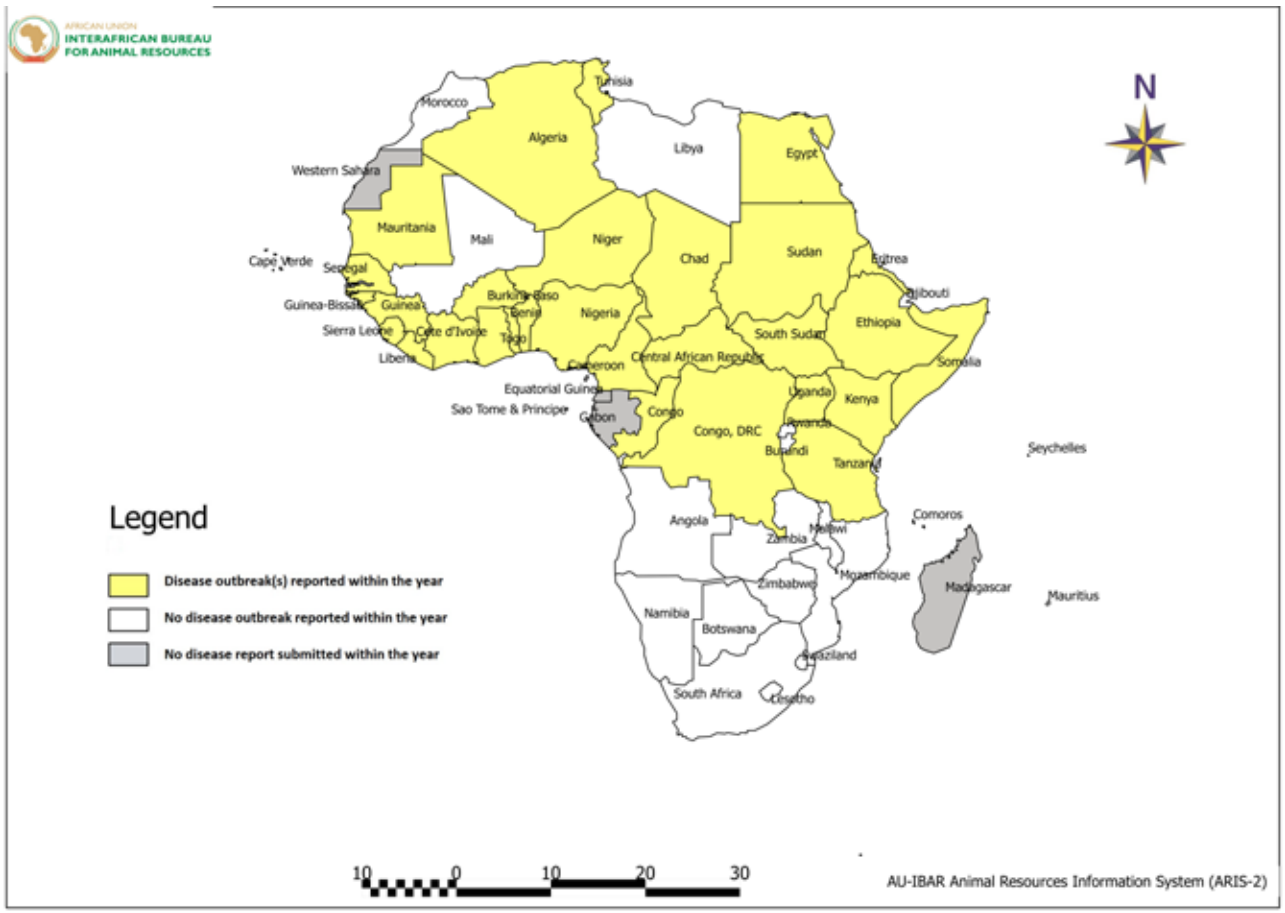
The number of countries reporting PPR outbreaks has been steadily increasing over the past years with outbreak reports increasing from 19 in 2008 to 20 in 2009, 25 in 2010, 27 in 2011 and 29 in 2012. Although the west, central and eastern Africa regions are regarded largely as endemic foci for PPR, the disease has been showing geographical advances towards the southern and northern regions of Africa with Tanzania (2008) and Zambia (2010) in the south and Algeria (2011) and Egypt (2012) in the north becoming the most recently infected countries on the continent.

Most of the reporting countries in 2012 also recorded the disease in the previous years 2(Map 10). In total, 1275 epidemiological units were affected by PPR in 29 countries causing 159,778 cases and 105,022 deaths with a case fatality rate of 65.7%. The top three countries with the highest number of outbreaks are Benin (271), Senegal (205), and Ghana (173) , all in West Africa (table 12).

There appears to be no defined temporal trend for appearance of the disease and it occurs virtually throughout the year (Chart 10).

Table 12: *Countries reporting PPR*

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Algeria	3	19	2	0	0
Benin	271	15,687	5064	640	712
Burkina Faso	10	608	163		
Cameroon	16	270	115	0	
CAR	48	11796	6034	0	8
Chad	11	334	204	7	59
Congo	16	959	346	3	0
Cote d'Ivoire	11	165	165		
DRC	89	102688	86449	12229	63
Egypt	9	436	11	1	
Eritrea	1	400	300	250	50
Ethiopia	154	10491	2318	91	
Ghana	173	1503	155	0	0
Guinea	24	587	371	53	
Guinea-Bissau	10	214	113	18	0
Kenya	4	5	1	0	0
Liberia	1	16	16	0	0
Mauritania	10	204	8		
Niger	13	134	225		
Nigeria	205	5675	917	276	32
Senegal	6	357	212		
Sierra Leone	4	484	244	0	45
Somalia	91	3926	448	69	9
South Sudan	31				
Sudan	18	1702	522	14	0
Tanzania	1	12	10		
Togo	41	850	531	163	15
Tunisia	3	256	78	0	0
Uganda	1	0	0	0	0
Total (29)	**1275**	**159778**	**105022**	**13814**	**993**



Map 10: *Spatial distribution of PPR*

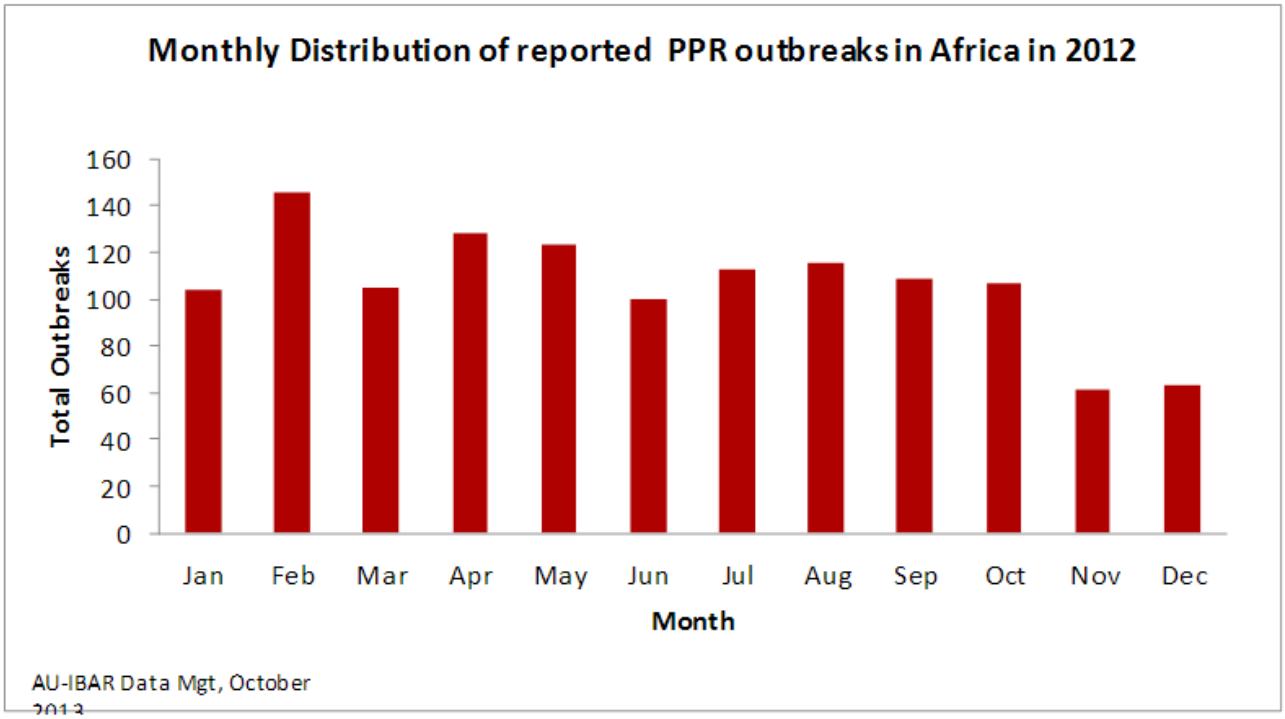


Chart 10: *Monthly Distribution of PPR Outbreaks*

4.11. Rift Valley fever

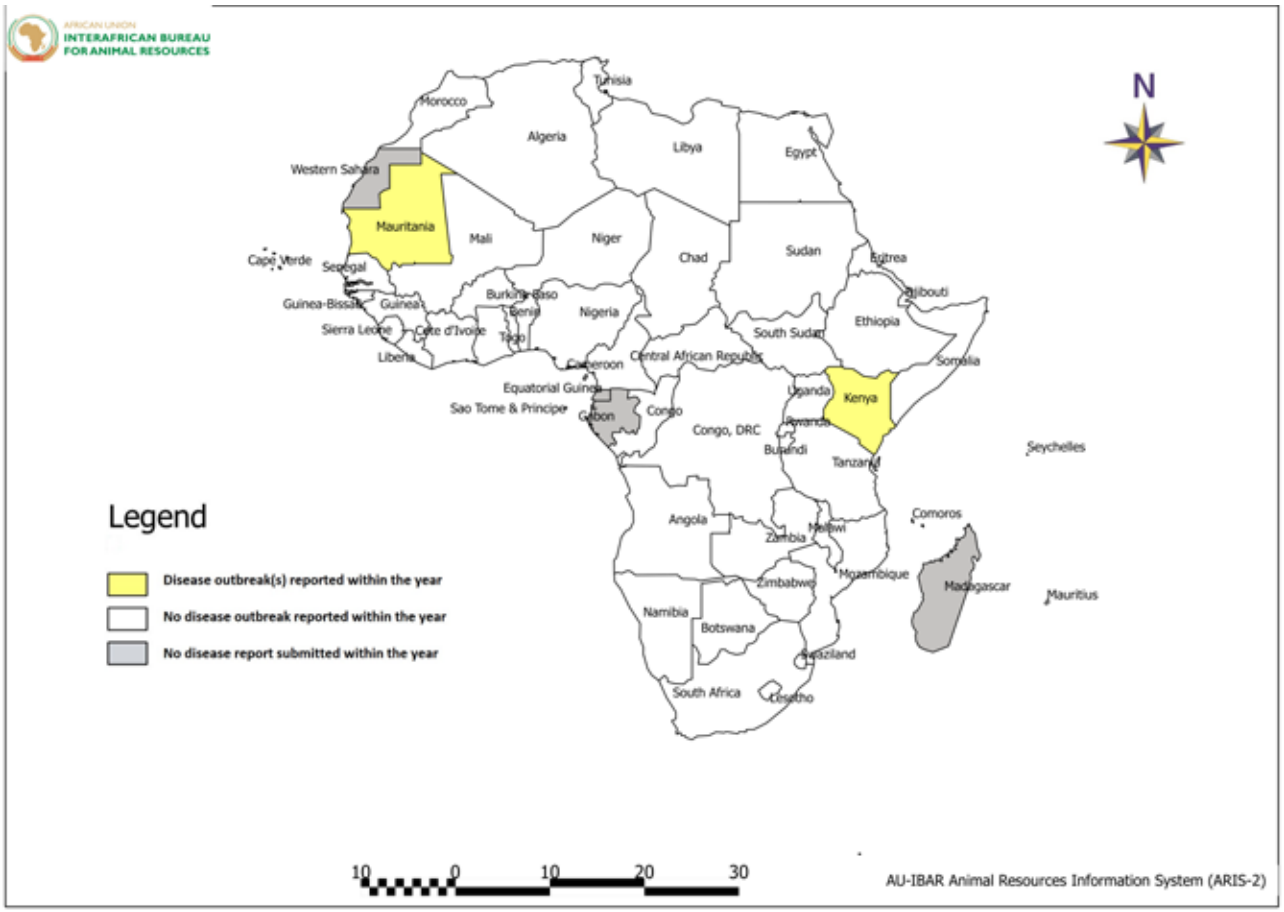
Regarding the Rift Valley Fever (RVF) situation on the African continent, the Republic of South Africa (RSA) was the only country that had continuously reported outbreaks of the disease before 2012. In 2012, only two countries, Kenya and Mauritania, reported RVF in 2012 and no country reported the disease in the Southern Africa region unlike the observed geographical trends in the previous years.

As RVF occurrence is associated with exceptional environmental phenomenon such as heavy rainfall and flooding, it could probably be due to lack of such favorable environmental factors that led to limitedness of affected countries. Kenya reported one outbreak of RVF in 2012 about six years after the last outbreak in 2006, and it's not clear what environmental factors triggered the outbreaks, while previous outbreaks in the Greater Horn of Africa were associated with El Nino – ENSO phenomenon. Mauritania, on the other hand, has been reporting RVF for three consecutive years since 2010, suggesting a regular appearance of the favorable factors for circulation of the virus. Furthermore, all the outbreaks in Mauritania were reported in the month of October (chart 12), which is within the country's know rainy season that falls between July to October.

During the reporting period, a total of 5 outbreaks involving 1198 cases and 56 deaths were reported from Kenya and Mauritania.

Table 13: *Countries reporting RVF*

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Kenya	1	0			0
Mauritania	4	1198	56		0
Total (2)	**5**	**1198**	**56**		**0**



Map 11: *Spatial distribution of RVF*

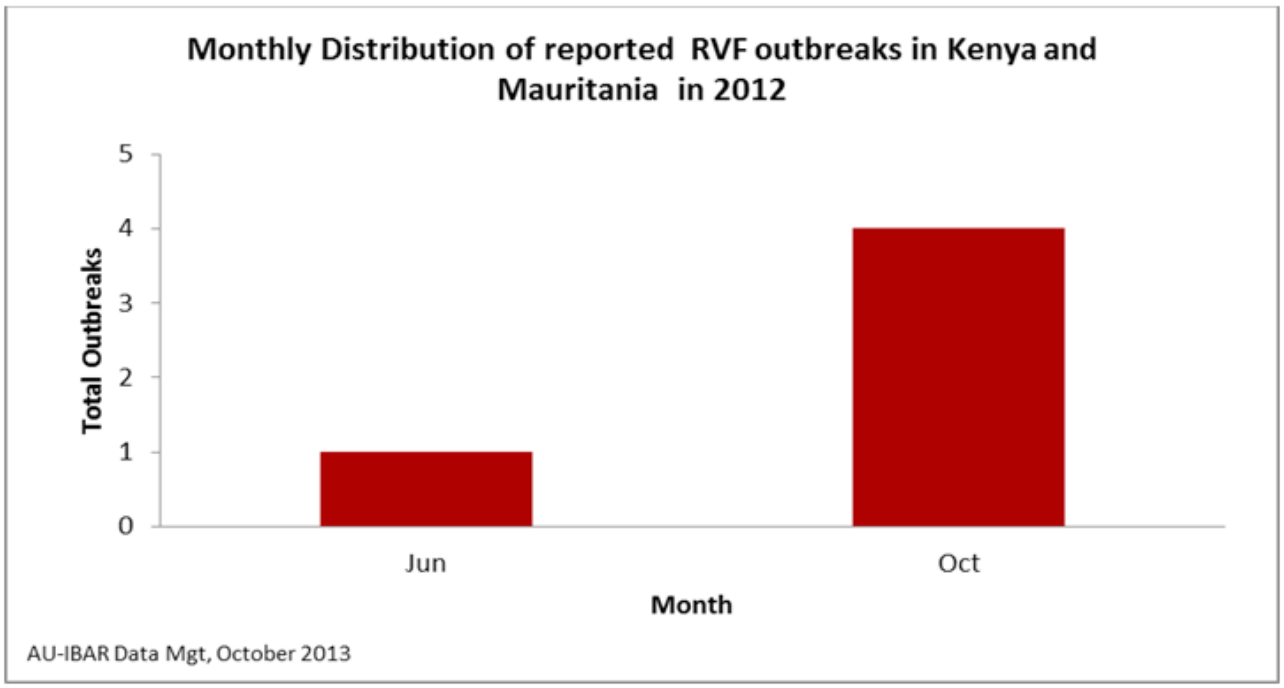


Chart 11: *Monthly Distribution of RVF Outbreaks*

4.12. Sheep Pox and Goat Pox

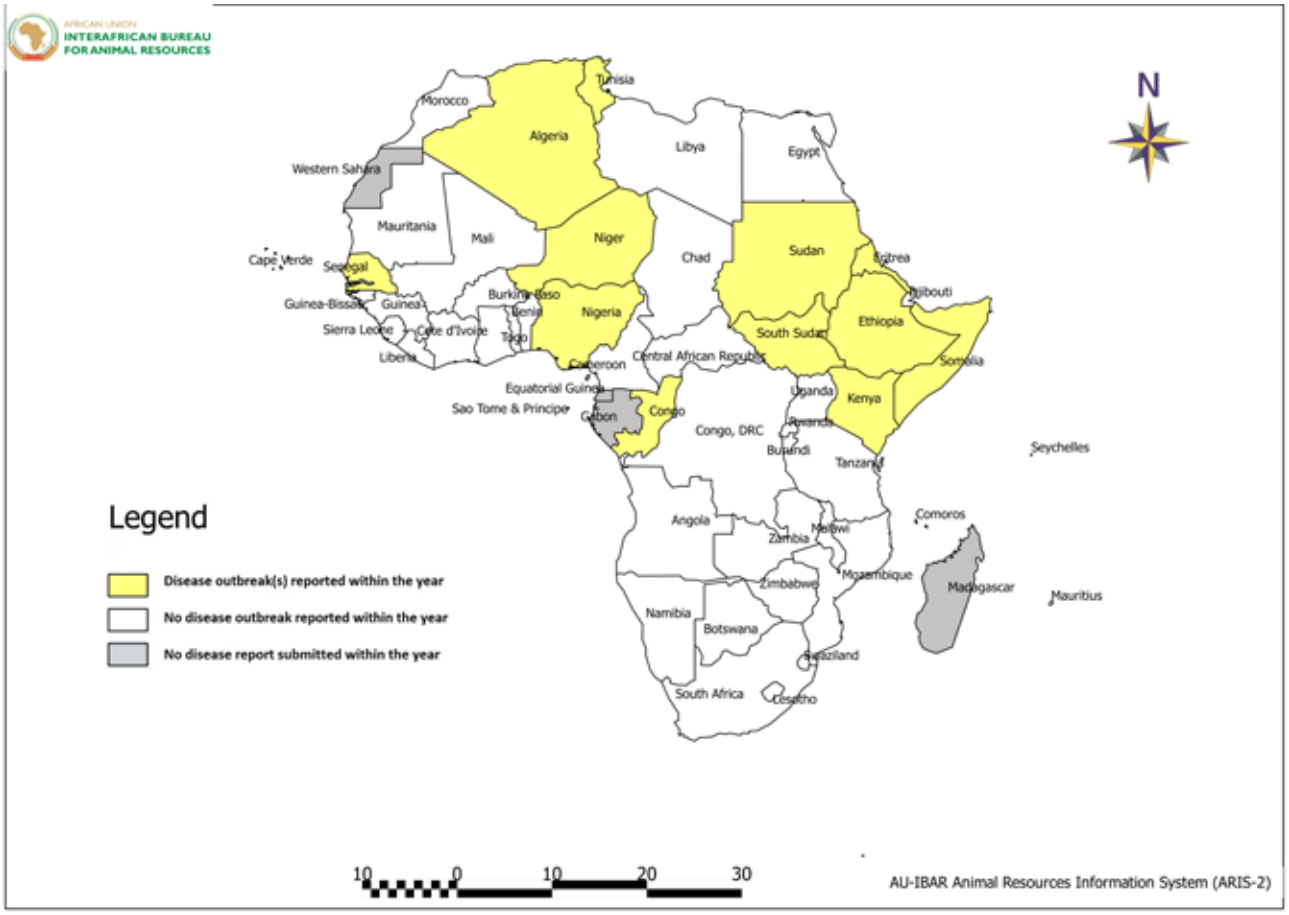
The number of countries affected by sheep pox and goat pox (SGP) had been showing an increasing trend for three consecutive years before 2011. However, the number of reporting countries has started a decreasing trend since 2011 with the number of countries reportedly affected by SGP in 2011 and 2012 reduced remarkably by 53.8% and 57.7%, respectively from the previous year in 2010. In 2012, eleven countries reported occurrence of SGP in their territories, which is 8.3% reduction from the 12 countries affected by the disease in 2011 (Table 13 and Map 11).There is no plausible explanation for the decrease in reporting as there is no ongoing continental program against SGP although it's not possible to rule out the presence of country specific efforts to reduce the impacts of SGP.. The top three countries that recorded the highest number of outbreaks in 2012 include Ethiopia (428), Niger (152) and Somalia (130) in a decreasing order. Overall, a total of 791 epidemiological units were affected on the continent involving 16565 cases and 2715 deaths, with a case fatality rate (CFR) of 16.4%, which is consistent with the CFR recorded in 2011.

Like many other TADs, the monthly distribution of occurrence of SGP did not show any temporal trend with outbreaks reported throughout the year with no marked seasonal variability (Chart 11). It is difficult to provide any plausible explanation for this kind of temporal trend, not only for SGP but also for many other reported TADs, unless focused studies are carried out to shed light on as to why there is no defined seasonality of disease occurrence, particularly of those diseases whose occurrence is underpinned by climatic parameters.

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Table 14: *Countries reporting sheep pox and goat pox*

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Algeria	40	790	22	1	230
Congo	4	229	137	0	0
Eritrea	1	1294	71	65	6
Ethiopia	428	9623	1024	96	
Kenya	4	33	2	0	0
Niger	152	1560	1040		
Nigeria	1	80	20	4	
Senegal	6	59	9		
Somalia	130	2,375	314	99	27
Sudan	13	244	50	0	0
Tunisia	2	278	26	0	0
Total (11)	**791**	**16565**	**2715**	**265**	**263**



Map 12: *Spatial distribution of SGP during 2012 in Africa.*

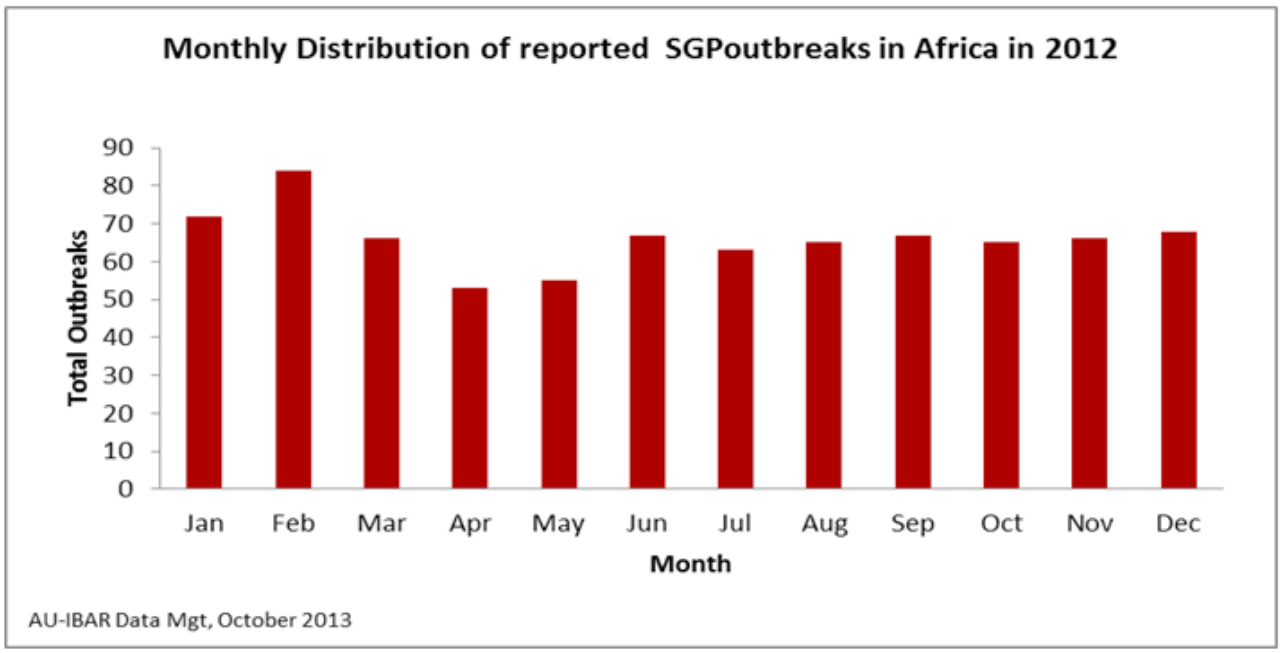


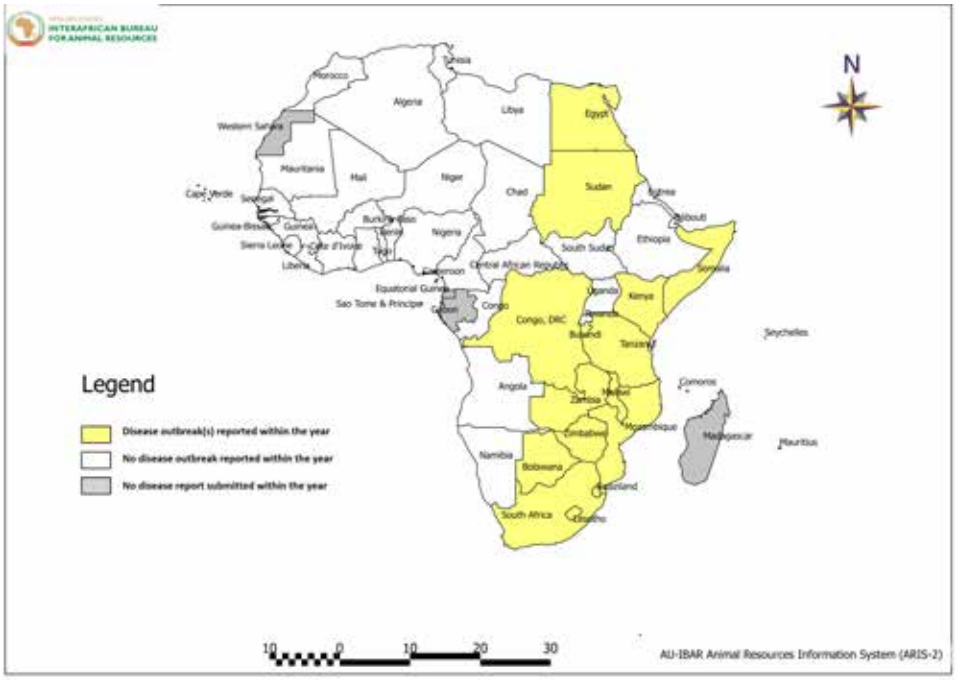
Chart 12: *Monthly Distribution of SGP Outbreaks*

5.1 Anaplasmosis

Anaplasmosis was reported in 16 countries in Africa in 2012 two more countries than in 2011 (Table 14). There were also more outbreaks in 2012 with 1208 reported during the year leading to 3722 deaths. Similar to the previous years, the highest number of outbreaks were reported by Zimbabwe (806) which recorded 66.72% of the total number of outbreaks in the continent. The geographical distribution of the disease (Map 13) shows that it was mainly recorded in the eastern and southern parts of the continent.

Table 14: *Countries reporting Anaplasmosis*

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Botswana	3	13	9	0	0
Burundi	5	228			
DRC	1	8	8	0	0
Egypt	108	329			
Kenya	76	80	1	0	0
Lesotho	21	182	9	0	145
Malawi	7	70	30		
Mozambique	2	4	0	0	0
Somalia	21	138	9	0	0
South Africa	55	109	9		0
Sudan	7	215	55	0	0
Swaziland	21	51	15	0	0
Swaziland	12	18	9	0	0
Tanzania	20	225	3192		72
Zambia	43	456	88		
Zimbabwe	806	1345	288	2	16
Total (16)	**1208**	**3471**	**3722**	**2**	**233**

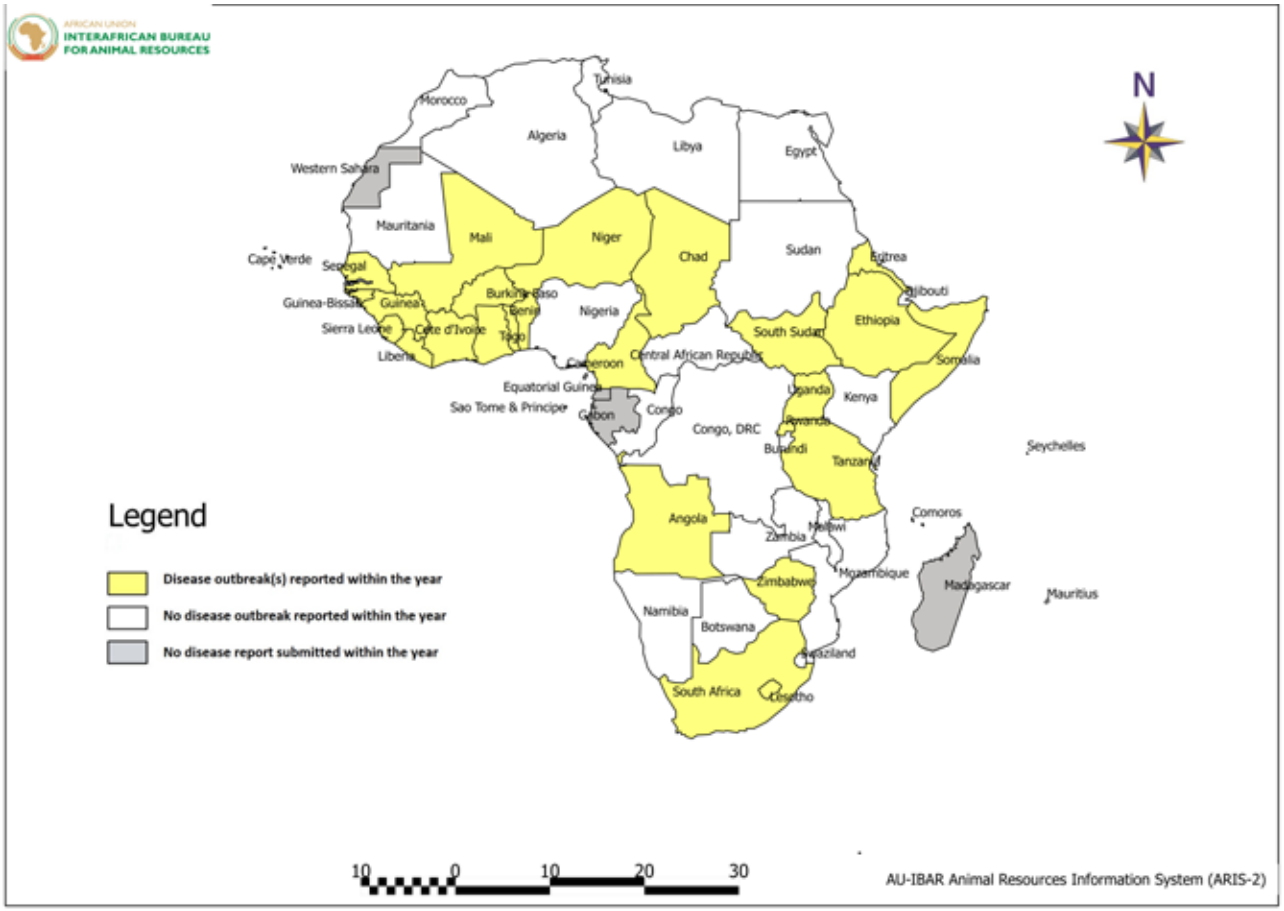


Map 13: *Spatial distribution of Anaplasmosis*

5.2 Anthrax

More countries are reporting outbreaks of Anthrax probably because of its public health importance. In 2012, 25 Member States reported outbreaks of the disease to AU-IBAR – an increase of 4 countries over the 21 that reported in 2011. A total of 1019 outbreaks, 8100 cases and 2843 deaths were recorded within the year.

Similar to 2011, a significant and highest number of outbreaks were reported by Ethiopia (601; 59%), which also recorded the highest number of cases (4965; 61.29%) and deaths (1414; 49.74%). While vaccination remains the most important tool for controlling the disease, the data on vaccination submitted by member states is not significant enough to assess the effectiveness of the control measure.



Map 14: *Shows the spatial distribution of Anthrax in 2012.*

Table 15: *Countries reporting Anthrax*

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Angola	6	82	82		
Benin	28	1	1	0	1
Burkina Faso	9	91	41		
Cameroon	1	2	2		
Chad	7	190	142	11	30
Cote d'Ivoire	5	19	8		
Eritrea	1	44	29		29
Ethiopia	601	4965	1414	319	
Ghana	7	34	34	0	0
Guinea Bissau	16	191	107	2	1
Guinea Conakry	33	162	115		
Lesotho	6	62	47	0	17

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Liberia	1	2	2	0	0
Mali	1	6	0	6	
Niger	39	128	122		
Rwanda	19	39	45	39	6
Senegal	4	372	19		
Sierra Leone	1	15	11	0	0
Somalia	64	373	176	2	24
South Africa	98	265	256		1
South Sudan	23				
Tanzania	1	5	5		
Togo	3	17	12	0	0
Uganda	2	828	7	11	0
Zimbabwe	43	207	166	0	30
Total (25)	**1019**	**8100**	**2843**	**390**	**139**

NS=*Not specified*

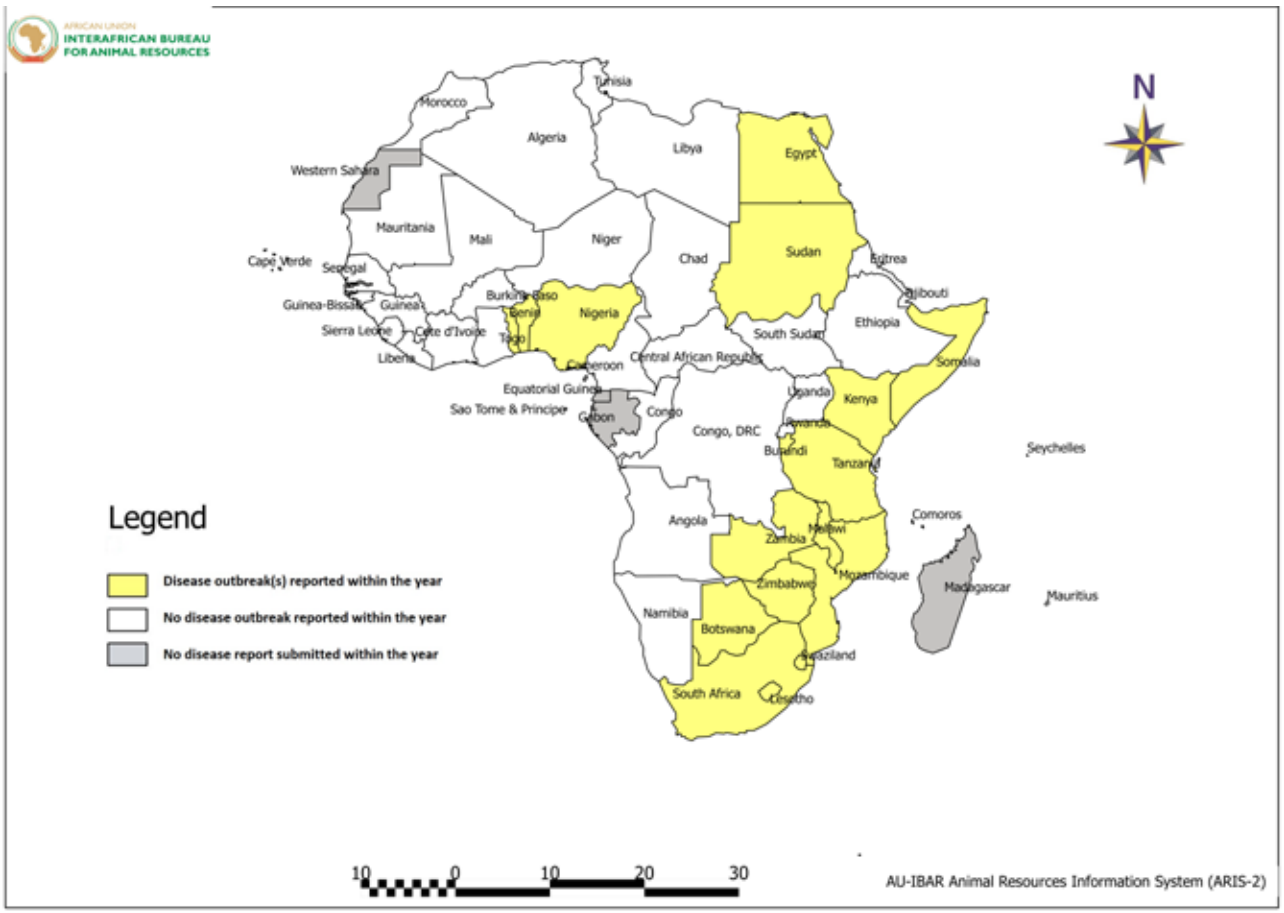
5.3 Babesiosis

During the year under review, Babesiosis was reported by 18 countries who recorded a total of 1213 outbreaks, 26989 cases and 5006 deaths (Table 17). Egypt recorded the highest number of outbreaks (506) followed by Zimbabwe (403) just like last year. The corresponding number of cases was highest in Egypt (20,916), followed by Tanzania (4737) and Burundi (2867). Map 15 shows the spatial distribution of Babesiosis in 2012.

Table 17: *Countries reporting Babesiosis in Africa in 2012*

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Benin	24	288	5	2	
Botswana	2	7	5	0	0
Burundi	12	2867			
Egypt	506	20916			
Kenya	24	28	1	0	0
Lesotho	12	77	6	0	30
Malawi	3	51	2		
Mozambique	2	24	2	0	0
Nigeria	2	3			
Somalia	51	256	34	0	0
South Africa	89	225	32		1
Sudan	4	40	22	0	0
Swaziland	42	111	12	0	0
Tanzania	12	4737	72		50
Togo	1	2	1	1	0
Zambia	24	132	26		
Zimbabwe	403	1890	121	4	2
Total (17)	**1213**	**31654**	**341**	**7**	**83**

NS=*Not specified*



Map 15: *Spatial distribution of Babesiosis in 2012 in Africa*

5.4 Blackleg

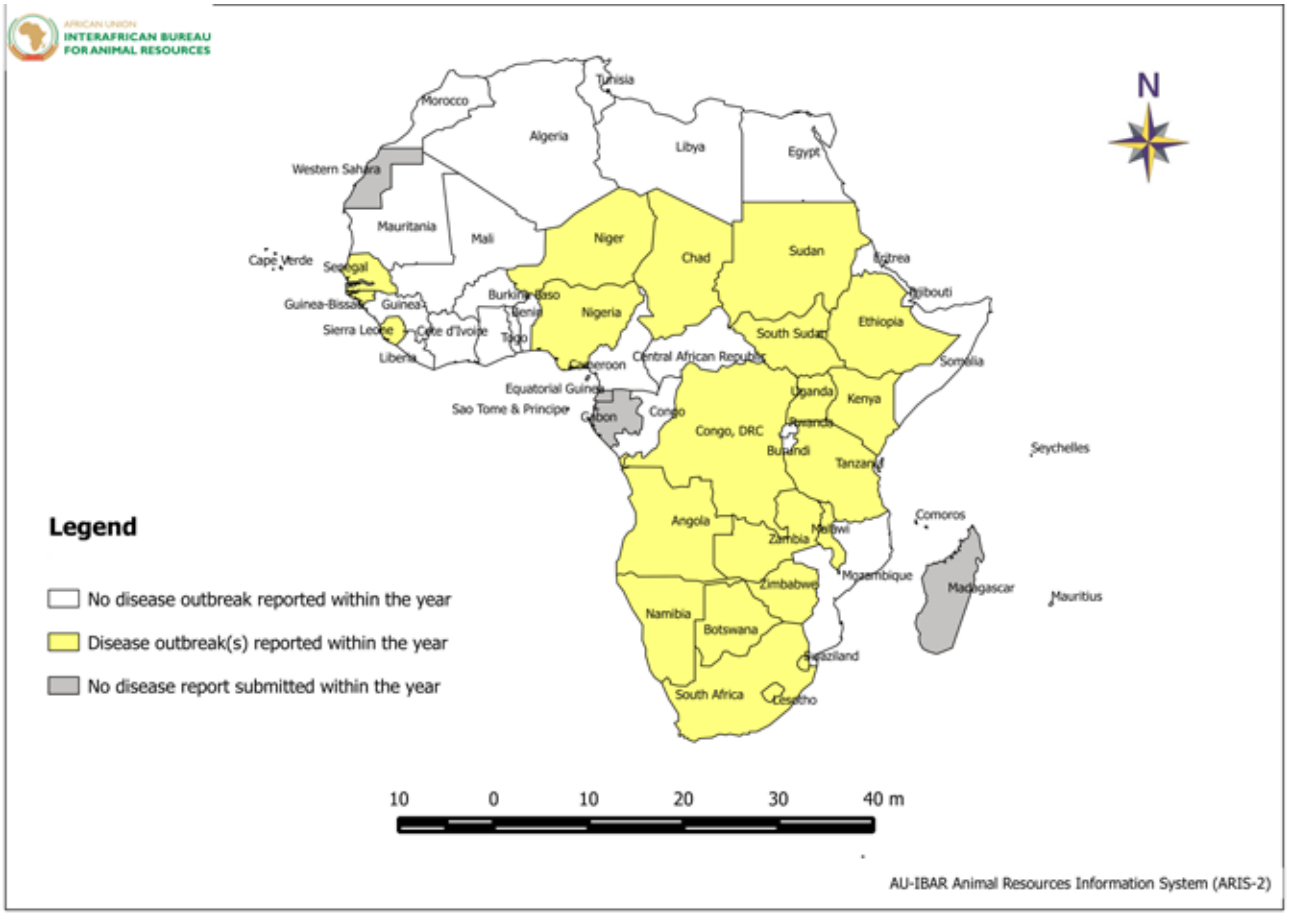
Blackleg was reported by 23 countries in 2012 (Table 18) where a total of 1126 outbreaks, 10940 cases and 2526 deaths were recorded.The countries that reported the highest outbreaks include Ethiopia (512), Zimbabwe (313) and Swaziland (138). Ethiopia also recorded the highest number of cases (5558), followed by DRC (1283) and Swaziland (994). Map 16 shows the spatial distribution of Blackleg in 2012.

Table 18: *Countries reporting Blackleg*

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Angola	5	323	78		
Botswana	3	7	5	0	0
Chad	5	50	30	3	1
DRC	6	1283	430	261	13
Ethiopia	512	5558	772	91	
Guinea Bissau	7	47	18	1	0
Kenya	9	10	0	0	0
Lesotho	1	3	1	0	0
Malawi	1	2	2		
Namibia	1	3	2	0	0
Niger	12	41	20		
Nigeria	2	201	11	52	
Senegal	4	79	11		
Sierra Leone	4	407	115	0	0

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
South Africa	11	33	29		0
South Sudan	39				
Sudan	2	426	190	0	0
Swaziland	138	994	100	0	20
Swaziland	11	27	0	0	0
Tanzania	2	28			
Uganda	3	126	0	57	
Zambia	35	462	185		
Zimbabwe	313	830	527	19	22
Total (23)	1126	10940	2526	484	56

NS=*Not specified*



Map 16: *Spatial distribution of Blackleg in 2012 in Africa*

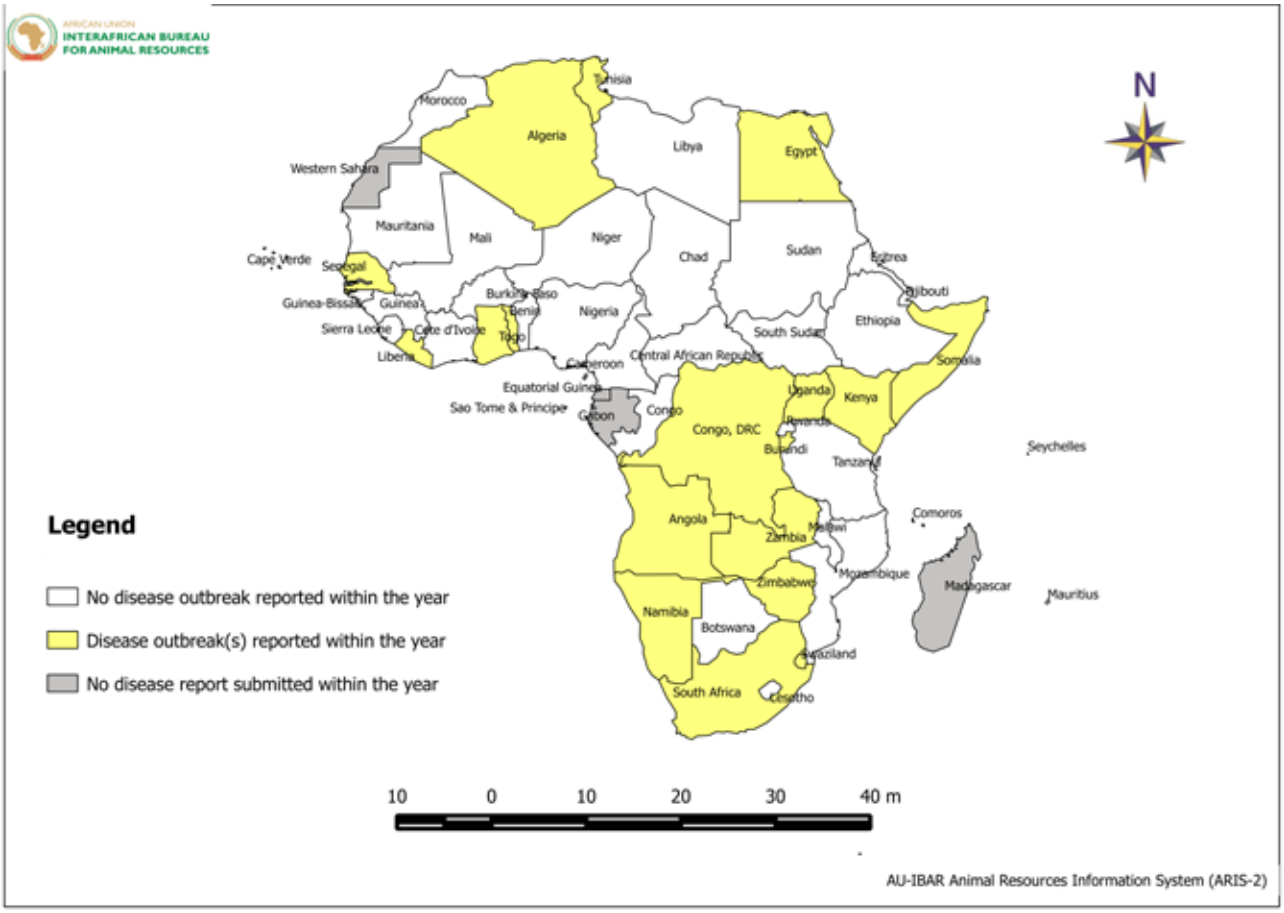
5.5 Brucellosis

During the year under review, the 19 countries that reported occurrence of Brucellosis recorded a total of 1,067 outbreaks, 42092 cases and 162 deaths (Table 19). The highest number of outbreaks was reported by South Africa (680), followed by Egypt (155) and Swaziland (87). Almost similar to 2011, Uganda reported the highest number of cases (31813) as well as the highest death (84). In general the situation of the disease in 2012 is not significantly different from that of the previous year. Map 17 below presents the spatial distribution of Brucellosis in 2012.

Table 19: *Countries reporting Brucellosis*

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Algeria	19	949	0	949	0
Angola	2	6	0		
Burundi	3	244			
DRC	8	243	0	236	0
Egypt	155	1023		487	
Ghana	1	1	0	1	0
Kenya	3	23	0	0	0
Liberia	1	34	26	0	0
Namibia	3	24	1	0	0
Senegal	1		9		
Somalia	47	554	34	4	17
South Africa	680	6526	4		716
Swaziland	87	366	0	0	0
Swaziland	14	123	0	0	0
Togo	1	2	0	0	0
Tunisia	2	47	0	27	0
Uganda	10	31813	84	389	0
Zambia	7	48	3		
Zimbabwe	23	66	1	0	0
Total (19)	**1067**	**42092**	**162**	**2093**	**733**

NS=*Not specified*



Map 17: *Spatial distribution of Brucellosis*

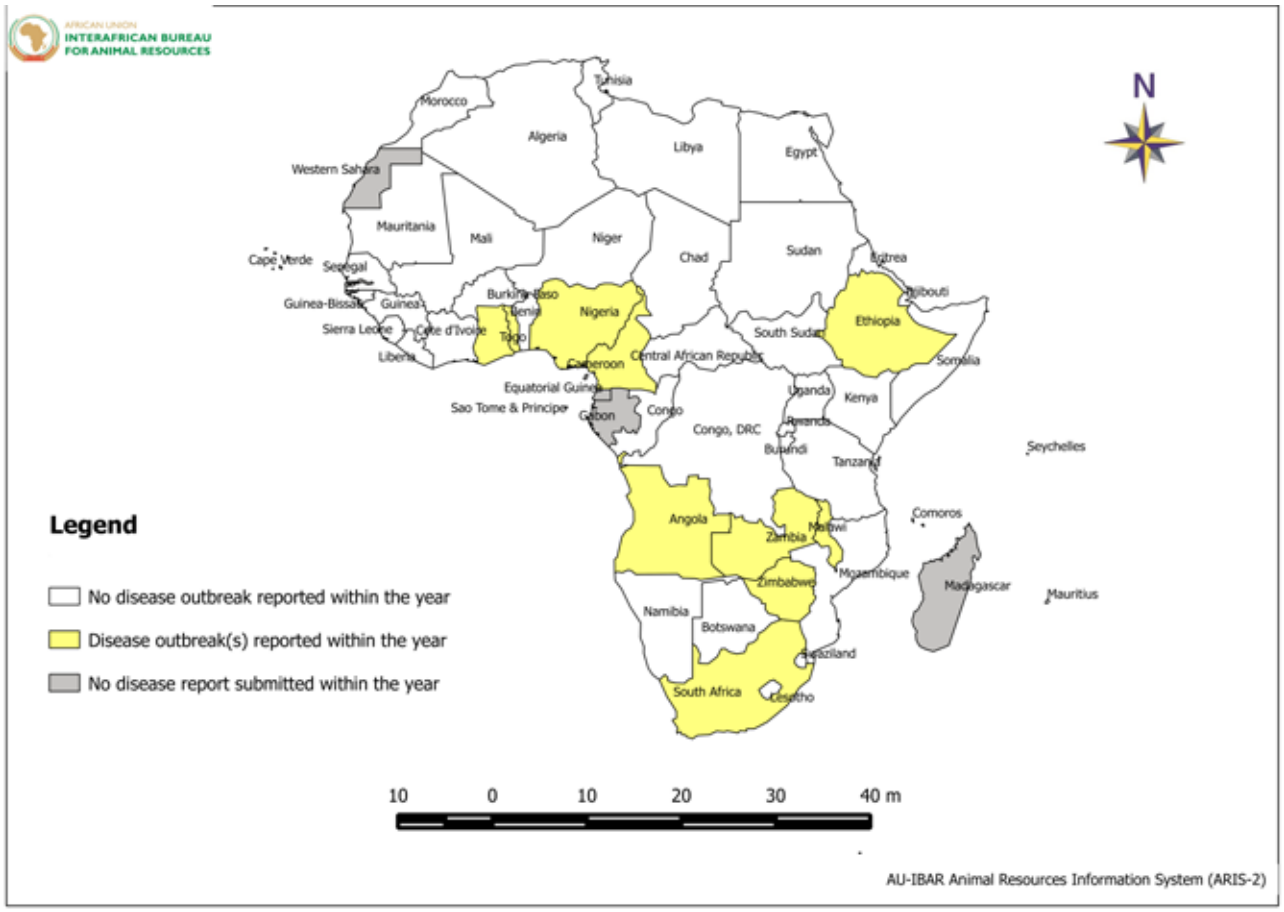
5.6 Dermatophilosis

Dermatophilosis also known as streptothrichosis was reported by 10 countries during the year (Table 21). A total of 813 outbreaks, 11010 cases and 862 deaths were recorded. Like previous years Zimbabwe reported the highest number of outbreaks (681) followed by Ghana (54) and Angola (41). Alternatively Angola recorded the highest number of cases (5768) and deaths (740) followed by Zimbabwe with 4720 cases and 113 deaths.

Table 21: *Countries reporting Dermatophilosis*

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Angola	41	5768	740		
Cameroon	1	24	0		
Ethiopia	2	20	1	0	
Ghana	54	133	0	36	0
Malawi	1	2	0		
Nigeria	8	17	1	5	0
South Africa	1	1	0		0
Togo	2	12	0	0	0
Zambia	22	313	7		
Zimbabwe	681	4720	113	2	2
Total (10)	**813**	**11010**	**862**	**43**	**2**

NS=*Not specified*



Map 19: *Spatial distribution of Dermatophilosis*

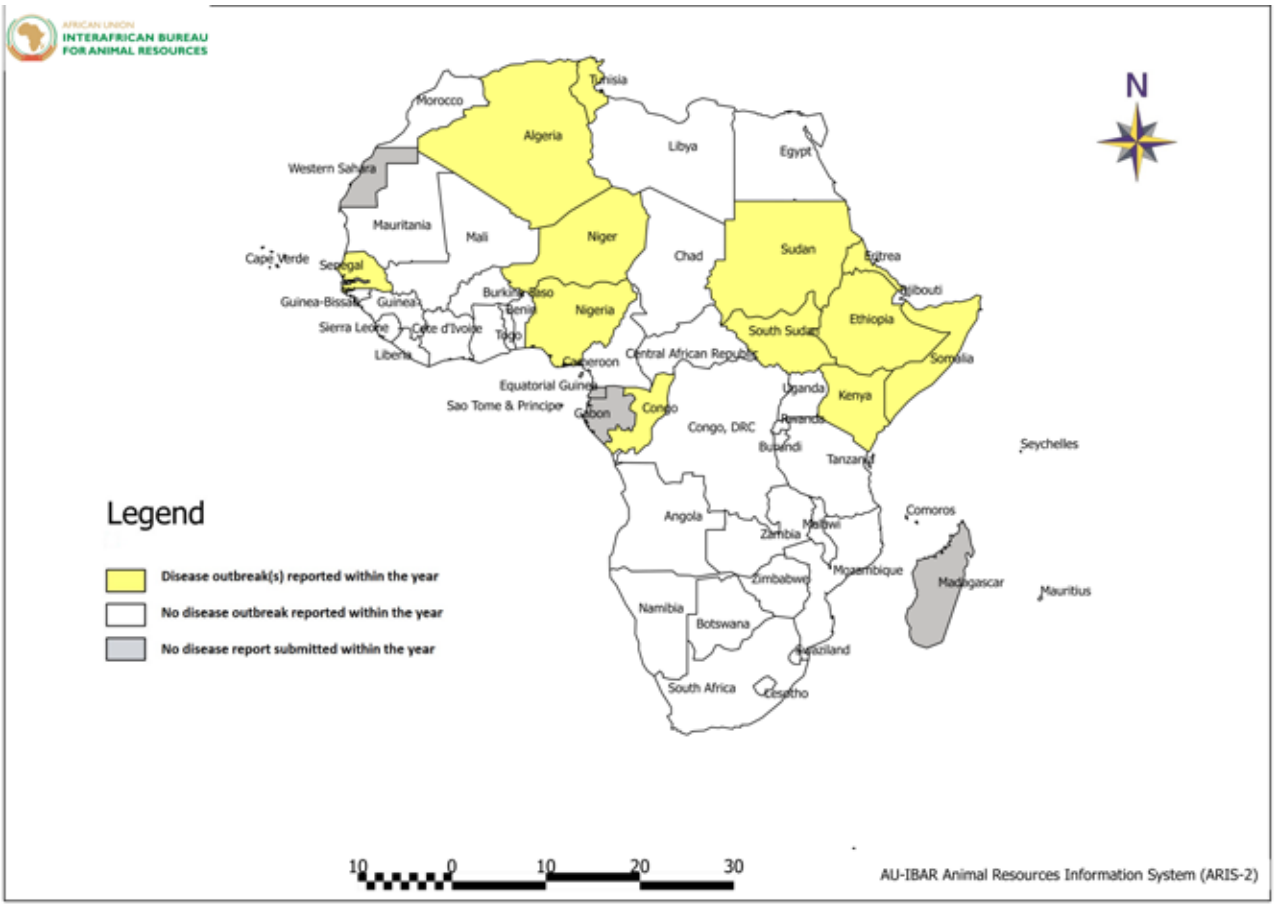
5.7 Gumboro disease (Infectious Bursal disease)

In terms of number of countries affected and number of outbreaks, the situation of Gumboro disease on the continent in 2011 and 2012 are similar, with 12 countries affected and 176 outbreaks reported. A total of 42519 cases and 21720 deaths were recorded within the year. Just like 2011 Ghana recorded the highest number of outbreaks, cases as well as deaths.

Table 21: *Countries reporting Dermatophilosis*

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Angola	1	8090	7500		
Benin	1	1500	1482	0	0
Botswana	1	2	2	0	0
Burkina Faso	4	9			
Congo Brazaville	1	19	10	0	0
Eritrea	1	3600	2000		
Ethiopia	2	501	327	0	
Ghana	63	22998	7103	0	280
Kenya	2	116	9	0	0
Nigeria	21	2323	823	20	0
Zambia	24	2052	1720		
Zimbabwe	55	1309	744	19	14
Total (12)	**176**	**42519**	**21720**	**39**	**294**

NS=*Not specified*



Map 20: *Spatial distribution of Gumboro disease*

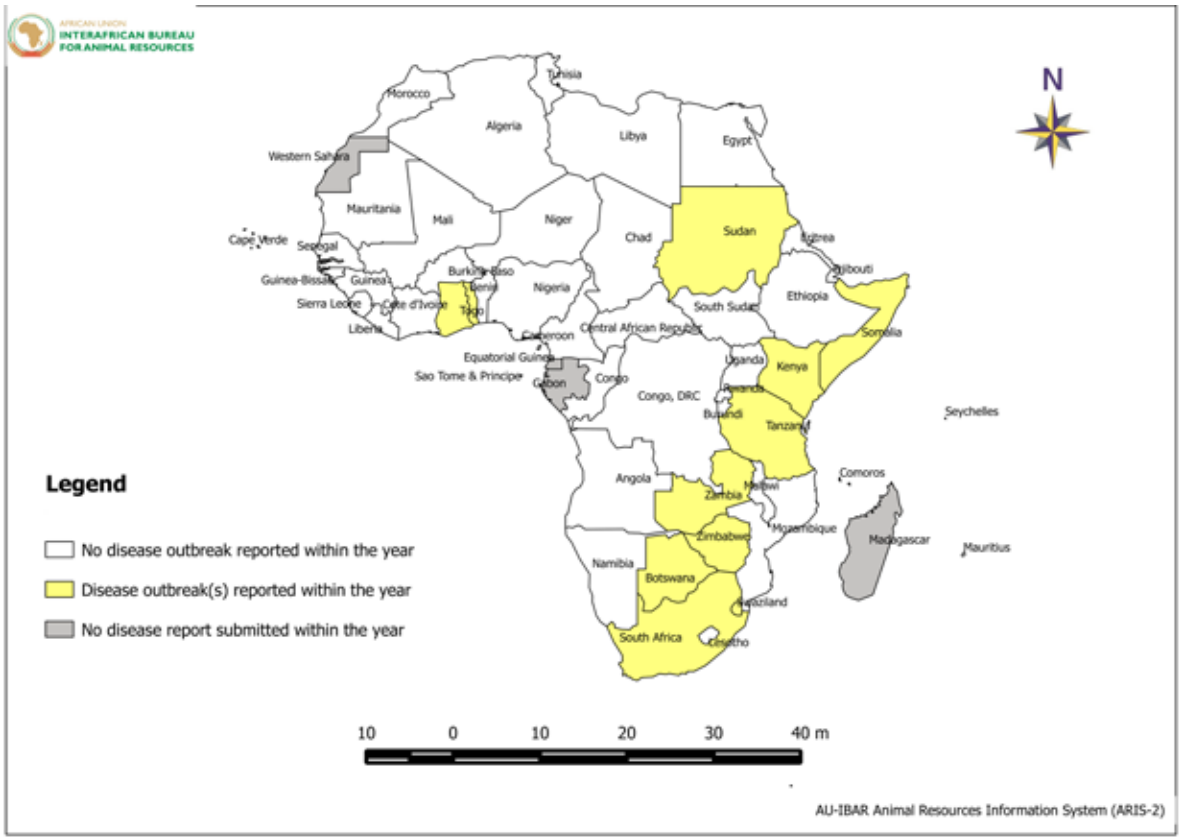
5.8. Heartwater

Heartwater or Cowdriosis a rickettsial disease of ruminants caused by Ehrlichia ruminantium was reported by 12 countries in 2012 with a total of 864 outbreaks, 4157 cases and 966 deaths (Table 23). Zimbabwe reported the highest number of outbreaks, 441, followed by South Africa (97), Botswana (89) and Somalia (51). The corresponding number of cases were highest in Zimbabwe (2190), followed by Swaziland (714), and Somalia (260). The countries that have been reporting this disease as well as the disease parameters on the continent have remained almost the same for the last few years suggesting that the prevailing conditions for sustaining the disease have remained unchanged over the years.

Table 23: *Countries reporting Heartwater*

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Botswana	89	253	198	0	0
Ghana	34	72	0	23	0
Kenya	45	157	2	0	0
Somalia	51	260	56	0	0
South Africa	97	218	33		0
Sudan	5	94	49	0	0
Swaziland	45	714	43	0	261
Swaziland	8	8	8	0	0
Tanzania	10	34	170		12
Togo	1	1		1	
Zambia	38	156	62		
Zimbabwe	441	2190	345	2	8
Total (12)	**864**	**4157**	**966**	**26**	**281**

NS=*Not specified*



Map 20: *Spatial distribution of Heartwater*

5.9 Mange

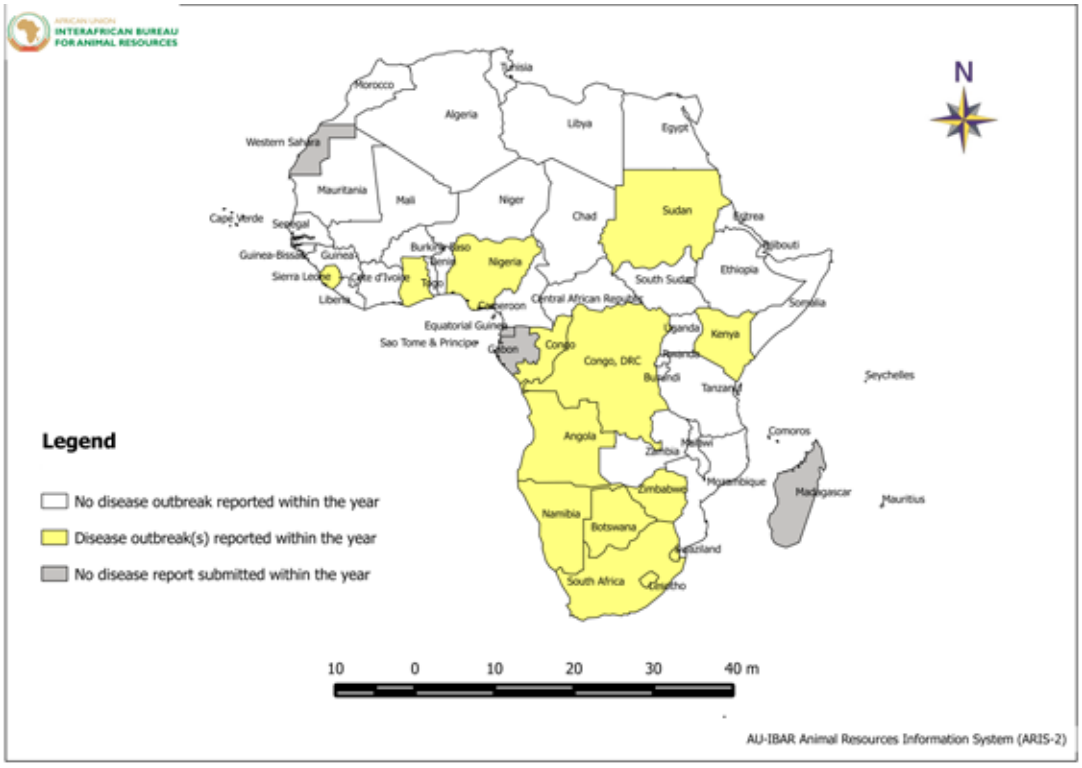
Mange is a skin disease of mammals caused by a tissue-burrowing arthropod, the mange mite. Mange is not associated with heavy mortalities but is a serious cause of skin defects and economic loss in term of loss of productivity of affected animals and spoilage of hides which affects export trade in the commodity.

During the year under review, 14 countries reported 1016 outbreaks with 29530 cases, and 442 deaths (Table 24). Thus there is a deterioration of the sanitary situation regarding this disease compared to the 900 outbreaks, 25549 cases and 202 deaths reported in the previous year.

Table 24: *Countries reporting Mange*

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Angola	16	692	80		
Botswana	13	64	12	0	0
Congo Brazaville	53	645	10	0	0
DRC	17	5364	173	673	19
Ghana	576	4331	76	77	4
Kenya	3	11	0	0	0
Lesotho	8	753	9	0	20
Namibia	6	47	0	0	0
Nigeria	39	611	22	1	0
Sierra Leone	3	21	2	0	0
South Africa	155	15782	28		0
Sudan	1	4	0	0	0
Swaziland	12	254	0	2	0
Zimbabwe	114	951	30	0	0
Total (14)	**1016**	**29530**	**442**	**753**	**43**

NS=*Not specified*



Map 21: *Spatial distribution of Mange*

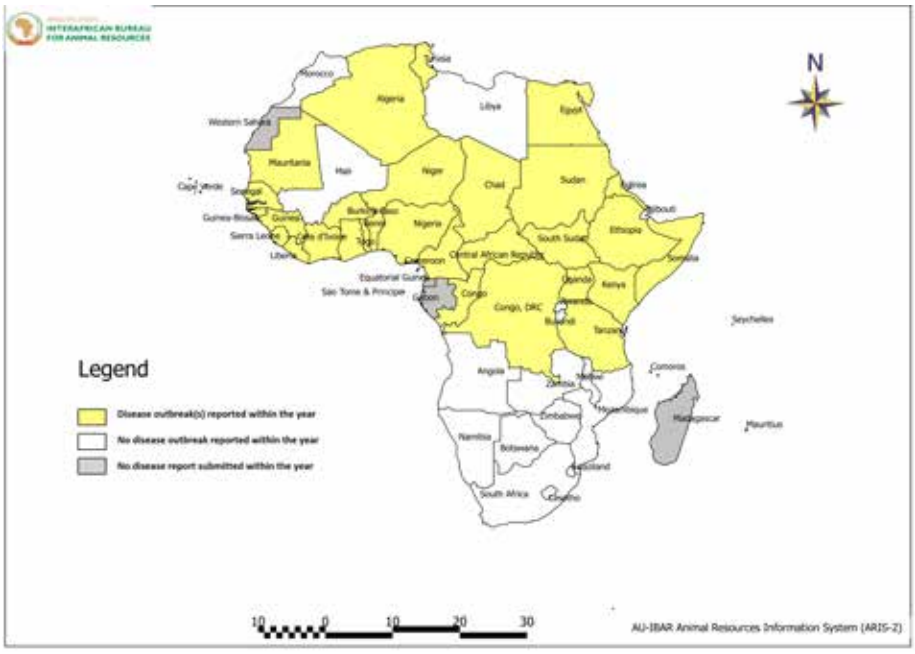
5.10 Haemorrhagic Septicaemia and other Pasteurellosis

During 2012, 18 countries reporting Haemorhagic septicaemia and other pasteurellosis recorded a total of 1257 outbreaks, 23219 cases and 4845 deaths (Table 25). Ethiopia recorded the highest number of outbreaks (718) followed by Niger (274) and Benin (105) a pattern similar to that of the previous year. Ethiopia reported also the highest number of cases and deaths (10614 and 2055) followed by Nigeria (6870 and 970) and Niger (1586 and 903) respectively. Map 22 shows the spatial distribution of the disease in 2012.

Table 25: *Countries reporting HS and other Pasteurellosis*

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Benin	105	1462	178	93	0
Botswana	2	3	3	0	0
Burkina Faso	23	1161	85		
Chad	6	33	13	5	8
Cote d'Ivoire	5	43	6		
Ethiopia	718	10614	2055	1243	
Guinea Conakry	17	110	48	8	
Namibia	1	267	240	0	0
Niger	274	1586	903		
Nigeria	1	6870	970		
Senegal	7	146	66		
Sierra Leone	3	522	189	0	0
Somalia	44	336	71	9	11
South Africa	1	6	6		0
South Sudan	38				
Sudan	1	4	1	0	0
Tanzania	1	10	1		
Zambia	10	46	10		
Total (18)	**1257**	**23219**	**4845**	**1358**	**19**

NS=*Not specified*



Map 22: *Spatial distribution of HS and other Pasteurellosis in Africa in 2012*

5.11 Rabies

Rabies is the most widely reported and distributed disease in Africa, and has been so for many years. In 2012 a total of 34 countries – similar to 2011 - have reported 1343 outbreaks involving 5279 cases and 3166 deaths (Table 26). Rabies had the second highest number of outbreaks and accounted for 5.67% of all the disease outbreaks reported in 2012. South Africa (421) reported the highest number of outbreaks in 2012, followed by Namibia (180) and Burkina Faso (162).

Map 23 is the spatial distribution of Rabies outbreaks in Africa in 2012 and shows that the disease is present in all regions of the continent. Although Rabies is one of the major zoonotic diseases in the continent and is widely reported by member states, there are still strong suspicions of under reporting by many countries. There were many gaps in the reporting networks including poor linkage with public health services to determine the number of human cases an essential parameter to substantiate the impact of Rabies on public health.

In terms of species spread, Dog was the most commonly affected species (Figure 21), accounting for 67% of all outbreaks followed by cattle (14%) and wildlife (5%). Rabies cases in wildlife were mainly reported by Namibia (34) and South Africa (33).

Table 26: *Countries reporting Rabies*

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Algeria	70	813	172	18	414
Angola	4	6	6		
Botswana	49	71	60	0	0
Burkina Faso	162	364	364		
Burundi	2	28			
Cameroon	1	1	1		
Central African Republic	4	55	37	2	0
Cote d'Ivoire	11	11	11		
DRC	13	1001	876	0	125
Eritrea	2	9	9		
Ethiopia	62	384	277	8	
Ghana	51	56	47	0	19
Kenya	14	19	6	1	0
Lesotho	15	204	29	0	180
Liberia	1	9	9	9	9
Malawi	22	28	28		
Mauritania	7	14	3	11	
Mozambique	6	75	0	0	75
Namibia	180	359	235	0	40
Nigeria	17	23	9	6	9
Rwanda	46	89	61		1076
Senegal	23	23	8	7	
Sierra Leone	1	11	9	0	2
South Africa	421	473	237		285
South Sudan	10				
Sudan	1	4	1	0	3
Swaziland	20	57	17	0	2

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Swaziland	2	2	2	0	
Tanzania	3	3	26		
Togo	10	12	6	6	0
Tunisia	6	283	413	0	0
Uganda	10	494	104	76	153
Zambia	19	187	21		
Zimbabwe	78	111	82	1	16
Total (34)	1343	5279	3166	145	2408

NS=*Not specified*

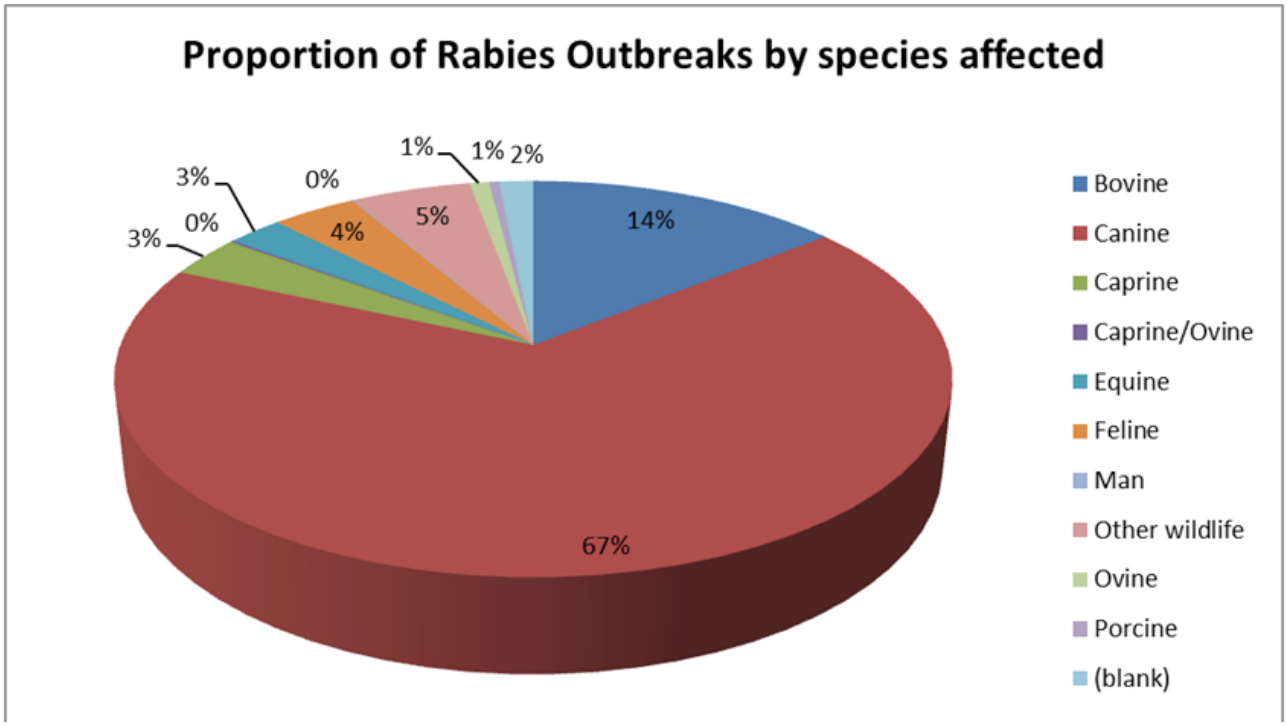


Figure 21: *Proportion of species affected with rabies during 2012*



Map 23: *Spatial distribution of Rabies outbreaks*

5.12 Theileriosis

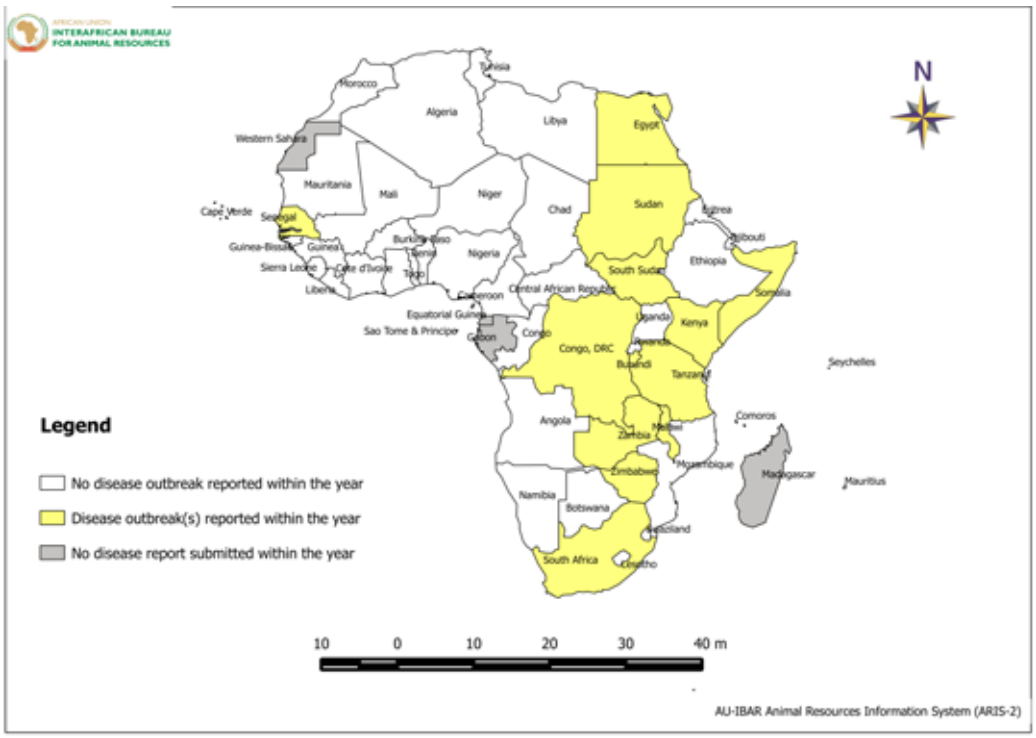
Bovine Theileriosis also known as East Coast Fever (ECF) or more commonly as Corridor disease in Africa is most prevalent in central and eastern Africa. During 2012, ten (13) countries – up from 10 countries in 2011 - reported 1339 outbreaks of the disease, with 35424 cases and 5007 deaths. This number of outbreaks was highest compared to previous years. Kenya recorded the highest number of outbreaks of 791 compared to 1,356 in 2011; followed by Egypt (340). Interestingly Burundi reported the highest number of cases (25349) although the mortality figures were not provided. The highest number of deaths though were recorded by Tanzania (3635).

Table 27 shows details of the reporting countries with the related quantitative data while Map 24 shows the spatial distribution of Theileriosis in Africa in 2012.

Table 27: *Countries reporting Theileriosis*

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Burundi	13	25349			
DRC	7	1754	359	119	0
Egypt	340	4143	1		
Kenya	791	1397	148	8	0
Malawi	37	205	149	2	
Senegal	9	119	1		
Somalia	19	159	24	0	0
South Africa	11	30	12		0
South Sudan	7				
Sudan	13	433	230	39	0
Tanzania	28	306	3635		50
Zambia	43	1493	434		
Zimbabwe	21	36	14	0	0
Total (13)	**1339**	**35424**	**5007**	**168**	**50**

NS=*Not specified*



Map 24: *Spatial distribution of Theileriosis in Africa in 2012*

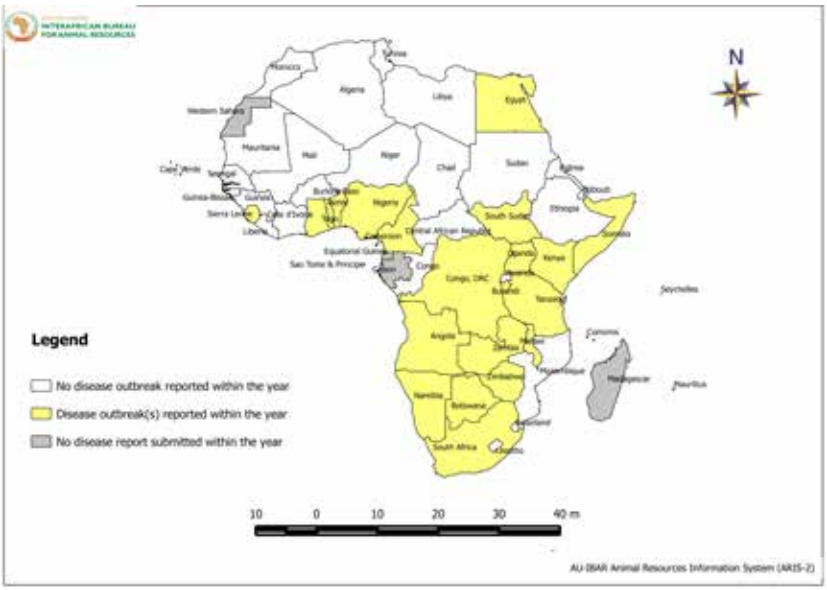
5.13. Trypanosomosis

The same number of countries, 21 as in the previous year reported outbreaks of Trypanosomosis in 2012. During the year under review, a total of 1336 outbreaks involving 199612 cases and 11424 deaths were recorded (Table 28). Similar to 2011, Benin republic recorded the highest number of outbreaks (604) and cases (102589), while Tanzania reported the highest mortality (6923).

Table 28: *Countries reporting Trypanosomosis*

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Angola	3	67	15		
Benin	604	102589	1022	1237	10
Botswana	1	1	0	0	0
Burundi	8	1150			
Cameroon	2	33	8	0	0
DRC	19	3213	1771	428	1
Egypt	4	150			
Ghana	13	93	0	6	0
Kenya	144	422	13	0	0
Malawi	1	1	0		
Namibia	8	13	0	0	0
Nigeria	3	29	2	6	0
Sierra Leone	5	788	307	0	0
Somalia	435	2512	264	44	16
South Africa	9	9	1		2
South Sudan	1				
Tanzania	10	68	6923		40
Togo	30	746	17	26	1
Uganda	10	87448	1070	2259	0
Zambia	16	253	8		
Zimbabwe	10	27	3	0	0
Total (21)	**1336**	**199612**	**11424**	**4006**	**70**

NS=*Not specified*



Map 25: *Spatial distribution of Trypanosomosis*

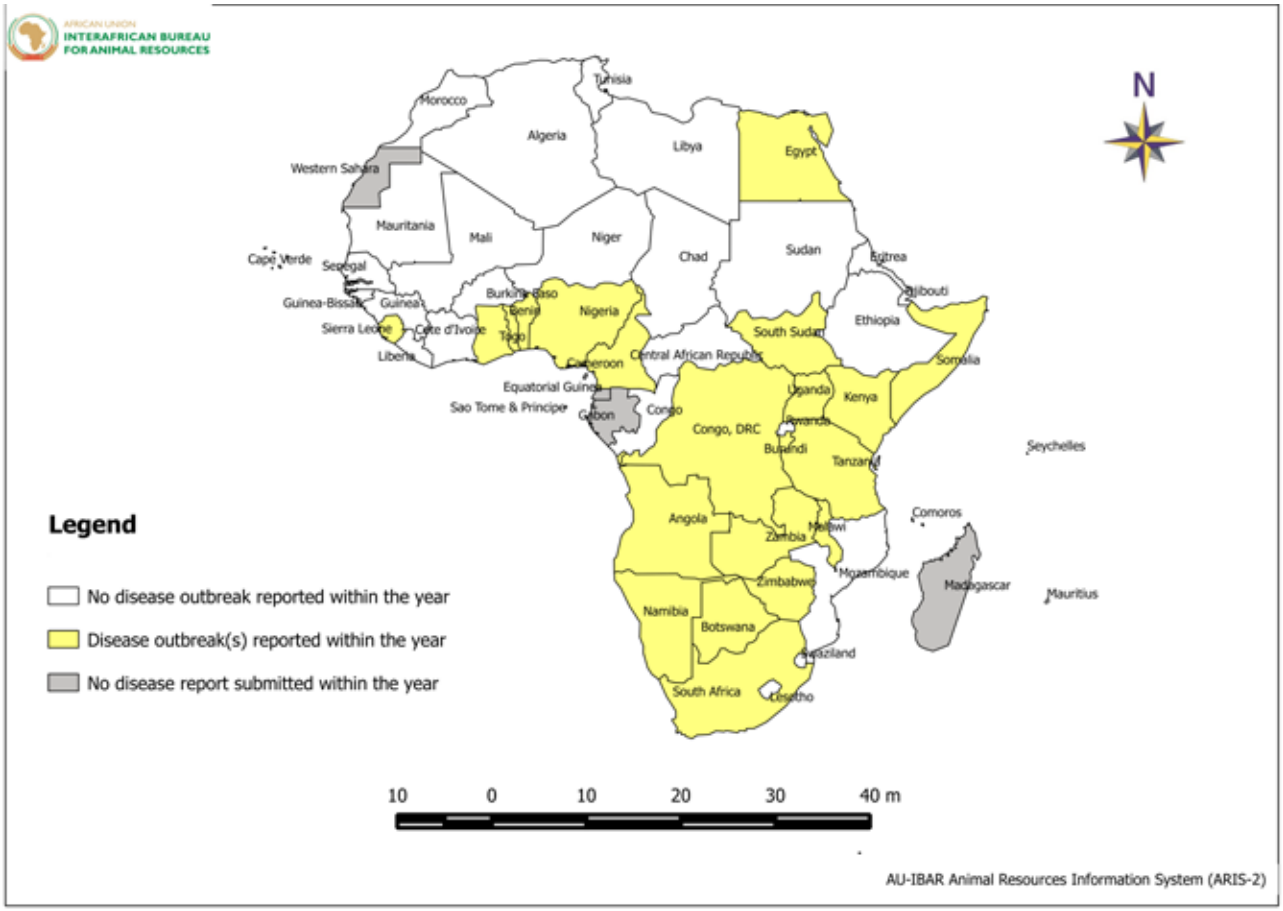
5.14 Tuberculosis

During 2012, 17 countries reported 237 outbreaks of Tuberculosis with a total of 4348 cases and 422 deaths as well as 1957 slaughtered and 70 destroyed as a control measure against the disease. All these parameters are lower than the figures reported in previous years, a trend that has been noticed with regards to this disease either caused by improvement in control of the disease or lack of reporting because of fatigue. Although the sources of data were not indicated, it is apparent from the number of animals slaughtered and those destroyed that the information in many countries may have come from abattoir sources. This may be an indication of the efficacy of meat inspection services in many countries. The highest number of cases were reported by Tunisia (1083) followed by Malawi (1007) and DRC (702) (table 29).

Table 29: *Countries reporting Tuberculosis*

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Angola	3	67	15		
Benin	604	102589	1022	1237	10
Botswana	1	1	0	0	0
Burundi	8	1150			
Cameroon	2	33	8	0	0
DRC	19	3213	1771	428	1
Egypt	4	150			
Ghana	13	93	0	6	0
Kenya	144	422	13	0	0
Malawi	1	1	0		
Namibia	8	13	0	0	0
Nigeria	3	29	2	6	0
Sierra Leone	5	788	307	0	0
Somalia	435	2512	264	44	16
South Africa	9	9	1		2
South Sudan	1				
Tanzania	10	68	6923		40
Togo	30	746	17	26	1
Uganda	10	87448	1070	2259	0
Zambia	16	253	8		
Zimbabwe	10	27	3	0	0
Total (21)	**1336**	**199612**	**11424**	**4006**	**70**

NS=*Not specified*



Map 25: *Spatial distribution of Trypanosomosis*

5.14 Tuberculosis

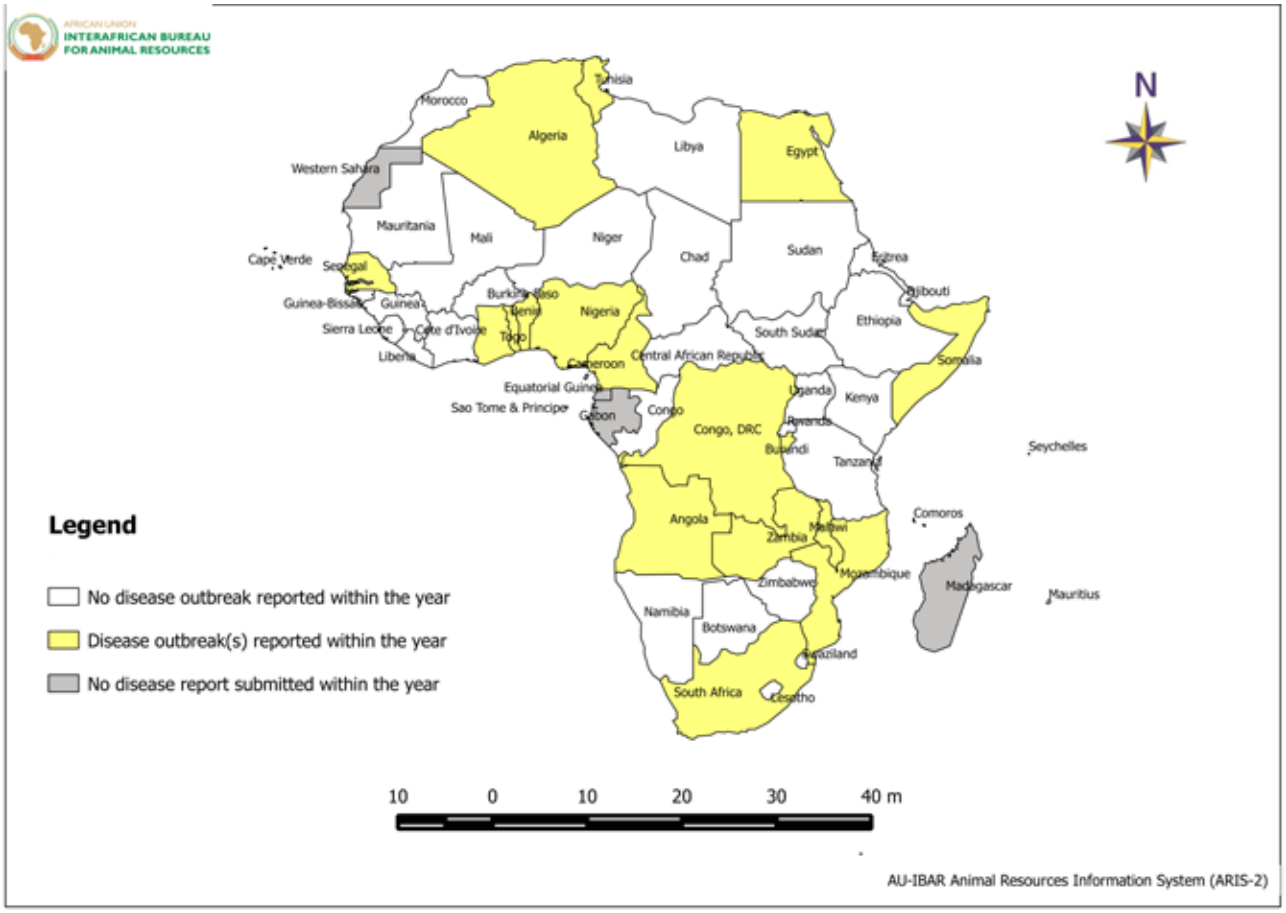
During 2012, 17 countries reported 237 outbreaks of Tuberculosis with a total of 4348 cases and 422 deaths as well as 1957 slaughtered and 70 destroyed as a control measure against the disease. All these parameters are lower than the figures reported in previous years, a trend that has been noticed with regards to this disease either caused by improvement in control of the disease or lack of reporting because of fatigue. Although the sources of data were not indicated, it is apparent from the number of animals slaughtered and those destroyed that the information in many countries may have come from abattoir sources. This may be an indication of the efficacy of meat inspection services in many countries. The highest number of cases were reported by Tunisia (1083) followed by Malawi (1007) and DRC (702) (table 29).

Table 29: *Countries reporting Tuberculosis*

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Algeria	9	187	0	187	0
Angola	2	178	178		
Benin	18	302	0	299	0
Burundi	3	310			
Cameroon	1	6	6		
DRC	13	702	225	147	2
Egypt	10	23	0	21	
Ghana	70	144	0	140	4
Malawi	31	1007			
Mozambique	2	14	0	0	14
Nigeria	4	4	0	4	3

Country	Outbreaks	Cases	Deaths	Slaughtered	Destroyed
Senegal	1	1			
Somalia	2	103	2	0	7
South Africa	32	187	5		33
Togo	37	94	5	76	7
Tunisia	1	1083	0	1083	0
Zambia	1	3	1		
Total (17)	237	4348	422	1957	70
Uganda	10	87448	1070	2259	0
Zambia	16	253	8		
Zimbabwe	10	27	3	0	0
Total (21)	**1336**	**199612**	**11424**	**4006**	**70**

NS=*Not specified*



Map 26: *Spatial distribution of Tuberculosis in Africa in 2012*

6. INTERAFRICAN BUREAU FOR ANIMAL RESOURCES (AU-IBAR) INTERVENTIONS IN 2012

6.1 Reinforcing of Veterinary Governance in Africa

The implementation of the Veterinary Governance project (VetGov) whose major objective is to "to improve the institutional environment at national and regional levels to provide effective and efficient animal health services in Africa" started in 2011. The major achievements of the project in 2011 included: timely engagement of key stakeholders, high awareness and visibility of the program at regional and national levels; significant progress in developing, adapting and testing policy formulation tools and guidelines; baseline data collection, analysis has been carried out in all 54 MSs. As a result of the exercises, gaps in livestock policies, animal health strategies and Veterinary legislations have been identified for each MS. The gaps are being validated through national consultative processes and will be the basis of MSs and RECs engagements. A workshop was organized for heads of veterinary services and representatives of civil societies for 47 MSs, RECs representatives and technical partners (OIE and FAO), the objective of which was to have a better understanding of VetGov. and pave the way for the implementation of livestock and related policies, animal health strategies and veterinary legislation in MSs.

Within the framework of strengthening a continental platform for exchange, discussions and advocacy mechanisms for guiding animal health development on the continent, the program facilitated the organization of 2 Alive executive Committee meetings and the general assembly meeting. An inventory of policy tools from various sources has been done with support of FAO-Value Chain Analysis (VCA), Livestock Sector Investment Policy Toolkit (LSIPT), livestock development planning system 2 (LDPS 2), FAO Easypol and Ex-ante tool for ranking policy alternatives. The first training workshop on policy analysis was conducted with the aim of enabling the VetGov regional coordinators and their RECs counterparts to carry out policy reviews and formulation, explain the concept and approaches of different policy tools (VCA, Livestock Sector Investment and Policy Toolkit, Ex-ante tool for Ranking policy analysis alternatives (extrapolate, Easypol etc), and map out the way forward in identifying critical entry points for VetGov engagement with RECs and country policies.

The program's communication strategy was drafted and validated during this period. A benchmarking workshop on IGAD policy hubs was organized, with the objective of carrying out a critical reflection on IGAD policy hubs experience that will be the basis on which the policy hub concept will be contextualized within the framework of the program.

6.2 Coordination of Animal Surveillance in Support of Livestock Trade in the Greater Horn of Africa

The proposal development funded under the VetGov project commenced and in on-going. The action fiche and detailed descriptions of project activities were finalized through a participatory process with close collaboration with IGAD.

6.3 Coordination of Pan African program for the control and eradication of PPR

The preparation for the pilot vaccination activities with thermostable PPR vaccine in Sudan and Uganda were completed and all the required materials, inputs, protocols, and administrative arrangements are in place for the effective implementation of field activities.

6.4 Integrated Regional Coordination Mechanism for the control of TADs and zoonosis in Africa (IRCM)

The Integrated Regional Coordination Mechanism for the Prevention and Control of Transboundary Animal Diseases and Zoonoses in Africa (IRCM) is a cross-border initiative developed by the AU-IBAR in collaboration with the AU-DSA (AUC), RECs, FAO, OIE and the WHO-AFRO for sustainable management of TADs & zoonoses. The project aims to strengthen technical and

coordination capacities of AU MSs and RECs secretariats in the fight against TADs and zoonoses in line with the integration agenda of the AU. Thus the project purpose is to strengthen the capacity of RECs and their member states to effectively coordinate, harmonize and execute interventions in the prevention and control of TADs and zoonoses, including emerging and re-emerging diseases with the participation of all stakeholders.

The main tasks identified to be implemented this year were to strengthen preparedness, disease early detection, prevention and control; to develop action plans for the IRCM in SADC, EAC, IGAD and ECCAS; to enhance intersectoral collaboration for effective preparedness, prevention and control of TADs and zoonoses and promotion of 'one health' approach in Africa and support for routine internal coordination of TADs and zoonoses actors in RECs and MSs.

The major achievements recorded in 2012 included:

- training of senior officials from veterinary, public health and wildlife departments of member states in ECCAS, COMESA, IGAD, SADC, ECOWAS and EAC on disease investigation in public health, livestock and wildlife using the 'One Health approach.
- A consensus building among key stakeholders on a common roadmap to mainstream one health approach in Africa was established.
- The project also launched a one health D-group, a discussion forum on one health approach to collate expert opinion on issues of importance to one-health.
- Significant progress was made in the procurement process to support COMESA Animal Health Reference Laboratory and the development of compendium of TADs and zoonoses in Africa.
- The One Health training program reached professionals from 26 African countries;
- The development of a continental training module for OH was initiated in collaboration with institutions of higher learning and one health networks across the continent.

6.5 Participation of African Nations in Sanitary and Phytosanitary Standards setting Organizations (PAN-SPSO)

The PAN-SPSO project has an overall objective of contribution to poverty reduction through promoting international trade of agricultural products (including livestock and fisheries) in Africa. Its specific objective is to strengthen and sustain effective participation of African countries during the formulation of international standards by the OIE, IPPC and Codex Alimentarius Commission on animal health, plant health and food safety, respectively. Thus the project modus operandi is aimed at strengthening and sustaining the effective participation of African countries in the activities of international standard setting organizations, namely OIE, IPPC and Codex Alimentarius Commission in order to influence their interests during the formulation of international standards on food safety, animal health and plant health in Africa.

The activities implemented during the reporting period include:

- 7 regional trainings of trainers on the use of science-based methods and development of scientific arguments in standard setting were conducted for participants from the CENSAD, COMESA, EAC, ECOWAS, IGAD, SADC and UMA regions;
- A technical meeting was held with animal health experts from MSs and African common positions were agreed upon and submitted to the World Animal Health Organization (OIE);
- A plant health experts meeting was also held and proposed coordinated positions on plant health standards were submitted to plant health directors at the MSs for endorsement. Thus the key achievements were the agreements on common African positions on draft international standards on animal health and phytosanitary measures. There was effective collaboration between AU-IAPSC and AU-IBAR staff for the implementation of the phytosanitary component of this activity.
- Establishment of Standing Committee of AU Member States experts on animal health and food safety - One technical Chief Veterinary Officer's Group meeting was held and fifteen (15) experts from Member States were supported to attend Codex Committee meetings on the establishment of international standards for various aspects of food safety.

6.6 Animal Resources Information System (ARIS2).

The goal of AU-IBAR through the development of ARIS2 is to help position AU-IBAR at the continental level, the Regional Economic Communities (RECs) and the member states at the local level as the core and reliable sources of comprehensive animal resources information in Africa. The overall objective of ARIS2 is therefore to enable AU-IBAR and the Member States to collect, collate and analyze in a timely manner, reliable and up to date data, information and knowledge on animal resources to support planning and decision making.

During 2012, the project main tasks included the upgrading of the ARIS2 through the creation and development of more modules and enhancement of interoperability with other information systems; and training of regional and national ARIS administrators, and regular users at national level;

The achievements during the reporting period include:

- Improvement in the hosting environment of the system and change in hosting of the infrastructure from the external/cloud to a local environment;
- Development of 8 additional modules/sub-modules and features;
- Training of 15 head users drawn from the various units of the AU-IBAR headquarters
- Training of 52 ARIS2 regional and national administrators from 5 RECs and 24 countries in 4 sessions;
- Training of 599 regulars and data submitters from 19MSs;
- procurement for IT hardware (1 server and 173 computers) for distribution to Member States to enhance animal resources data and information management

6.7 Support the establishment of the IBAR portal revamping the Animal Health Yearbook and the bulletin of Animal health and production in Africa

As part of its knowledge management activities during 2012, AU-IBAR implemented the following activities;

- The development of its publication guidelines for all its publications including the PAHYB, the quarterly animal health digest, monograph series, policy briefs, media outreach, AU-IBAR Newsletter, Visibility and promotional products, audio-visual materials and website contents among others;
- Publication of 2011 Pan African Animal Health Year Book and drafting of the 2012 edition;
- Production of 2 editions of the quarterly animal health digest;
- A reconstitution of the board which included partners from MSs ,and 2 meetings of board of the PAHYB were held;
- A training for technical committee of the PAHYB to enhance data analysis, presentation and editorial skills was conducted;
- Training of MSs and RECs in compilation and analysis of animal resources information to support policy decision making-one issue of the Bulletin of Animal Health and production in Africa published and distributed;
- TORs for the development of a catalogue and compendium on TADs and zoonoses developed and submitted leading to the engagement of a consultant;
- As part of the program for the modernization of its library, a new book scanner was purchased for the library and 2 library assistants were recruited;

6.8 Support to the ISCTRC Secretariat

AU-IBAR is the host of the International Scientific Council for Trypanosomiaisis Research and Control (ISCTRC) secretariat. The ISCTRC organizes biennial scientific conferences and also contributes to the publication of the PAAT Technical and Scientific series within the framework of PAAT. Although no conference was held during the year under review the following were achieved:

- The 19th meeting of National PATTEC coordinators and the PAAT meeting to finalize PAAT strategic framework was held;
- ISCTRC secretariat contributed to the finalization of PATT strategic framework and to the compilation, translation and dissemination of recommendations from the 31st general conference of stakeholders. This publication has been posted in the AU-IBAR website;
- Compilation of the manuscripts for the

preparation of ISCTRC proceedings was done;

- The secretariat also contributed to the development of agreed joint questionnaires to collect data on T&T. So far 15 countries have completed the exercise.

7. CONCLUSION

The PAHYB is published annually based on animal health reports submitted to AU-IBAR. The number of countries that submitted reports in 2012 were 47, and increase of 5 over the figure for 2011. Though there is increase in number of countries reporting, this was achieved at the cost of timeliness of the publication of the book. Furthermore the actual rate in terms of the number of months for which reports were submitted has not actually improved and the reporting rate has remained at 88.45% as against 88.47% in 2011.

There is also no improvement in the quality of the data. It is expected though that the quality will improve with the roll out and use of ARIS2 at the national level. There is the obvious need for continuous advocacy, awareness and action to stimulate improvement in the submission of animal disease reports to AU-IBAR by all member countries in order to give a complete picture of the animal health status of the continent.

A total of 84 different animal diseases were reported in 2012 that caused 23,679 outbreaks with 1,863,628 cases, leading to 516,320 deaths, 163,127 forced slaughtered and 1,175,983 destruction of animals. Other than the reported number of animals destroyed the figures for number of outbreaks, cases, death and slaughtered were all lower than those for the previous year. There is nevertheless some doubt about the correct understanding of the terms "slaughtered" and "destroyed" by field operatives.

The most widely distributed diseases across the continent during the reporting period in terms of number of countries affected are Rabies, ND, LSD, PPR, FMD, CBPP and anthrax in that order; whereas the diseases with highest number of outbreaks are LSD, Rabies, Theileriosis and Trypanosomosis. In summary the major TADs affecting African countries have remained the same over the last few years, with majority of them causing serious economic consequences to the livestock producing communities. The total number of animals lost within the year as a direct result of diseases, either through death, slaughter or destruction is estimated at 1,855,430.

While data on the incidence of zoonotic diseases in humans is not available, the spatial distribution and very high number of outbreaks of zoonotic diseases in animals is always a cause of concern. The major zoonotic diseases with wide distribution in Africa and high number of outbreaks are still Rabies, Anthrax, TB, Brucellosis, and Trypanosomosis. Though RVF and HPAI were reported by only 2 countries in 2012, the persistence of especially HPAI is of particular significance.

In 2012, AU-BAR successfully started the implementation of new projects to address veterinary governance in the continent as well as coordination and harmonization of the animal health standards, methods and procedures in line with OIE regulations. Another project on Surveillance of trade sensitive diseases has also been negotiated and will become operational in 2013.

ANNEX I: Status of Monthly Disease Reporting by Countries in 2012

	Country	MONTHS - 2012												% REPORTING			
		J	F	M	A	M	J	J	A	S	O	N	D	2012	2011	2010	2009
1.	Algeria													100%	100%	100%	100%
2.	Angola													100%	0%	100%	100%
3.	Benin													100%	100%	100%	100%
4.	Botswana													100%	100%	100%	100%
5.	Burkina Faso													100%	100%	100%	100%
6.	Burundi													100%	0%	100%	100%
7.	Cameroon													100%	100%	100%	100%
8.	Cape Verde													0%	0%	0%	0%
9.	CAR													83.33%	100%	100%	100%
10.	Chad													100%	100%	100%	100%
11.	Comoros													0%	100%	100%	100%
12.	Congo Brazzaville													100%	100%	100%	100%
13.	Cote d'Ivoire													100%	100%	100%	100%
14.	Djibouti													100%	100%	100%	100%
15.	DR Congo													91.67%	100%	100%	0%
16.	Egypt													100%	100%	100%	50%
17.	Equatorial Guinea													0%	0%	100%	0%
18.	Eritrea													100%	100%	100%	100%
19.	Ethiopia													100%	100%	100%	100%
20.	Gabon													0%	100%	100%	100%
21.	Gambia													0%	100%	100%	100%
22.	Ghana													100%	100%	100%	100%
23.	Guinea Conakry													100%	100%	100%	100%
24.	Guinea Bissau													100%	100%	100%	100%
25.	Kenya													100%	100%	100%	100%
26.	Lesotho													100%	100%	100%	100%
27.	Liberia													100%	100%	75%	0%
28.	Libya													33.33%	0%	0%	0%
29.	Madagascar													0%	100%	41.67%	50%
30.	Malawi													100%	100%	100%	100%
31.	Mali													50%	100%	100%	100%
32.	Mauritania													100%	100%	100%	100%
33.	Mauritius													100%	0%	100%	100%
34.	Mozambique													33.33%	83%	100%	100%
35.	Namibia													100%	100%	100%	100%
36.	Niger													100%	100%	100%	100%
37.	Nigeria													100%	100%	100%	100%
38.	Rwanda													100%	100%	100%	0%
39.	Sahrawi																
40.	Sao Tome & Principe													100%	0%	0%	100%
41.	Senegal													100%	100%	100%	100%

	Country	MONTHS - 2012												% REPORTING			
		J	F	M	A	M	J	J	A	S	O	N	D	2012	2011	2010	2009
42.	Seychelles													100%	58%	100%	100%
43.	Sierra Leone													100%	66%	100%	100%
44.	Somalia													100%	100%	100%	100%
45.	South Africa													100%	100%	100%	100%
46.	Sudan													100%	100%	100%	100%
47.	South Sudan													100%	NA	NA	NA
48.	Swaziland													100%	100%	100%	100%
49.	Tanzania													100%	100%	100%	100%
50.	Togo													100%	100%	100%	100%
51.	Tunisia													100%	100%	100%	100%
52.	Uganda													100%	100%	100%	100%
53.	Zambia													100%	100%	100%	100%
54.	Zimbabwe													100%	100%	100%	100%
														84.75%	84.78%	94.23%	88.46%

Full Reports Zero Reports No Reports

ANNEX 2: List of Diseases Reported in AU-IBAR Member States in 2012 and Related Quantitative Data arranged in order of number of Outbreaks

	Disease	Number of Countries affected	Total Number of Outbreaks	Total Number of Cases	Total Deaths	Total Number Slaughtered	Total Number Destroyed
1	Actinomycosis	2	8	13	2	0	0
2	African Horse Sickness	6	322	2564	828	6	0
3	African Swine Fever	20	361	89117	72392	11538	837
4	American Foulbrood	1	1	11	0	0	11
5	Anaplasmosis	15	1208	3471	3722	2	233
6	Anthrax	25	1019	8100	2843	390	139
7	Avian Chlamydosis	1	1	2	0		0
8	Avian Infectious Bronchitis	3	11	1233	103	0	11
9	Avian Infectious Larynotracheitis	1	1	3	3	0	0
10	Avian Leukosis	2	3	4	4	0	0
11	Avian Mycoplasmosis	1	1	8	2		
12	Babesiosis	17	1213	26989	411	7	83
13	Blackleg	22	1126	10940	2526	484	56
14	Bluetongue	5	36	177	27	0	22
15	Botulism	7	88	352	299	0	25
16	Bovine Genital Campylobacteriosis	2	8	16	0	0	0
17	Bronchopneumonia	1	3	18	0	0	0
18	Brucellosis	18	1067	42092	162	2093	733
19	Camel pox	1	41	369	30	23	9
20	Canine Distemper	7	103	324	97	1	5
21	Canine Parvo Virus Disease	1	1	2	2		
22	Caseous lymphadenitis	2	17	76	3	0	0
23	Chronic Respiratory Disease	1	3	120	21		
24	Coccidiosis	10	231	13604	4278	783	110
25	Colibacillosis	1	1	10	2	0	0
26	Contagious agalactia	1	2	4	1		
27	Contagious Bovine Pleuropneumonia	26	364	223480	15868	3100	380
28	Contagious Caprine Pleuropneumonia	5	335	21149	6124	364	75
29	Contagious Ecthyma	6	347	1572	9	10	0
30	Contagious Equine Metritis	1	2	2	0		0
31	Contagious Ophthalmia	3	344	1427	22	1	0
32	Contagious Pustular Dermatitis	3	48	277	6	1	3
33	Cysticercosis	7	96	319	739	206	1559
34	Dermatophilosis	10	813	11010	862	43	2
35	Distomatosis	7	64	3887	850	2120	0
36	Echinococcosis/hydatidosis	4	141	2365	428	2206	230
37	Ectoparasitosis	1	2	19	0	0	0
38	Enterotoxaemia	6	56	418	122	0	27

	Disease	Number of Countries affected	Total Number of Outbreaks	Total Number of Cases	Total Deaths	Total Number Slaughtered	Total Number Destroyed
39	Enzootic Abortion of Ewes	2	5	48	0	0	0
40	Enzootic Bovine Leukosis	1	2	2	1		0
41	Equine Encephalitis	1	1	15	6		
42	Equine Herpes Virus	1	1	4	3	0	
43	Erysipelas	5	17	1926	906	315	1
44	Foot and Mouth Disease	28	889	121700	4441	264	306
45	Footrot	6	125	784	116	0	0
46	Fowl Cholera	3	6	307	238	0	60
47	Fowl Pox	12	274	5827	1233	10	19
48	Fowl Typhoid/Pullorum Disease	9	31	11199	495	466	0
49	Haemorrhagic Septicaemia /other Pasteurellosis	18	1257	23219	4845	1358	19
50	Heartwater	11	864	4157	966	26	281
51	Highly Pathogenic Avian Influenza	2	44	29296	10550		15620
52	Infectious bovine rhinotracheitis/infectious pustular vulvovaginitis	2	3	13	6	0	0
53	Infectious Bursal Disease	12	176	42519	21720	39	294
54	Infectious Coryza	5	146	2563	902	5	3
55	Infectious Laryngotracheitis	1	1	853	721		
56	Leptospirosis	1	5	6	0	0	0
57	Low Pathogenic Avian Influenza	1	11	20	751		4308
58	Lumpy Skin Disease	29	1695	29985	2785	133	483
59	Malignant Catarrhal Fever	5	50	89	65	2	8
60	Mange	14	1016	29530	442	753	43
61	Marek's disease	2	3	111	3	0	0
62	Mastitis	7	171	245	23	0	0
63	Mucosal Disease/BVD	1	1	1	1		0
64	Nairobi Sheep Disease	1	3	93	9	4	4
65	Newcastle Disease	32	781	450477	219592	20142	619175
66	Nosemosis	1	3	190	0	0	190
67	Old World Screwworm	3	97	2148	2	0	0
68	Ovine Pulmonary Adeno-matosis	2	2	4	3		0
69	Paratuberculosis	2	13	53	32	0	5
70	Peste des Petits Ruminants	29	1275	159778	105022	13814	993
71	Piroplasmosis	3	41	257	55	0	0
72	Pneumonia Enteritis Com-plex	1	1	3			
73	Rabies	33	1343	5279	3166	145	2408
74	Rift Valley Fever	2	5	1198	56		0
75	Salmonellosis	8	42	215726	4805	95877	524311
76	Sheep and Goat Pox	12	791	16565	2715	265	263
77	Strangles	3	4	10	2	0	0

	Disease	Number of Countries affected	Total Number of Outbreaks	Total Number of Cases	Total Deaths	Total Number Slaughtered	Total Number Destroyed
78	Tetanus	1	1	1	1	0	0
79	Theileriosis	13	1339	35424	5007	168	50
80	Toxoplasmosis	1	2	4	0	0	0
81	Trichomonosis	3	21	51	0	0	5
82	Trypanosomosis	21	1336	199612	11424	4006	70
83	Tuberculosis	17	237	4348	422	1957	70
84	Varroasis	1	60	2444	0	0	2444
	Grand Total		**23679**	**1863628**	**516320**	**163127**	**1175983**

ANNEX 3: Contact Adresses of Directors of Veterinary Servces

NO	COUNTRY	NAME OF DIRECTOR	PHYSICAL ADDRESS AND POST OFFICE
1.	**ALGERIA**	***Dr. Rachid Bouguedour*** Directeur des Services Vétérinaires Ministère de l'Agriculture et du Développement Rural	12, Boulevard Colonel, Amirouche 16000 ALGER, ALGERIE **Tel:** (213-21) 743 434/711712 **Fax:** (213-21) 743 434/7463 33 **Email:** *dsval@wissal.dz ; rbouguedour@yahoo.fr*
2.	**ANGOLA**	***Dr. Jose Antonio*** Directeur général des services vétérinaires Ministério da Agricultura do Desenvolvimento Rural	Av. Comandante Gika-Largo Antonio Jacinto No. 55-56, C.P. 10578, LUANDA-ANGOLA **Tel:** (244-222) 324 067/323 217/321 429 **Fax:** (244-222) 324 067 **Email:** *dnap@ebonet.net* *Ricardona16@yahoo.com.br*
3.	**BENIN**	***Dr. Hounga Richard Lokossou*** Directeur de l'élevage Ministère de l'agriculture, de l'élevage et de la Pêche	BP 2041, COTONOU, BENIN **Tel:** (229) 21 331815978 fax 229 213 354 08 **Email:** *lokossourichard@yahoo.f*
4.	**BOTSWANA**	***Dr. Kgosietsile Phillemon-Motsu*** Director, Ministry of Agriculture Department of Veterinary Services	Private Bag 0032 GABORONE, BOTSWANA **Tel:** +267 31 81 571 **Fax:** (+267) 39 03 744 **Cell:** +267 72983870 **Email:** *kphilemon-motsu@gov.bw*
5.	**BURKINA FASO**	***Dr. Lassina Ouattara*** Directeur général des services vétérinaires Ministère des ressources animales Direction générale des services vétérinaires	09 Ouagadougou B.P 907, BURKINA FASO **Tel:** (226) 5032 4584/307650/326053 **Mobile:** (226) 70200670 **Fax:** +226 50318475 **Email:** *dvs@fasonet.bf; sielassina.ouattara@gmail.com*
6.	**BURUNDI**	***Dr. Emmanuel NKEZABAHIZI*** Directeur générale de l'élevage Ministère de l'agriculture et de l'Elevage	BP 161 Gitega Bujumbura, BURUNDI **Tel:** (257) 22402079 (257)2277741572 **Fax:** (257)22402133 **Email:** *nkezaba@yahoo.fr*
7.	**CAMEROON**	***Dr Paul Yemgai Kwenkam*** Ag. Director of Veterinary Services/ Deputy Director for Animal Health Directeur des Services de Vétéri-naires, Ministère de l'élevage, des Pêches et des Industries Animales (MINEPIA). YAOUNDÉ, Cameroun	**Tel:** (237) 7083 7414 : (237) 9681 5835 **Email:** yemgai@yahoo.com
8.	**CAPE VERDE**	***Dr Afonso Maria Semedo de Ligório*** Director dos Servicios de Ganaderia Ministério do Ambiente, Agricultura e Pesca Direcção General de Agricultura, Silvicultura e Pecuária	DGASP-MA B.P 50 PRAIA, CAP-VERT **Tél :** (238) 264 75 39 / **Fax:** 238 264 7018 **Email:** *afonso.semedo@mdr.gov.cv*
9.	**CHAD**	***Dr. Adam Hassan Yacoub*** Directeur des Services de Vétérinaires Ministère de l'Elevage,	BP 750, N'DJAMENA, TCHAD **Tel:** (235) 66259717 **Fax:** (235) 52 1 777/520797 **Email:** *ayacoub@gmail.com; pacechad@intnet.td; Adamhassan.yacoub@gmail.com*

NO	COUNTRY	NAME OF DIRECTOR	PHYSICAL ADDRESS AND POST OFFICE
10.	**COMOROS**	***DR. Abdourahim Faharoudine*** Délégué National de l'OIE Chef de Service santé Publique Vétérinaire Ministère de la Production et de l'Environnement	B.P. 774 MORONI, COMORES **Tel:** (+269) 33 27 19 **Fax:** (+269) 7738235 **Email:** *fahar1951@yahoo.fr*
11.	**CONGO**	***Dr. Jean Ikolakoumou*** Directeur de la Sante Animale Ministère de l'Agriculture, de l'Elevage et de la Pêche	B.P. 83 Brazzaville-Congo **Tel:** +242 66 118 81 **Fax:** +242 5274743 **Email:** *jikolakoumou@yahoo.fr*
12.	**DEMOCRATIC REPUBLIC OF CONGO**	***Dr. Honoré Robert N'Lemba Mabela*** Directeur Chef des Services de la production et la santé Animales DPSA Ministeré de l'Agriculture, la pêche et l'Elevage	Rue Ponzi NO. 65 Quantier Ngansele Commune Mount. Ngafula C/O FAOR, B.P. 16096. KINSHASA/GOMBE, CONGO (REP. DEM.DU) **Tel:** +243 815 126 564/999902 967 **Fax:** 176 322 62145 **Email:** *dr_nlemba@yahoo.fr or pace.rdc@micronet.cd*
13.	**COTE D'IVOIRE**	***Dr Yobouet Charlotte AMATCHA-LEPRY*** Directeur des Services Vétérinaires et de la Qualité Ministère de la Production Animal et des ressources Halieutiques Direction des Services Vétérinaires Cité, Administrative	B.P.V 84 ABIDJAN Tour C, 11e Etage, CITAD, ABIDJAN **Tel:** (225) 20 21 89 72 / 20 22 69 77 **Portable:** (225) 05 05 21 61/07074548 **Fax:** (225) 20219085 **Email:** *miparh_dsvci@yahoo.fr*
14.	**DJIBOUTI**	***Dr. Mouassa Ibrahim Cheick*** Directeur général de l'élevage et des Services Vétérinaires Ministère de l'agriculture, de l'Elevage et de la mer	B.P. 297, DJIBOUTI **Tel:** (253) 351 301/351 025 **Fax:** (253) 357 061 **Email:** *pace@intnet.dj*
15.	**EGYPT**	***Dr. Osama Mahmoud Ahmed Sleem*** Chairman of the General Organization of Veterinary Services (GOVS) Ministry of Agricultureb and Land Reclamation	1st nadi El Seid Street-Dokki Giza 12618-CAIRO, EGYPT **Tel:** (202) 7481750 **Fax:** (202) 336 17 27 **Email:** *govs.egypt@gmail.com Govs_egy@govs.gov.eg <Govs_egy@govs.gov.eg>;*
16.	**ERITREA**	***Afeweki Mehreteab*** Director of Veterinary Services Ministry of Agriculture APOD Technical services	P.O Box 4114/1048 ASMARA, ERYTHREE **Tel:** (291-1)181690 or (291-1)181077 **Fax:** (291-1)181019 **Email:** Vet12@eol.com.er; afewekim@moa.gov.er
17.	**ETHIOPIA**	***Dr. Bewket Siraw AdgehChief*** Veterinary Officer & OIE Delegate for Ethiopia Director, Animal and Plant Health Regulatory Directorate, Ministry of Agriculture Lamberet (Near ILRI)	Lamberet (Near ILRI)P.O Box 62347, ADDIS ABABA , ETHIOPIA P.O Box 62347, Addis Ababa, ETHIOPIA **Tel:** (251 11) 646 1277 (251(0) 9 11 825 270 **Fax:** (251 11) 64 62 003 **Email:** *bsiraw@yahoo.com*
18.	**GABON**	***Dr. Aubierge Moussavou*** Directrice Générale de l'Elevage	B.P. 136, LIBREVILLE **Tel:** +241 72 24 42 **Portable:** +241 07680000/06219768 **Email:** *aubiergefr@yahoo.fr*

NO	COUNTRY	NAME OF DIRECTOR	PHYSICAL ADDRESS AND POST OFFICE
19.	**GAMBIA**	***Dr. Kebba Daffeh*** Director of veterinary services Department of Veterinary services	ABUKO, The GAMBIA **Tel:** (+(220) 4390 820/7575 (220) 992 7736 **Mobile:** (+220) 990 2441 **Fax:** (220) 4397 575 **Email:** *kebbadaffeh@yahoo.co.ke*
20.	**GHANA**	***Dr Edward Augustus Mark-Hansen*** Ag Director, Veterinary Services Directorate Ministry of Food and Agriculture	P.O Box M161, ACCRA, Ghana **Tel:** (233) 21 77 57 77 / 21 77 60 15 / 21 77 60 21 **Mobile:** (+233)243179567 **Fax:** (233) 21 77 60 21 / 21 66 82 45 **Email:** *vsdghana@gmail.com; drmarkhansen@hotmail.com; vsdghana@yahoo.com; medwardaudustus@yahoo.com*
21.	**GUINEA**	***Dr. Sory keïta*** Directeur National de l'Elevage, Ministère de l'agriculture, de l'Elevage, de l'Environnement et des Eaux et Forets Direction Nationale de l'Elevage)	MAE/DNE B.P. 5585, CONAKRY REBLIQUE DE GUINEE **Tel:** (224) 60436107 **Fax:** (224) 30 45 20 47 **Email:** *k.sory@yahoo.fr*
22.	**GUINEA BISSAU**	***Dr. Bernardo Cassama*** Directeur de Service Vétérinaires Ministério da Agriculture e Desenvolvimento Rural	C.P. 26, BISSAU, GUINEE-BISSAU **Tel:** 245 322 17 19 **Fax:** 245 72 21 719 **Email:** *bernardocassama@yahoo.com.br pacegbissau@hotmail.com*
23.	**GUINEA EQUATORIAL**	***Dr. Silvestre Abaga Eyang*** Director General de Ganaderiary limentacion Ministerio de Agricultural Desarrollo Rural	Apartado 1041 MALABO, GUINEE EQUATORIALE **Tel:** +240 22227 39 24 **Fax:** +240 222 09 33 13/240 09 31 78 **Email:** *silvestreabaga@yahoo.es*
24.	**KENYA**	***Dr. Peter Ithondeka*** Director of Veterinary Services Ministry of Livestock Department of Veterinary Services	Veterinay Research Laboraty P.O KANGEMI-00625, NAIROBI-KENYA **Tel:** +254 20 2700575/254 20 44363 **Fax:** +254 20 67641 **Cell:** +254 733 783 746 **Email:** *vetdept@todaysonline.com peterithondeka@yahoo.com*
25.	**LESOTHO**	***Dr. Morosi Molomo*** Director General of Veterinary Services Department of livestock Services	Private Bag A 82 Maseru, 100 **Tel:** 266 223 123 18 **Fax:** 266 223 115 00 **Email:** *molekomp@yahoo.co.uk*
26.	**LIBERIA**	***Dr. Joseph R. N. Anderdon*** Director of Veterinary Services	P.O Box 10-4094 MONROVIA, LIBERIA **Tel:** +231886 5400 23 **E mail:** *Joeelson2000@yahoo.com; jrnanderson@moa.gov.lr*
27.	**LIBYA**	***Dr. Abdunaser Dayhum*** Director, National Centre of Animal Health	P.O. Box 8352 Tripoli, LIBYA **Tel:** (218-21) 483 1019 **Mobile:** (218) 91 763 3383 **Fax:** (218-21) 483 2122 **Email:** *adayhum@yahoo.com*

NO	COUNTRY	NAME OF DIRECTOR	PHYSICAL ADDRESS AND POST OFFICE
28.	**MADAGASCAR**	***Dr Biarmann Marcelin*** CVO/Madagascar OIE Delegate Ministère de l'Elevage Farafaty Ampandrianomby Road	BP 291 Antananarivo 101, MADAGASCAR **Tel:** (261-20) 24 636 38 (261-33) 11 494 82 **Email:** *mbiarmann@yahoo.fr*
29.	**MALAWI**	***DR. Patrick Chikungwa*** OIE National Delegates Director of Animal Health and Live-stock Development Ministry of Agriculture and Food Security	P.O Box 2096 LILONGWE, MALAWI **Tel:** +265 175 3038 **Mobile:** +265 888371509 **Fax:** (265-1)75 13 49 **Email:** *pchikungwa@yahoo.com*
30.	**MALI**	***Dr. Abdel Kader Diarra*** Directeur National des Services Vétérinaires	03 BP 220 BKO 3 BAMAKO, MALI **Tel:** (223) 222 2023/76 47 36 74/224 24 04 **Fax:** (223) 222 20 23 **Email:** *adelkaderdiarra@yahoo.fr*
31.	**MAURITANIE**	***Dr. Baba Doumbia*** Directeur de l'Elevage et de l'Agriculture Ministère du Dèveloppement Rural Direction de l'Elevage	B.P 175-Bp 2750 Nouakchott, MAURITANIE **Tel/Fax :** 00222 529 76 79 / 224 55 50 **Email :** *doumbia@mdr.gov.mr / demba.db@gmail.com*
32.	**MAURITIUS**	***Dr Deodass Meenowa Lewis Prayag*** Principal Veterinary Officer Ministry of Agro Industry and Fisheries Division of Veterinary Medicine	REDUIT, Mauritius **Tel:** (230) 466 66 62 **Fax:** (230) 464 2210 **Email:** *dmeenowa@mail.gov.mu ; moa-dvs@mail.gov.mu*
33.	**MOZAMBIQUE**	***Dr. José Augusto Libombo Junior*** Deputy National Director of Veteri-nary Services Ministerio de Agricultura	Praca dos Herois Mocambicanos, PO Box 1406, Maputo, MOZAMBIQUE **Tel:** (258-21) 460082/81 **Fax:** (258-21) 460 479 **Email:** *jlibombojr@yahoo.com.br*
34.	**NAMIBIA**	***Dr. Albertina Shiongo*** Chief Veterinary Officer Ministry of Agriculture, Water and Forestry	Private Bag 12022 Auspannplatz, Government park Windhoek 9000, NAMIBIA **Tel:** (264-61) 208 7513 **Fax:** (264-61) 208 7779 **Email:** *shilongoac@mawrd.gov.na*
35.	**NIGER**	***Dr Ibrahim Bangana*** Directeur Général des Services Vétérinaires Ministère de l'Elevage	Niamey, NIGER **Tel:** (227) 9750 7240 / 2073 3184 **Fax:** (227) 20 733 184 **Email:** *dgsvniger2011@gmail.com; ibangana@yahoo.fr*
36.	**REPUBLIC OF CENTRAL AFRICA**	***Dr. Emmanuel NAMKOISSE*** Directeur santé Animale Agence Nationale de Développement de L'Elevage (ANDE)	BP: 1509 Bangui **Tel:** (236) 7504 2978/70011721 **Fax:** (236) 21617425 **Email:** *nam_emma@yahoo.fr*
37.	**NIGERIA**	***Dr. Joseph Nyager*** Director, Federal Ministry of Agricul-ture and Rural Development Department of Livestock and Pest control services	New Secretariat, Area 11, P.M.B. No. 135, Garki, Abuja, FCT, NIGERIA **Tel:** (234) 803 786 87 07 **Fax:** (234-9) 314 23 19 / 524 01 26 **Email:** *nyagerj@yahoo.com*

NO	COUNTRY	NAME OF DIRECTOR	PHYSICAL ADDRESS AND POST OFFICE
38.	**RWANDA**	***Dr. Rutagwenda Théogène*** Ministère de l'Agriculture et des Ressources Animales Directeur de l'Office Rwandais du Dèveloppement des Ressources Animales (RARDA)	P.O. Box 621 MINAGRI, KIGALI, RWANDA **Tel:** (250) 084 75 493 **Tel/Fax:** (250) 589 716 / 585057 **Email:** *rutagwendat2006@yahoo.com*
39.	**SAO TOME ET PRINCIPE**	***Dr. Natalina Vera Cruz*** Délégué de l'OIE Ministère de Plan et Développement Directeur de l'Elevage Ministère de Economia	Avenida marginal 12 de Julho Caixa Postal 718 SAO TOME ET PRINCIPE **Tel:** (239) 222 2386 (239) 990 3704 **E-mail:** *natalinavc@hotmail.com*
40.	**SENEGAL**	***Dr. Mbargou Lo*** Directeur de l'Elevage Ministère de l'Elevage	37, Avenue Pasteur BP 67, DAKAR **Tel:** (221) 33 849 1971/76 **Fax:** (221) 33 849 1972 **Email:** *mbargoulo@voila.fr*
41.	**SEYCHELLES**	***Dr. Jimmy Gelaze Melanie*** Director Veterinary Services Ministry of Environment and Natural Resources	P.O.Box 166, Victoria Mahe, SEYCHELLES **Tel:** + (248) 285 950/722 869 **Fax:** + (248) 225 245 **Email:** *vetmamr@seychelles.net*
42.	**SIERRA LEONE**	***Mr. Francis A-R Sankoh*** Director of Livestock Services Division Ministry of Agriculture, Forestry and Food Security	Youyi Building FREETOWN, SIERRA LEONE **Tel:** (232) 242 167 (232) 076 734 580 **Email:** *farsankoh@yahoo.com*
43.	**SOMALIA**	***Dr. Habiba Sheikh Hassan,*** Director of veterinary services Ministry of Livestock,Forestry and Range Somalia TFG- Somalia	P.O. BOX 8403 GPO Nairobi, Kenya. **Cell:** +254722878678 **Email:** *habibahamud@yahoo.com*
44.	**SOUTH AFRICA**	***Dr. Botlhe Michael Modisane*** Chief Director, Animal Production and Health Department of Agriculture, Forestry & Fisheries	Private Bag X138 Pretoria 0001 SOUTH AFRICA **Tel:** (27-12) 319 7463 **Fax:** (27-12) 319 7535 **Email:** *Botlhem@daff.gov.za*
45.	**SUDAN**	***Dr. Awadelkarim Muktar*** Under Secretary Ministry of Animal Resources & Fisheries	PO Box 293 Khartoum, SUDAN **Tel:** (249) 9 12 417 978 **Fax:** (249) 834 75 996 **Email:** *awadkarim@hotmail.co.uk*
46.	**SWAZILAND**	***Dr. Roland Xolani Dlamini*** Director, Veterinary and Livestock Services Ministry of Agriculture	PO Box 162 Mbabane H100, SWAZILAND **Tel:** (268) 760 62602 **Fax:** (268) 2505 6443 **Email:** *dlaminirol@gov.sz;*
47.	**TANZANIA**	***Dr. Win Mleche*** Director of Veterinary Services Ministry of Livestock Development and Fisheries	PO Box 9152 Dar Es Salaam, TANZANIA **Mobile:** (+255) 784358549 **Fax:** +255222862592 **Email:** *dvs@mifugo.go.tz ; wcmleche@yahoo.co.uk*

NO	COUNTRY	NAME OF DIRECTOR	PHYSICAL ADDRESS AND POST OFFICE
48.	**TOGO**	***Dr. BATAWUI Komla Batassé*** Directeur de l'Elevage et de la Pêche Ministère de l'Agriculture, de l'Elevage et de la Pêche	9, Avenue des Nîmes BP 4041, LOME, TOGO **Tél:** 228 221 36 45/ 221 60 33 **Mobile:** 228 909 27 30 **Fax:** 228 221 71 20 **Email:** *dbatawui@yahoo.fr*
49.	**TUNISIA**	***Dr Abdelhak Ben Younes*** Directeur Général des Services Vétérinaires Ministère de l'Agriculture,	30 Rue Alain Savary 1002 Tunis TUNISIA **Tel:** (216) 7 1 794 586 **Fax:** (216) 71 787 906 **Email:** *abdelhak.benyounes@iresa.agrinet.tn*
50.	**UGANDA**	***Dr Nicholas Kauta*** Ag. Director Animal Resources Ministry of Agriculture, Animal Industry and Fisheries (MAAIF)	PO Box 513 ENTEBBE, UGANDA **Tel:** (256-41) 320 825 **Mobile:** 256-772-653139 **Fax:** (256-41) 320 428/321 070 **Email:** *dar.maaif@infocom.co.ug;* *nicholaskauta@yahoo.co.uk*
51.	**ZAMBIA**	***Dr Joseph Mubanga*** Director Chief Veterinary Officer Department of Veterinary Services Ministry of Agriculture and Livestock	P.O. Box 50060. Mulungushi House Lusaka, ZAMBIA **Tel:** (260) 211 256679 **Fax:** (260) 211 252608/256007 **E-mail:** *mumujos@yahoo.com*
52.	**ZIMBABWE**	***Dr. Unesu Ushewokunze-Obatolu,*** Director, Division of Veterinary Field Services Department of Livestock & Veterinary Services Agriculture, Mechanisation & Irrig. Deve Bevan Building, 18, Borrowdale Road, Opposite St. Georges' College	P.O. Box CY56 Causeway Harare, ZIMBABWE **Tel:** (263 4) 738 645 **Mobile:** (263) 772219763 **Fax:** (263 4) 700 327 **E-mail:** *dvfs@mweb.co.zw;dvfs@vetservices.co.zw; newazvo@hotmail.com*

African Union – Interafrican Bureau for Animal Resources
(AU-IBAR)
Kenindia Business Park
Museum Hill, Westlands Road
PO Box 30786
00100 Nairobi
Kenya
Tel: +254 (20) 3674 000
Fax: +254 (20) 3674 341 / 3674 342
Email: ibar.office@au-ibar.org
Website: www.au-ibar.org