

A collage of images illustrating various types of livestock and animal husbandry. The top section shows a herd of cattle with long horns and camels in a grassy field. Below this, a brown goat is shown grazing, and a rooster stands prominently. The bottom section features a donkey carrying a load on its back, a large pile of fish, and a white sheep. The entire collage is overlaid with a green and yellow striped pattern on the left side.



Pan African Animal Resources Yearbook 2015



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Pan African Animal Resources Yearbook

An AU-IBAR Publication

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TABLE OF CONTENTS

PREFACE	vii
ACKNOWLEDGEMENT	ix
ABBREVIATIONS AND ACRONYMS	x
DEFINITION OF TERMS	xi
EXECUTIVE SUMMARY	xiii
I. INTRODUCTION	I
2. GENERAL STATUS OF MONTHLY ANIMAL DISEASE REPORTING	3
2.1. Trend of Disease Reporting by countries from 2000 to 2015	3
2.2. Status of monthly disease reporting in 2015	4
2.3. Reporting formats	4
3. GENERAL STATUS OF ANIMAL DISEASES IN AFRICA IN 2015	5
3.1. Diseases reported	5
3.2. Disease situation by number of countries affected	5
3.3. Disease situation by number of reported outbreaks	7
3.4. Disease situation by number of cases in reported outbreaks in 2015	8
3.6. Disease situation by species affected in the reported outbreaks in 2015	12
3.7. Nature of disease outbreak investigation and confirmation by laboratory	14
4. SITUATION OF MAJOR ANIMAL DISEASES IN 2015	17
4.1. African horse sickness (AHS)	17
4.2. African swine fever	18
4.3. Avian Influenza	19
4.4. Bluetongue (BT)	21
4.5. Contagious Bovine Pleuropneumonia	22
4.6. Contagious Caprine Pleuropneumonia	24
4.7. Foot and Mouth Disease	25
4.8. Lumpy Skin Disease	26
4.9. Newcastle Disease	28
4.10. Peste des Petits Ruminants	30
4.11. Rift Valley fever	32
4.12. Sheep Pox and Goat Pox	33
5. SITUATION OF OTHER IMPORTANT DISEASES IN AFRICA IN 2015	35
5.1 Anaplasmosis	35
5.2 Anthrax	36
5.3 Babesiosis	37

5.4	<i>Blackleg</i>	39
5.5	<i>Brucellosis</i>	40
5.6	<i>Dermatophilosis</i>	41
5.7	<i>Gumboro disease (Infectious Bursal disease)</i>	42
5.8.	<i>Heartwater</i>	43
5.9	<i>Mange</i>	45
5.10	<i>Haemorrhagic Septicaemia and other Pasteurellosis</i>	46
5.11	<i>Rabies</i>	47
5.12	<i>Theileriosis</i>	50
5.13.	<i>Trypanosomosis</i>	51
6.	<i>AFRICA LIVESTOCK POPULATION AND COMPOSITION IN 2015</i>	55
7.	<i>AFRICAN FISHERIES AND AQUACULTURE PRODUCTION AND INTERNATIONAL TRADE IN 2015</i>	67
8.	<i>AU-IBAR INTERVENTIONS ON ANIMAL RESOURCES IN 2015</i>	88
9.	<i>ANNEXURES</i>	121

The Pan-African Animal Resources Yearbook (PARYB) will continue to evolve with its resignation as to cover all areas of Animal Resources in Africa instead of only Animal Health related issues. Thus more data and information on Animal production, trade and Marketing, Fisheries and Aquaculture etc will continue to be added to the contents of the book. This transformation started since the last the last three previous editions of the book.

Furthermore, with the gradual expansion in the scope and coverage of the Animal Resources Information System (ARIS) and the addition of more operational modules to the system as well as its acceptance as a continental reporting and database by MSs and RECs, more authentic data is being generated directly from Member States of the African Union (AU-MSs) at both national and sub-national levels and shared to AU-IBAR and the Regional Economic Communities.

The current edition of the PARYB, in addition to previous areas of coverage, includes information on Fish health, broader information on animal breed and genetics instead of the traditional animal population figures, trade and marketing information as well as information on policy analysis that affects the animal resources sector on the African continent.

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

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AU-IBAR also acknowledges the collaboration of partners, especially OIE and FAO from where some missing data and information (such as the Livestock population and Fisheries data) were sourced to complement the information provided to AU-IBAR directly by the AUC-MSs

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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:** According to the OIE Terrestrial Code, ¹Epidemiological 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.
- **Outbreak²:** 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 cases³:** 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.

¹Definition of Epidemiological Unit by OIE Terrestrial Code

²Definition by the OIE Terrestrial Code

³Definition of CASE by OIE Terrestrial Code

EXECUTIVE SUMMARY

This year's edition of the PanAfrican Animal Resources Yearbook (PARYB), like that of the previous year, contains information from different areas of animal resources including not only animal health, but livestock population, genetic resources and Fisheries and aquaculture data as well as information on key policy decisions on animal resources in the continent, including such as the Ministerial decisions. A new feature added to this edition of the PARYBA is information on infrastructure and Institutions as well as human resources working in the animal resources sector in the continent. A summary of the interventions and/or projects being implemented by the African Union Interafrican Bureau for Animal Resources (AU-IBAR) in the year is also included. Finally an expanded contact list for Directors of Veterinary services, Directors of Animal production and Directors of Fisheries development is annexed to the yearbook.

In 2014 monthly disease situation reports in various forms were received from a total of 41 Member States (MSs) of the African Union (AU) almost similar to the 42 reports received during the previous year. The actual monthly reporting rate, which is a measure of the actual number of monthly reports received from each country during the year, has reduced from 84.75% in 2013 to 72.23% in 2014. Nevertheless the reporting rate to AU-IBAR is still higher than the 39MSs that submitted reports to the OIE during the same period. Also more countries (33) are now using the AU-IBAR/ARIS format to submit disease outbreak reports to AU-IBAR.

For animal population data, only 33 MSs reported the updated year 2014 data, while the Infrastructure and Institutions data was obtained from 42 countries as per the records available in the Animal Resources Information System (ARIS).

A total of 83 animal diseases were recorded in 2014 involving 23,581 outbreaks; and 1,275,032 cases. The total loss (deaths, slaughter and destruction) suffered in the year was 1,345,980 animals. The number of outbreaks, cases and total in 2014 is substantially lower than that of 2013 where the respective figures were 27,767 outbreaks, 2,303,277 cases and 1,278,880 total losses (deaths, slaughter and destruction). As far as species distribution is concerned, and similar to previous years, cattle is the most severely affected species in the continent accounting for 62% of outbreaks, followed by the Ovine/Caprine with 14%, Avian species with 11% and Canine 6%. There is an increase in the percentage of outbreaks that affected the avian species (from 8.97% to 11%) and the canine species (from 4.88% to 6%) because of the resurgence of avian influenza in some countries and increase in rabies cases. The highest losses in terms numerical number of deaths, slaughter and destruction were reported on the avian species due mainly to avian influenza. In terms of spatial distribution across the African continent, the most widely distributed animal disease(s) based on the number of countries affected are Rabies and Newcastle each of which were reported by 27 countries in the year 2014. Other diseases with significant spatial distribution in Africa which affected more than 20 countries are lumpy skin disease (24), Peste des Petits Ruminants (25), and Foot and Mouth Disease (26). This pattern is almost similar to the situation in 2013 and previous years except for the reduction in the number of countries that reported Contagious Bovine Pleuropneumonia (19 MSs from 22).

The state of genetic biodiversity in Africa based on FAO estimates showed that the aggregate number of cattle is 304million, 347 million Goats, 328 million Sheep, 35 million Pigs, 6million horses and

23million camels among others. In terms of regional distribution, Northern Africa has the highest population of sheep; Western Africa has the highest Goat and Poultry population, while eastern Africa has the highest population of cattle. Pig population on the other hand is highest in western, eastern and central regions of the continent. Evidently there are data gaps regarding the numbers of non-conventional livestock such as grass cutter, cane rat and Guinea pigs though it is reported that the production and consumer preference for these species is increasing especially in the western and central African regions. In terms of individual country ownership, Ethiopia had the highest number of cattle outstandingly holding 25% (37.8 million) of the total cattle population in the continent based on 2013 estimates, while Nigeria was the continent's major Sheep and Goat keeper making up 28 % (16.7million) of the total small ruminant population

In general there are data gaps on livestock numbers on the continent and many countries base their livestock numbers on estimation and projections with no country reporting conducting an actual livestock census in the last 5 years.

The sourcing of data on Fisheries production and trade in Africa has remained a big challenge and most of the information for 2014 was sourced from the FAOStats. Available data suggests that the participation of African countries in Fisheries production and trade continues to lag behind compared to other continents. Regarding capture fisheries, Morocco continue to be the highest fish producing country on the continent (1,171,496 metric tons) followed by South Africa (701,711 metric tons) and Nigeria (668,754 metric tons). In general terms the general fish production trend across these countries mirrors that of the global trend of stagnant capture fishery production while human population growth continues to increase portending serious implication for food security. The proposed solution is to promote good governance principles and strengthen institutional capacity for enhanced governance.

On aquaculture, Egypt continues to dominate production both in terms of volume and value (1017.74 tons) due to improved technology and sustainable culture practices as a result of Government assistance to private sector in the country. The catfish farming industry in Nigeria (254tons) is booming with increased private sector involvement and the African catfish, *Clarias gariepinus*, is the main cultured species. The aquaculture industry in Uganda and Ghana has also expanded tremendously over the years with increased cage culture development. The main challenge to commercial aquaculture development, particularly in African countries south of the Sahara, is weak regulatory frameworks and poor practices.

The small-scale fisheries plays crucial role in employment creation and food security in African coastal and riparian communities. Analysis of available data underscored the importance of small-scale fisheries in national development, especially the marine artisanal fisheries, being the subsector with highest contribution to national GDP (0.43 %) and agriculture GDP (1.82 %) in comparison to the highly mechanized industrial fisheries, inland fisheries and aquaculture. The employment number in the fisheries and aquaculture sector is estimated at about 12.2 million people, with the highest employment from the inland fisheries (40.9 %) followed by the coastal (marine) fisheries (32.9 %). However in general it is important to note that total contribution of fisheries and aquaculture to the national GDP in most countries have been depressed in recent years by mining sector with the discovery of oil fields and minerals.

Regarding human resources involved in animal resource development on the continent, available data generated through ARIS showed that Egypt has the highest number of personnel involved in animal health in Africa, followed by Ethiopia, Nigeria, Algeria and Sudan. Some countries, such as South Africa have not provided data on private veterinarians and other personnel in this sector. Available data indicates that there is no clear pattern of the distribution of veterinary personnel between the public and private sectors in the different countries. In early assessments of veterinary services, it was suggested that the minimum requirement to deliver effective essential public sector veterinary services, expressed as a ratio of livestock units (LU) to veterinarians is 100,000:1 (FAO, 1993). However, in Africa this ratio is reportedly anywhere between 100,000 and over 1,000,000. This suggests a serious shortage of veterinarians in Africa in general though there ratio is a lot of variation between many of the countries.

There is a general trend in most African countries that there are more animal production personnel than veterinary professionals. They are generally involved in research, extension and development work, while those in the private sector tend to be employed in animal resources manufacturing sector, as well as dairy industry. In most African countries, there are more animal production, fisheries and wildlife personnel in the public than private sector. However, in some countries where private sector fisheries play a key role, for example, Uganda, there are more personnel in the private sector.

The data on training Institutions on the continent is not comprehensive to say the least. Training institutions comprise institutes, colleges or universities, offering training in animal resources-related fields such as veterinary and animal production. In 2011, a total of 80 veterinary training institutions (VTIs) were identified in Africa. Forty two (42) of these were in East and Southern Africa, 22 in North Africa, 12 in West Africa and 4 in the Central Africa (AU-IBAR, 2012). For animal production, many of the universities with faculties or departments of agriculture tend to offer animal science courses as part of BSc (Hons) degrees. It appears very few universities and training institutes offer courses specifically in fisheries and wildlife. Of these Uganda (fisheries), Zimbabwe (wildlife), Senegal (fisheries and aquaculture) and Kenya (fisheries and wildlife) are among the few providing these courses.

The lack of up to date data and 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 good planning of interventions and policy making on animal resource development in a coordinated manner. The rolling out and operationalization of the Animal Resource Information System (ARIS) since 2012 has helped improve the situation, but more needs to be done in terms of uptake of the system at the national level. AU-IBAR is also implementing a good number of projects and interventions to support MSs in advancement of animal resources development throughout the continent in line with its mandate. Some of these projects include the VETGOV project, PANSPSO, IRCM, ARIS, STSD, Fisheries Governance, Fisheries trade, Animal Genetics and development of a continental PPR and ASF control strategy as well as a hosting of the ISCTRC secretariat.

During 2014, AU-IBAR developed the “continental strategy for development of animal resources in Africa (LiDeSA)” in line with the recommendation of African Ministers responsible for livestock development on the continent.

I. INTRODUCTION

The new annual “PanAfrican Animal Resources Yearbook” continued along the expanded theme of the previous year’s edition by providing data and information not only on the status animal diseases on the continent, but also on other areas of animal resources in the continent. The new chapters introduced are “Livestock population and Composition” in the context of African animal genetic resources, “African Fisheries production and International trade”, “Human Resources”, “Infrastructure and Institutions” as well as the “summary of the major decisions taken by Chief Veterinary offices and Ministers responsible for livestock development and Fisheries development” in the continent.

The chapter on the major recommendations of the CVOs – which is mainly a summary of the common positions adopted by national OIE delegates during the OIE general meetings – highlights the efforts being made by technical heads of veterinary services in promoting and sometimes enforcing the position of Africa during the standard setting processes at the global level which ensures the protection of trade and prevention of any unwholesome or barrier in trade against Africa. The chapter on the summary of the major decisions and recommendations of Ministerial meetings is on the other hand is aimed at demonstrating the political support being provided for animal resource development on the continent by the policy makers and even sharing the general thought process to promote animal resource development on the continent. In this edition of the book, the summary reports of two important Ministerial meetings were presented – the AU Joint Conference of Ministers of Agriculture, Rural Development, Fisheries and Aquaculture that took place at Addis Ababa Ethiopia from 1– 2 May 2014; and the High level Ministerial meeting on the Livestock Development strategy for Africa that took place at the AU-IBAR headquarters Nairobi, Kenya from 12 -14 November 2014.

The data analysis contained in this yearbook brings to light many of the issues and challenges associated with paucity of data and information to support policy making on the continent. These include the lack of effective animal health systems, animal production indices and trade and marketing data. Other challenges include the lack of capacity in transforming decisions into action including lack of adequate trained/skilled staff and poor record keeping, among others.

Perhaps the biggest challenge is that of lack of culture of record keeping and systems for ensuring such in many countries in Africa. The used for the publication of this books comes mainly from passive animal health data collection methods. Other data sources include the OIE/VAHIS the FAO stats. Therefore while the Yearbook contains some analysis of animal resources data as reported by or obtained from MSs, it is not a detailed academic study of the situation at national or the continent level. The Yearbook should therefore be viewed as the general reflection of the situation on the continent during the year and used as such. It is nevertheless a very good guide for decision making on animal resource 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 resources development on the continent is also provided.

2. GENERAL STATUS OF MONTHLY ANIMAL DISEASE REPORTING

2.1. Trend of Disease Reporting by countries from 2000 to 2015

During the year 2014, 37 countries submitted animal disease reports to AU-IBAR out of the 54 reports expected from member countries of the African Union that are expected to share their sanitary information to the continental body. Just like in the year 2015, the number of countries submitting sanitary reports and the aggregate reporting rate has declined compared to previous years. The reporting rate on continental basis decreased from 77.36% to 68.52% as at end of the year (Table

and figure 1). This decline may be as a result of the shorter timeline for consolidation of the animal health reports from MSs at the continental level compared to the previous year's and the absence of any direct support for reporting through projects and absence of any realistic sanction for defaulting by MSs

Nevertheless the quality of the reports especially from MSs that submit reports regularly interns of providing more details and accuracy has continued to improve, although the timeliness

of "spontaneous" reporting without reminders being has remained stagnant over the years. The improvement in the quality of the reports is as a result of the adoption and use of ARIS by more countries as the system has a good provision for data standardization and elimination of major errors during data entry.

It is expected there will be gradual improvement in reporting as MSs take full ownership of the process. It is also expected that the roll out of the Animal Resource Information System (ARIS) 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 to be noted that countries have improved on the submission of "Immediate notification" of disease outbreaks to AU-IBAR using ARIS.

This has afforded opportunity for AU-IBAR to provide support immediate support to the affected countries in order to ameliorate the situation.

Table 1: Trend of disease reports to AU-IBAR (2000-2015)

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
2013	42	54	79.25
2014	41	54	77.36
2015	37	54	68.52

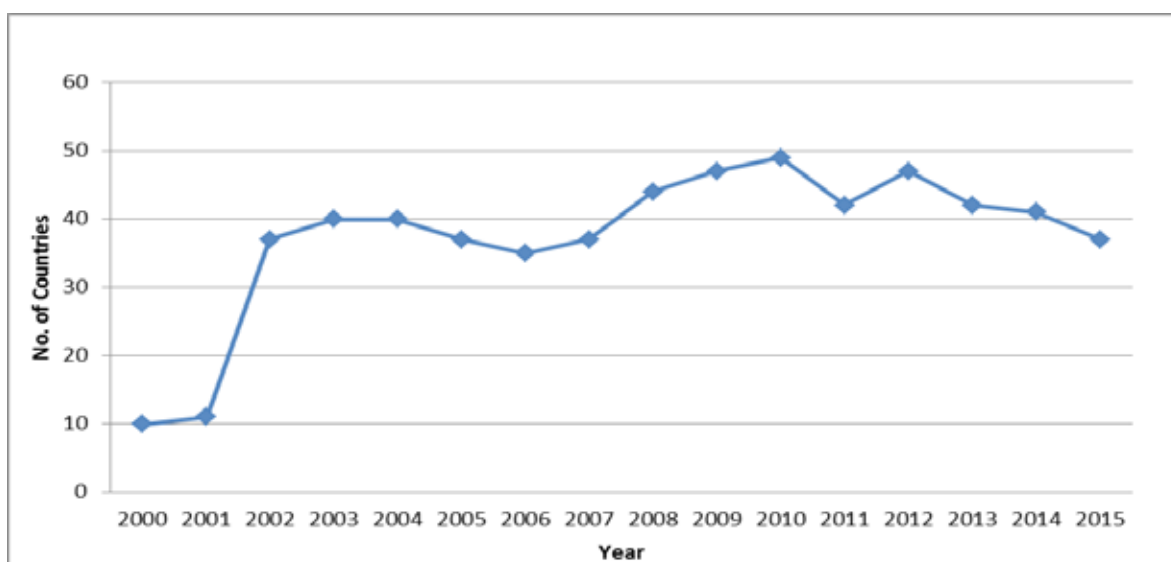


Figure 1: Trend of disease reports to AU-IBAR (2000-2015)

2.2. Status of monthly disease reporting in 2015

In 2015, the monthly reporting rate has further declined from 72.23% in 2013, and 84.75% in 2012 66.35% in 2014 to (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 to the OIE. During 2015, 33 African countries submitted reports to OIE compared to 37 countries that submitted reports to AU- IBAR.

As usual the main challenges associated with data analysis over the years has been 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

In 2015, most of the countries used AU-IBAR format to report through ARIS-2 on-line or using the system generated spreadsheet. Out of the 48 countries that were trained on the system operation, 40 have used to ARIS-2 in one form or the other to submit reports to AU-IBAR.

Other formats used by MSs within the year include, OIE format (3), FAO/TAD-Info format (1) and non-specific/country own format (1).

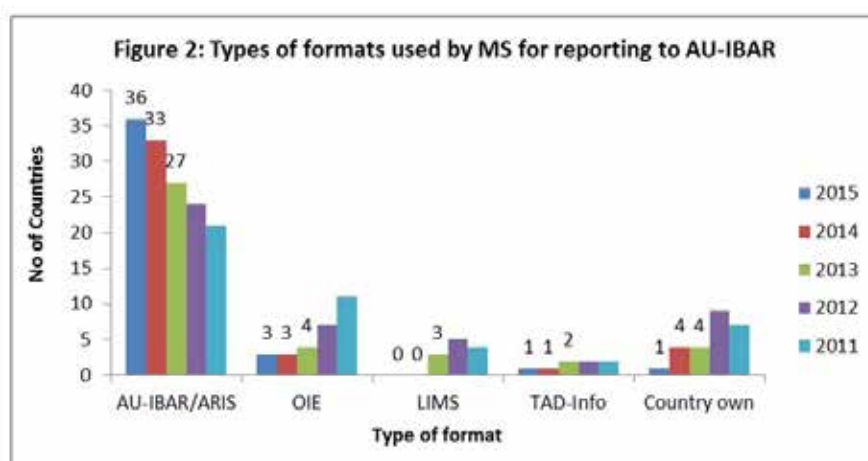


Figure 2: Different types of formats used by countries for reporting to AU-IBAR

3. GENERAL STATUS OF ANIMAL DISEASES IN AFRICA IN 2015

In 2015, there is no difference between the numbers of reported diseases in African countries compared to 2013. It is observed a significant difference between the numbers 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 2015 and 2014. 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 2015 is compared with that of the previous year. The spatial and monthly distributions of outbreaks are presented on shaded maps and graphics.

3.1. Diseases reported

A total of 76 animal diseases were recorded

in 2015 compared to the 83 reported in 2014 (Annex 1). These diseases were reported by 37 countries against 41 in 2014. This include major known TADs and others important diseases with interest to countries and regions. It is noted a significant decrease of the number of outbreaks 19,047 probably due to the decreased number of reporting countries (37) compared to 2014 where 23,581 outbreaks were reported.. The reported diseases were analyzed by number of reporting countries, outbreaks, cases, deaths including losses and by their transboundary nature.

3.2. Disease situation by number of countries affected

As in 2014, the most widely distributed TADs in Africa in 2015 remains ND (26) followed by FMD (23), PPR (23), LSD (19), CBPP (17) ASF (16) and SGP (10). There is no variation on major TADs distribution across the continent compared to 2014, 2013 and 2012. Figure 3 below provides details on the number of Member States affected by type of disease in 2015 in comparison to 2013.

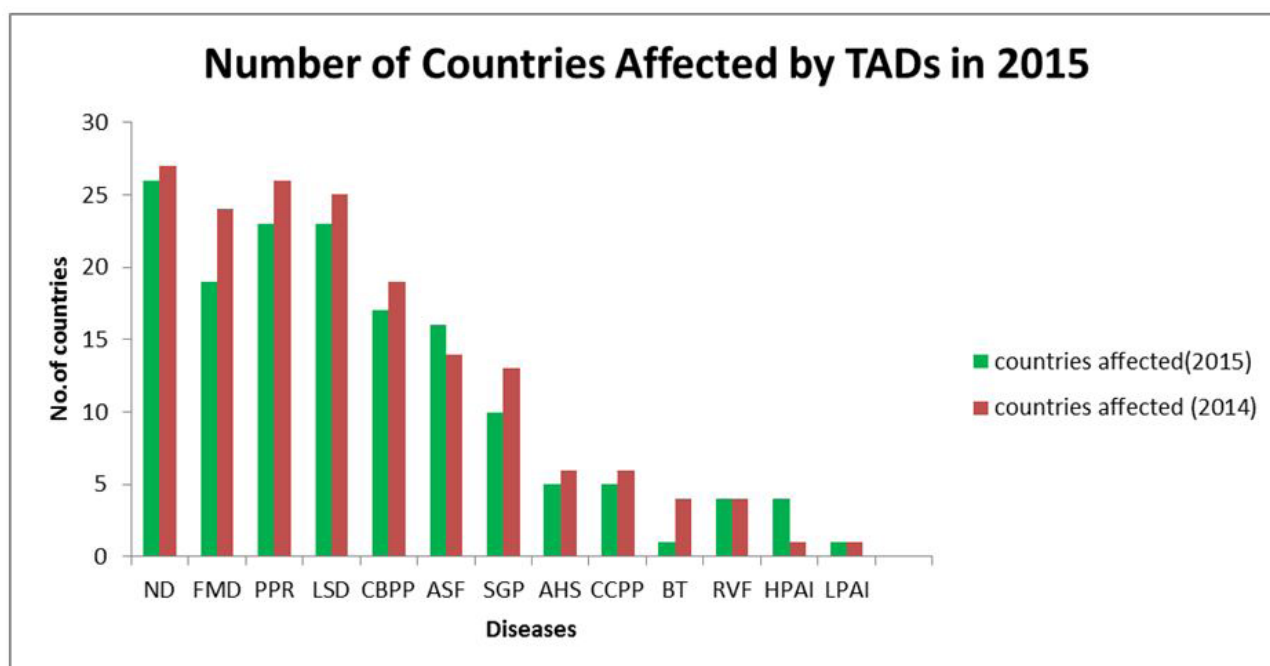


Figure 3: Number of countries affected by TADs in 2015

Among other important diseases, Rabies was the most reported by countries (32), as usual and had the widest spatial distribution, followed by Anthrax (19), Brucellosis (18), Blackleg (17), Haemorrhagic Septicaemia (16), Trypanosomosis

(15) Anaplasmosis (14) and Babesiosis (12). Figure 4 shows the number of countries affected by the other important diseases in 2015 in comparison with 2014.

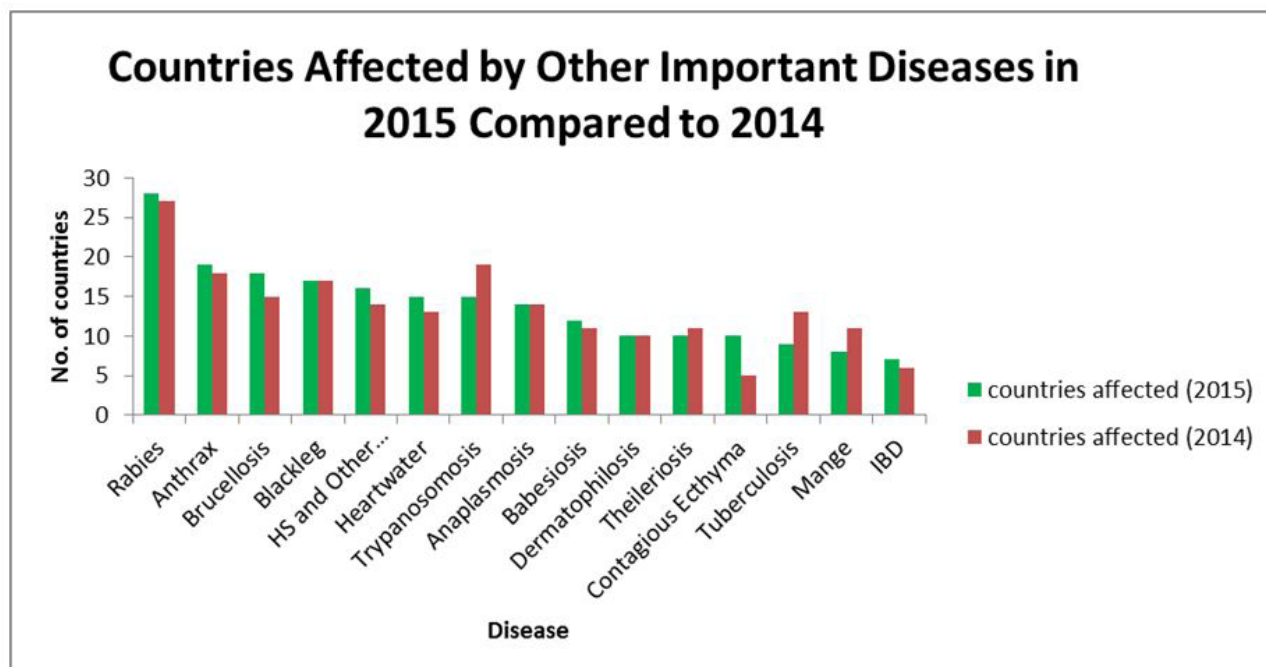


Figure 4: Number of countries affected by other important diseases in 2015

The status of the reported disease spatial distribution has not changed since 2010. This status showed that most the diseases in Africa are endemic despite of the 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 5 below.

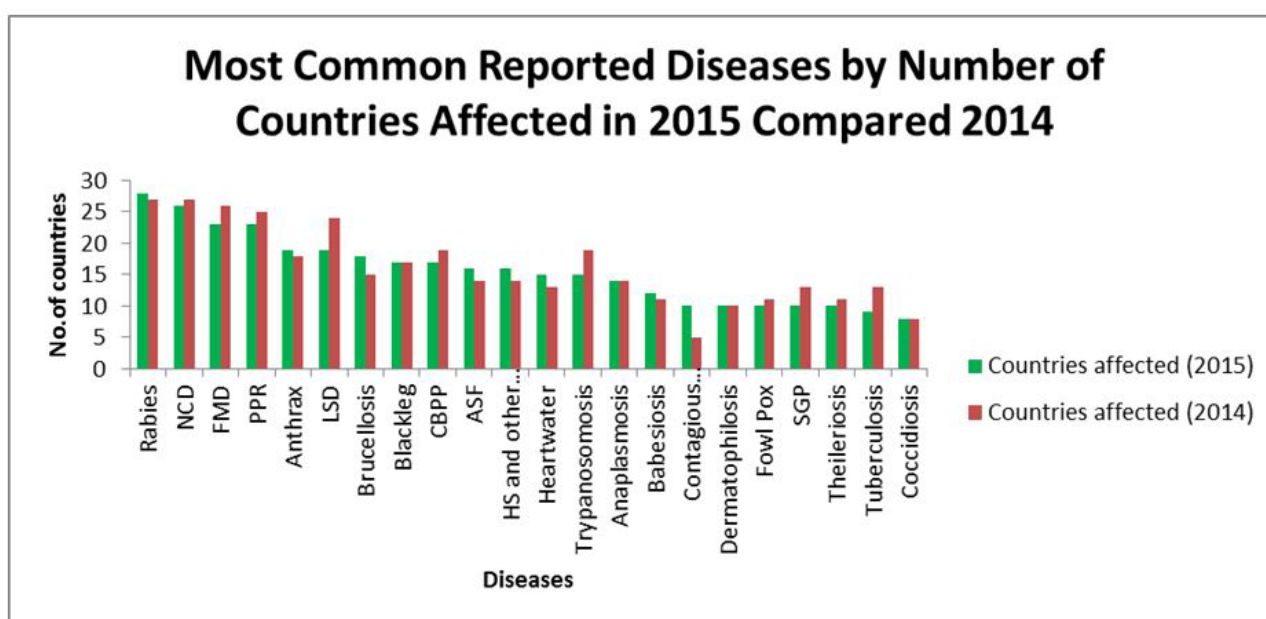


Figure 5: Most common reported diseases by number of countries affected

3.3. Disease situation by number of reported outbreaks

In 2015, a total of 19,047 outbreaks were reported against 23,581 in 2014. It is observed that there is a significant decreased number of outbreaks in 2015 compared to 2014 as consequence of the decreased number of reporting countries. Contrary to 2014, Rabies

had the highest number of outbreaks with 2,758 followed by LSD (1,664), Anaplasmosis (1,292), FMD (886), heartwater (840) and PPR (834). The detailed number of outbreaks and other parameters for all the diseases is provided in Annex 2, while figure 6 shows the most common reported diseases in terms of reported number of outbreaks.

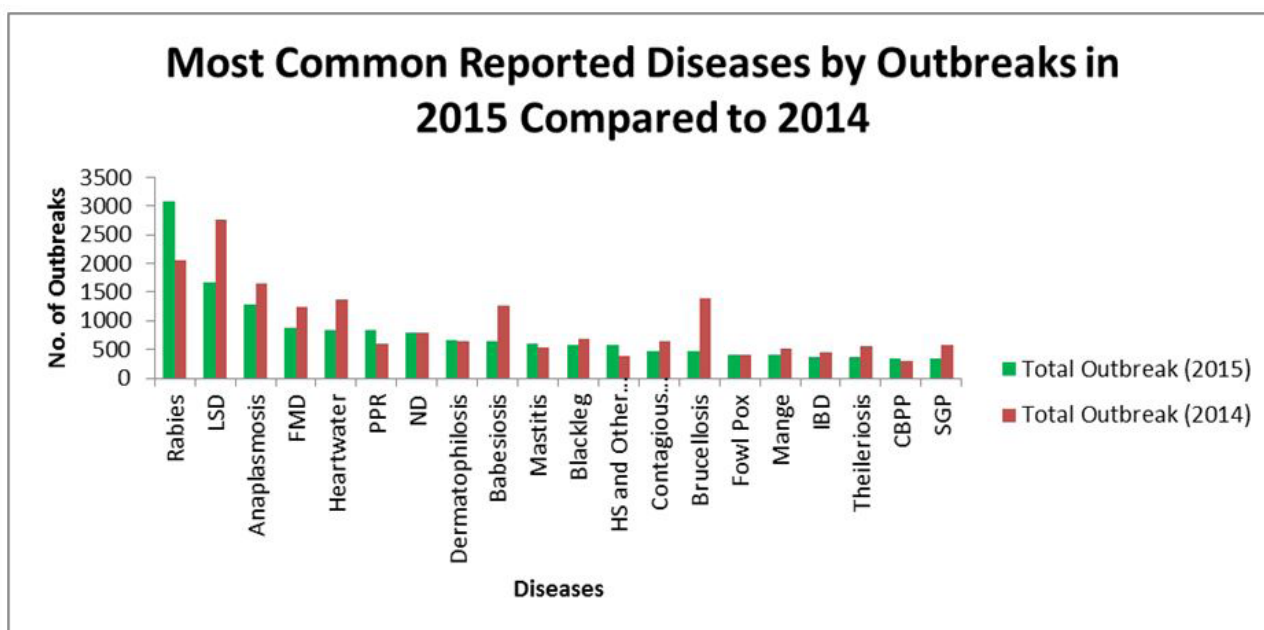


Figure 6: Most common reported diseases by number of outbreaks in 2015

In 2015, the number of outbreaks for major TADs has significantly decreased from 7,019 in 2014 to 5,672 (Figure 7) due to the decreased number of reporting countries. Likewise, there has been

significant decrease in outbreaks for the OID from 12,487 in 2014 to 9,681 in 2015 as shown in figure 8.

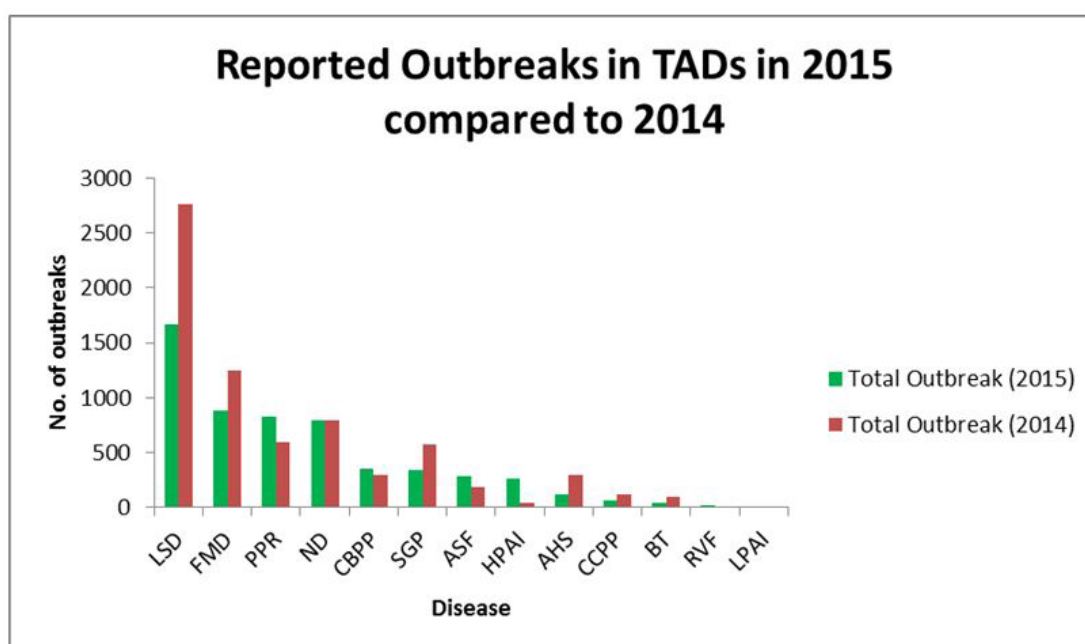


Figure 7: Comparison of the number of outbreaks in TAD in 2015 and 2014

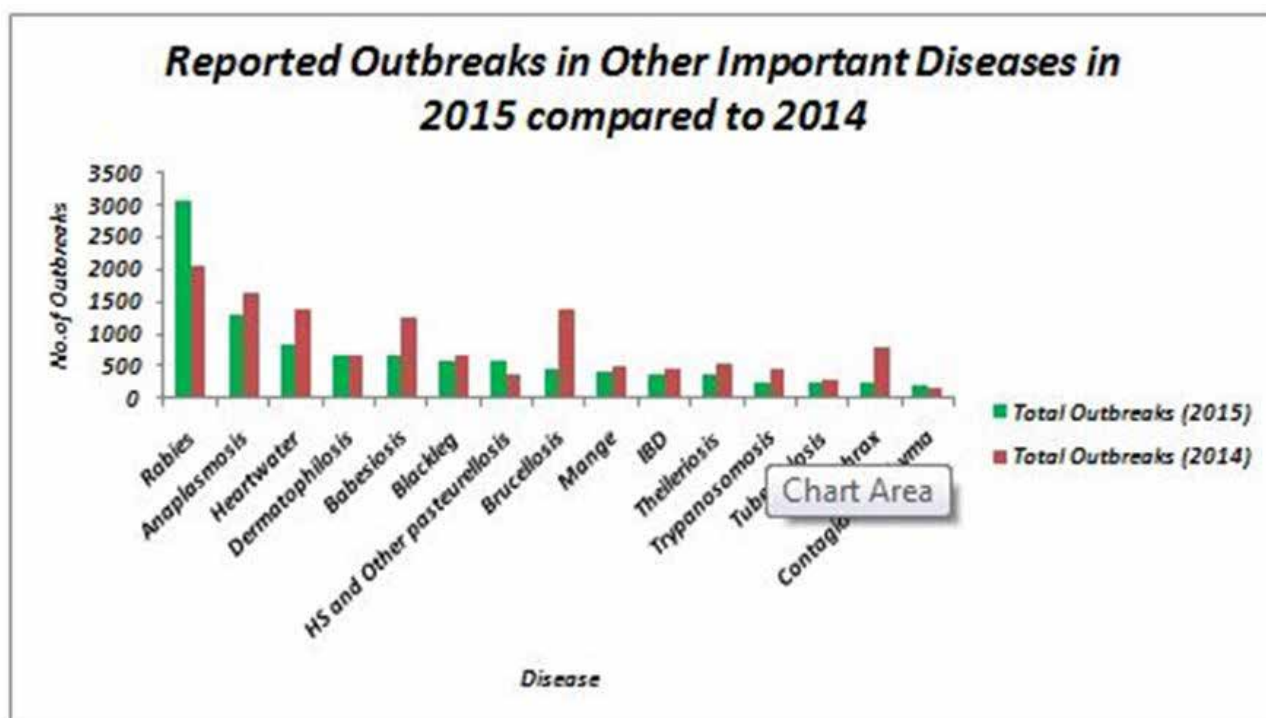


Figure 8: Comparison of the number of outbreaks in other important diseases in 2015 and 2014

3.4. Disease situation by number of cases in reported outbreaks in 2015

In 2015, a total of 16,350,672 susceptible animals were reported among them 1,024,775 cases were registered in 37 reporting countries in the continent. The numbers of cases still decreasing since 2010 cases were reported 5,286,686, against 2,025,190 in 2011 and 1,572,614 in 2012, 2,303,277 in 2013 and 1,275,032 in 2014. There is a significant decrease of the number cases during the reporting period possibly due to decreased

number of reporting countries. The highest number of cases resulted from HPAI (324,407), ND (205,022), CBPP (107,048), PPR (78,699), FMD (29,170) and ASF (23,228) for TADs, and IBD (35,122), Theileriosis (11,864), Blackleg (9,397). Anaplasmosis (7,813) and Trypanosomosis (7,515) for the other important diseases (figures 9 and 10 and 11). Similar to the other years, the avian species recorded the highest number of cases (Figure 9).

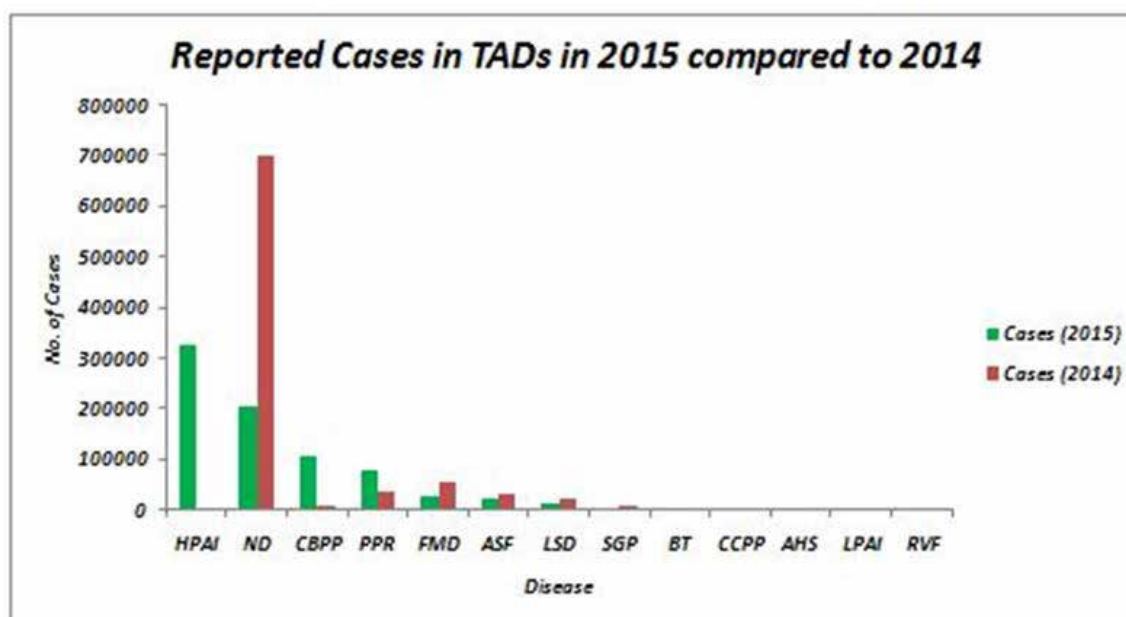
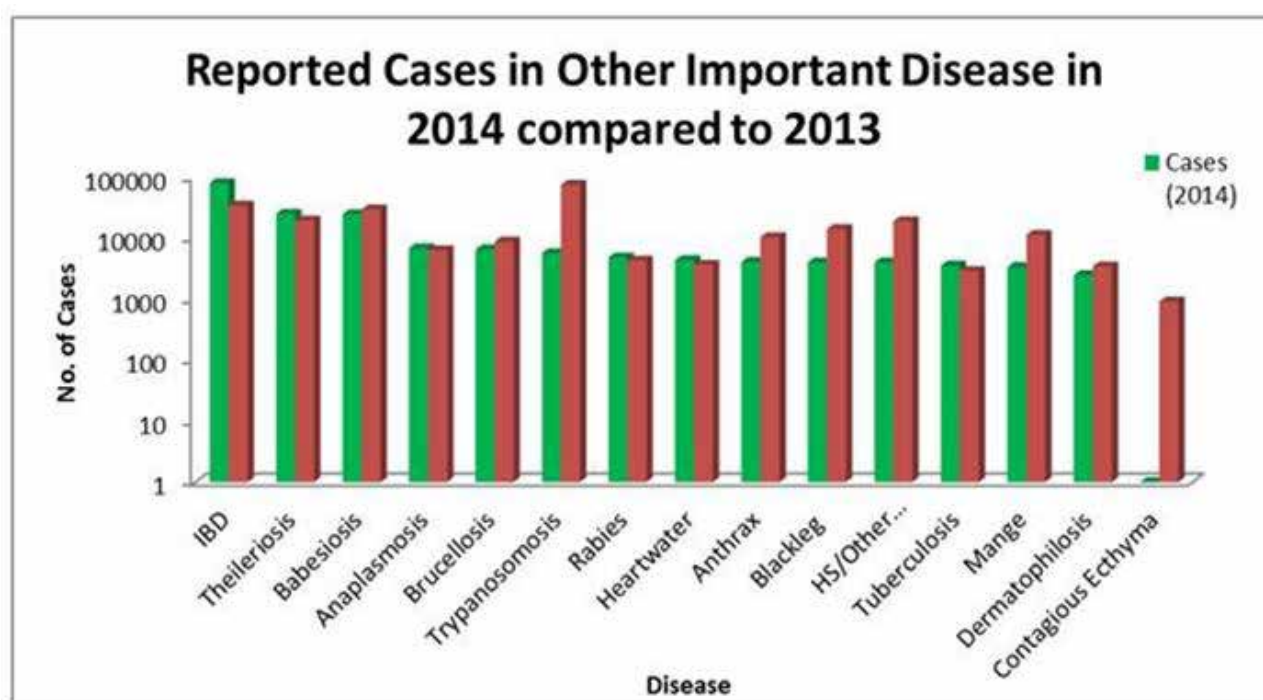


Figure 9: Reported cases in TADs in 2015 compared to 2014



Reported cases in Other Important Diseases in 2015 compared 2014

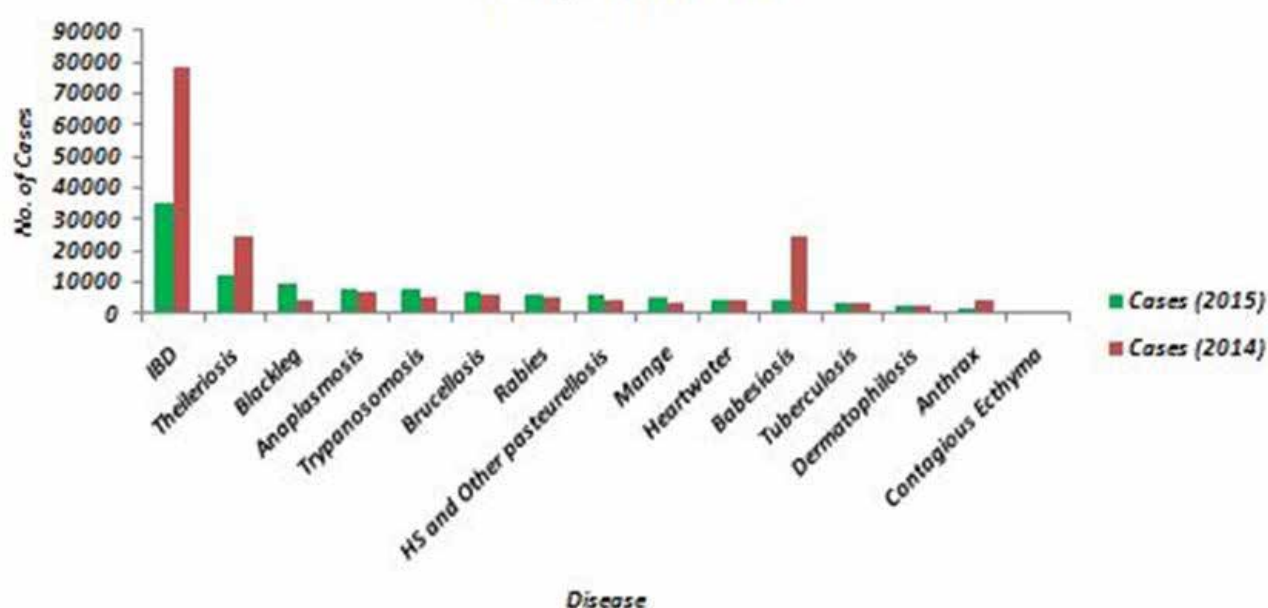


Figure 10: Reported cases in other important diseases in 2015 compared to 2014

In 2015, a total of 773,124 mortalities were recorded as a result of reported diseases compared to 597,212 mortalities in 2014. There is a significant decrease of mortalities probably due to the decreased number of reporting countries.

As usual, the highest losses were recorded in the avian species as a result of HPAI (270,521),

Salmonellosis (252,176), ND (128,232), PPR (31,598). The total number of animals slaughtered and destroyed as a disease control measure during 2015 was 90,218 and 732,093 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

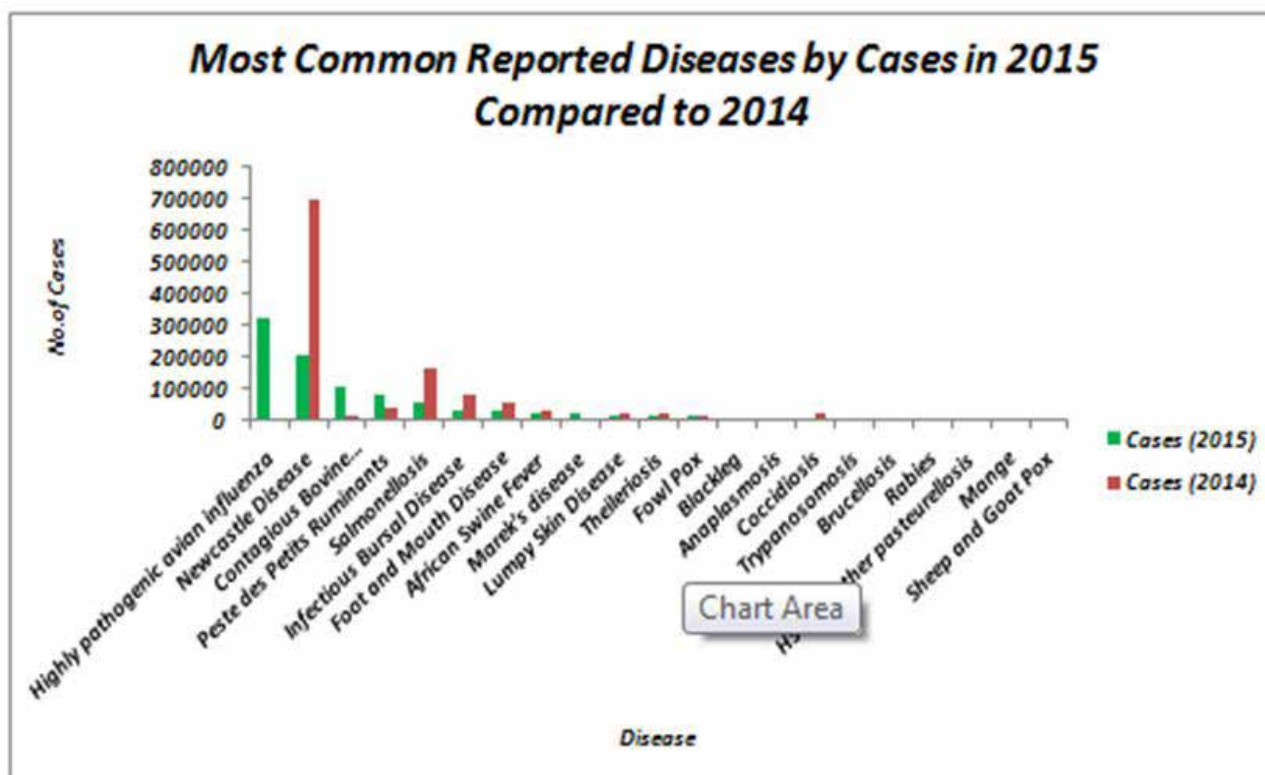


Figure 11: Most common reported diseases by number of cases in reported outbreaks in 2015

become more apparent when monetary values are attached to indicate the value of losses being incurred annually by low income earners in the continent. Figures 12 , 13 and 14 give the status

of the reported mortalities due to diseases in 2015 as compared to 2014.

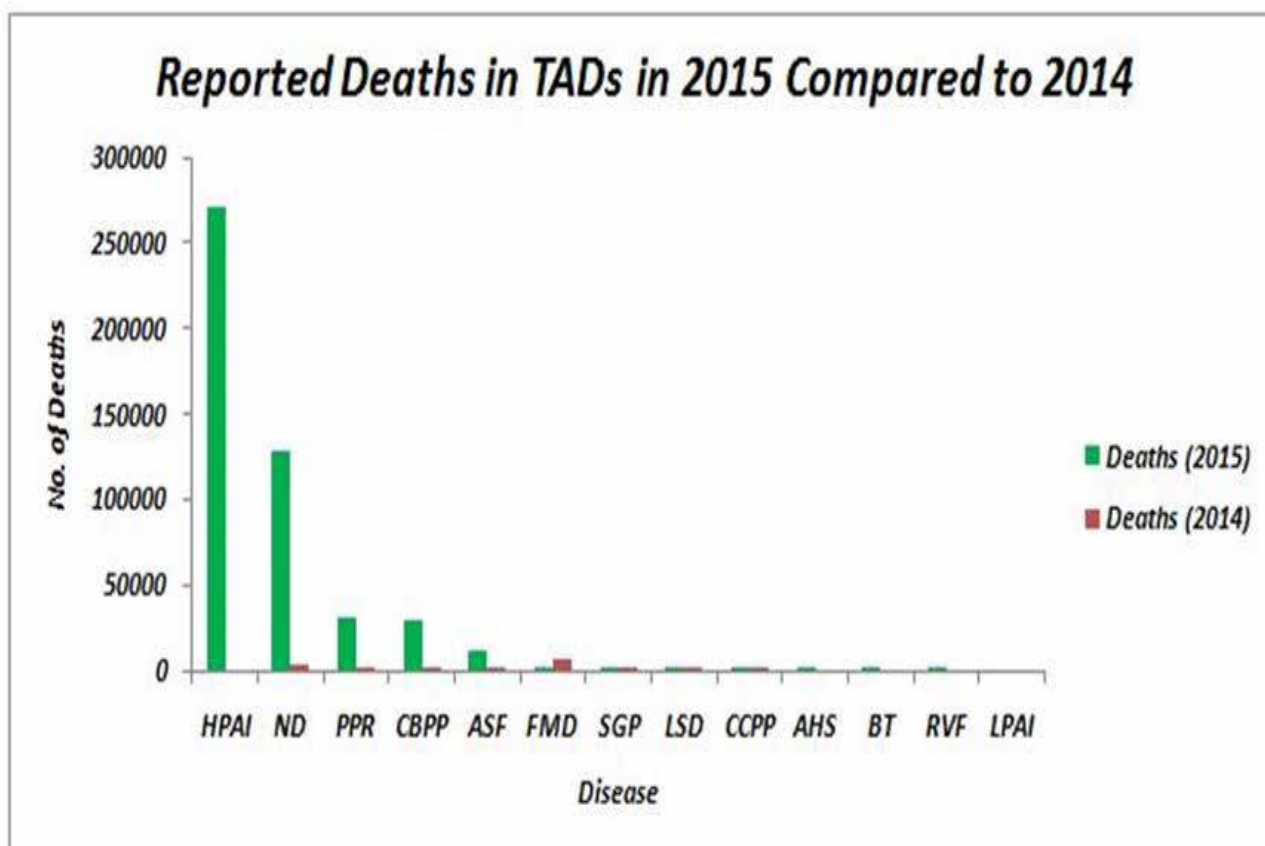


Figure 12: Reported Deaths in TADs in 2015

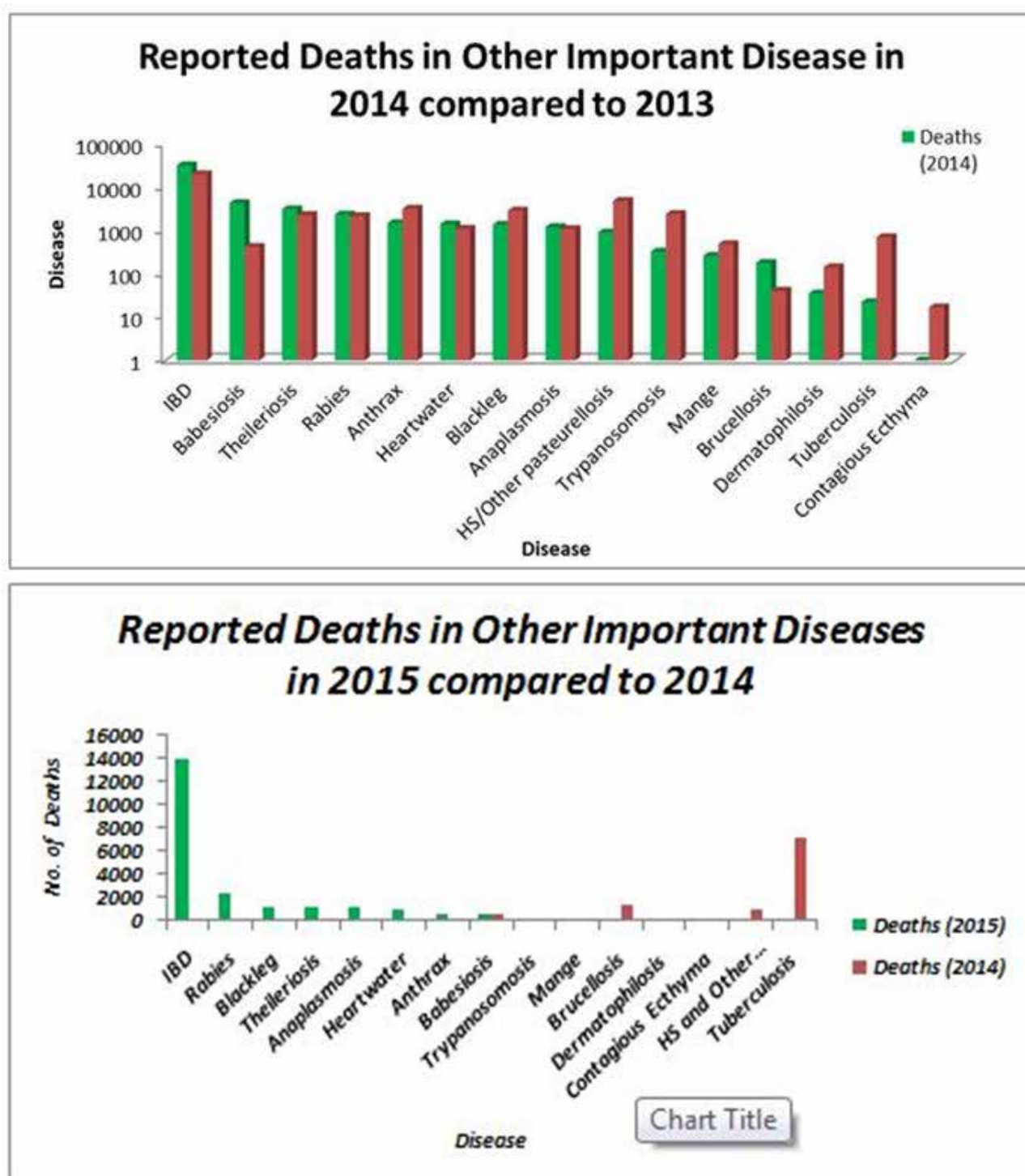


Figure 13: Reported deaths in other important diseases in 2015 compared to 2014

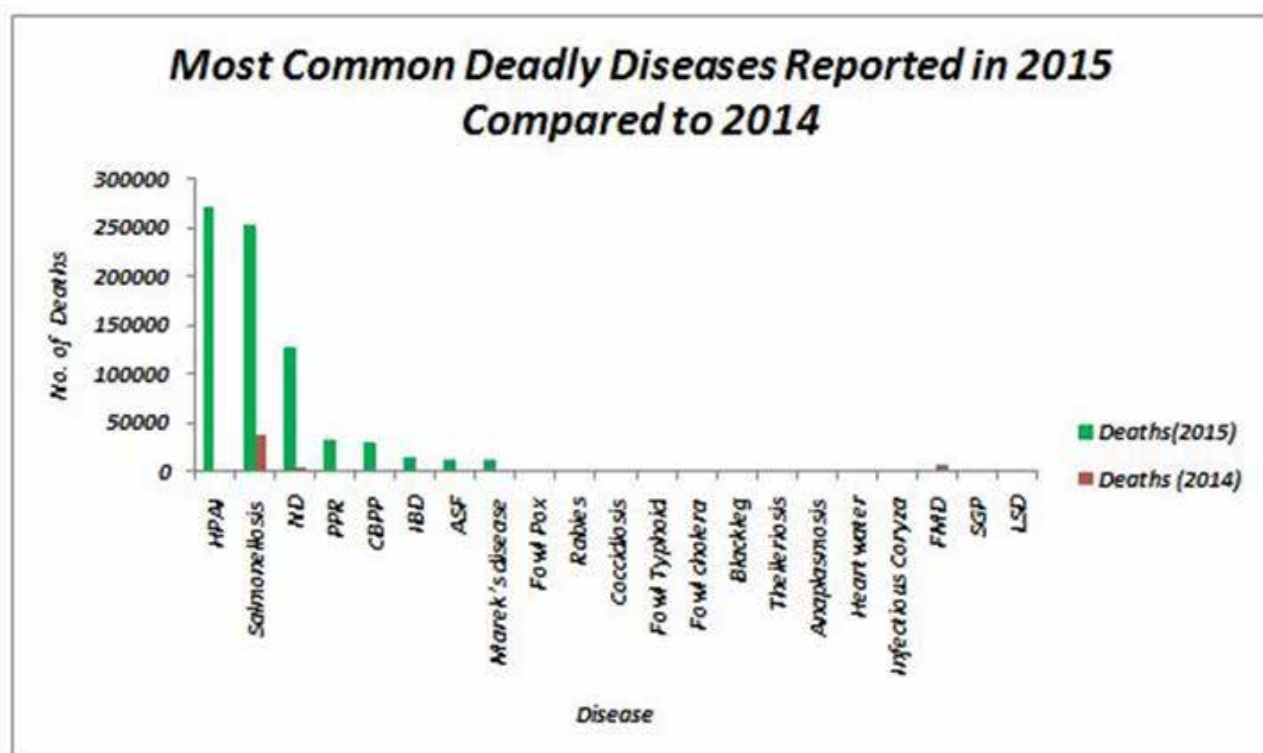
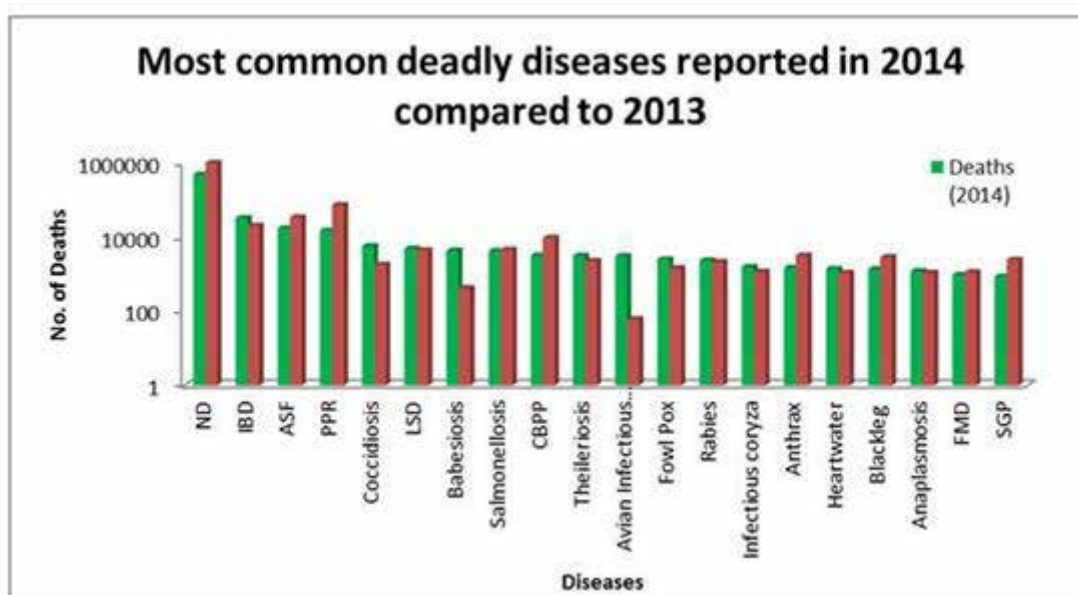


Figure 14: Most common deadly diseases reported in 2015 compared to 2014

3.6. Disease situation by species affected in the reported outbreaks in 2015

As for the previous years, Bovine is the most affected species in the continent accounting for 55 % in 2015 followed by avian species 12 %, Canine 12 % , Caprine 10 % , c and ovine with 6% (Figure 15).

Similar to the previous, the number of cases and

deaths were recorded in avian species accounted for 65 of cases and 89 % of deaths followed by Bovine (21% and 5 %) and Caprine (8 and 4 %) and pigs (2% and 2 %). Figure 18 gives the details of species involvement in cases during the reporting period. The proportion of animal species that died and the total losses suffered due to the reported diseases in 2015 is shown in figure 18.

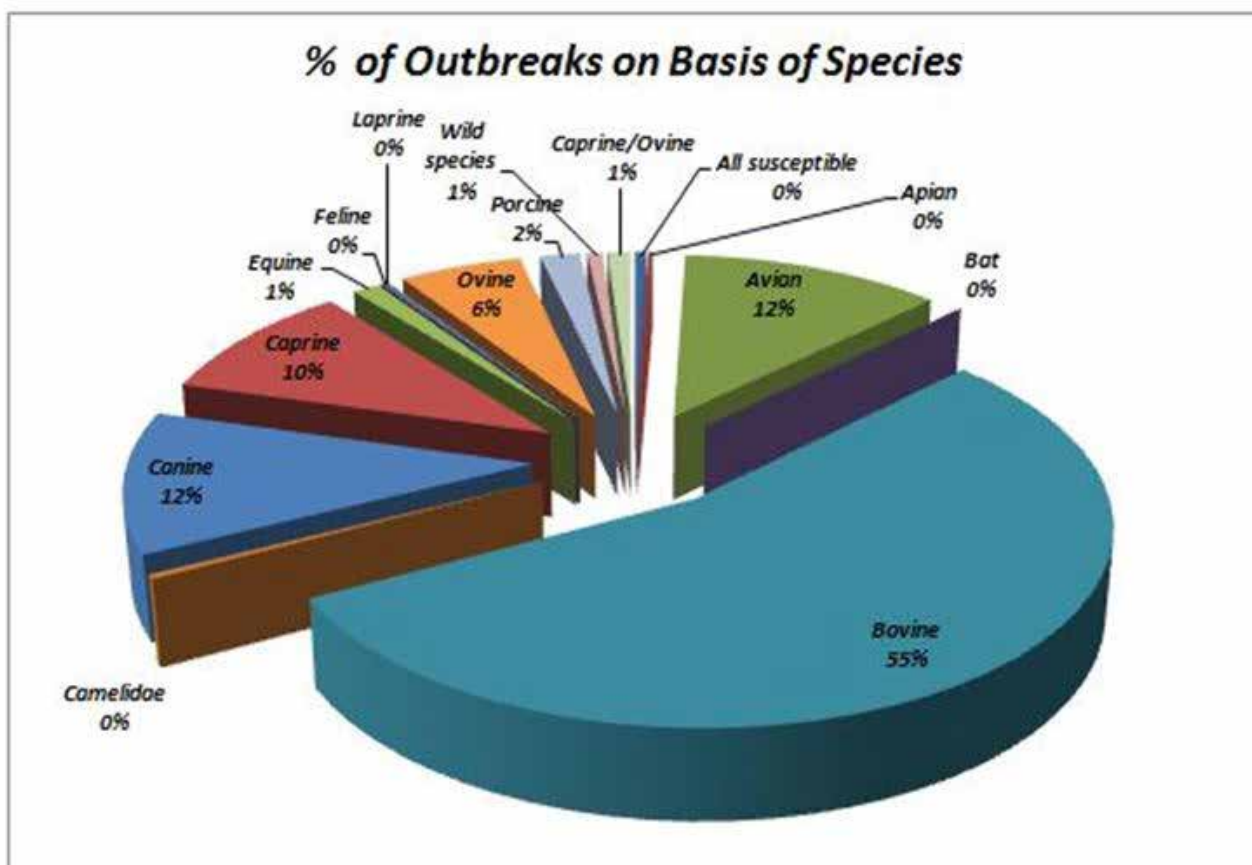


Figure 15: Disease situation by species affected in the reported outbreaks in 2

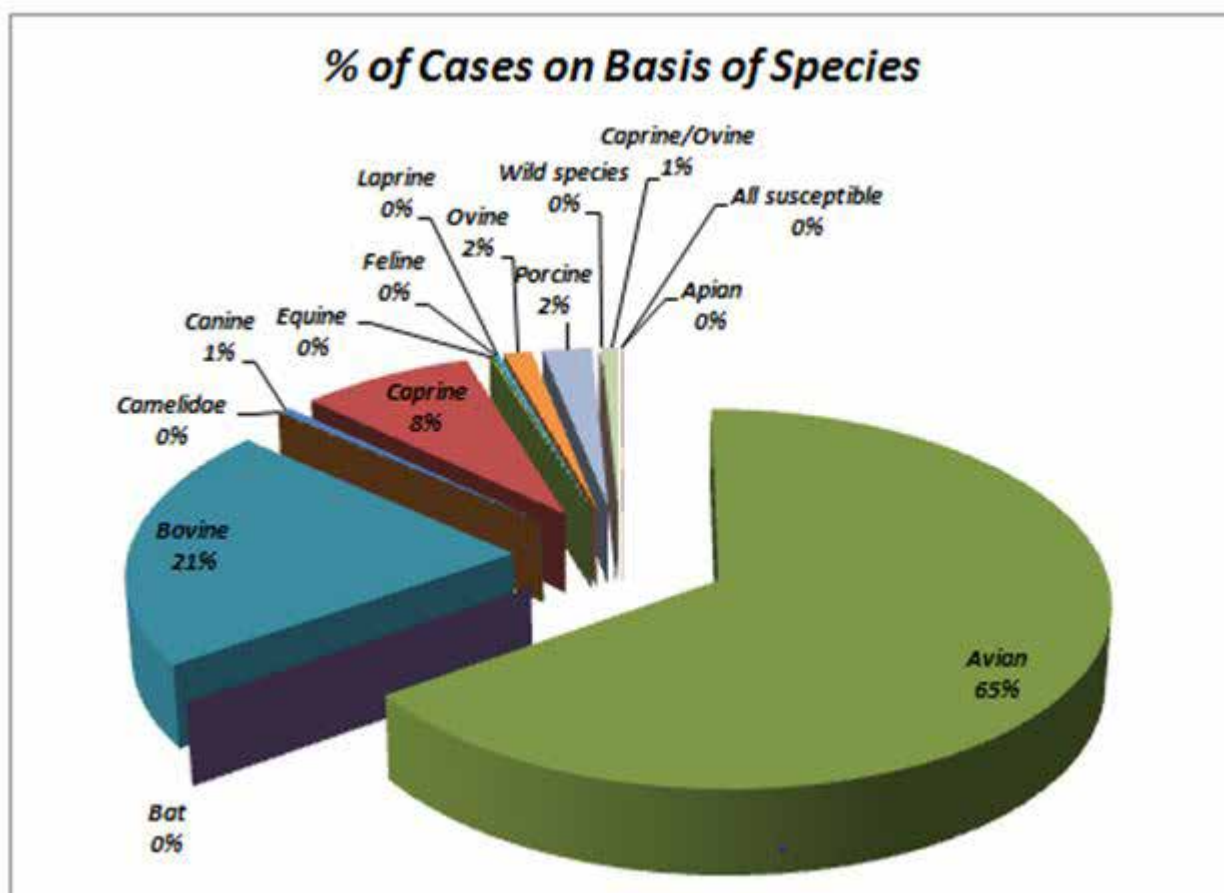


Figure 16: Proportion of cases by species affected in the reported outbreaks in 2015

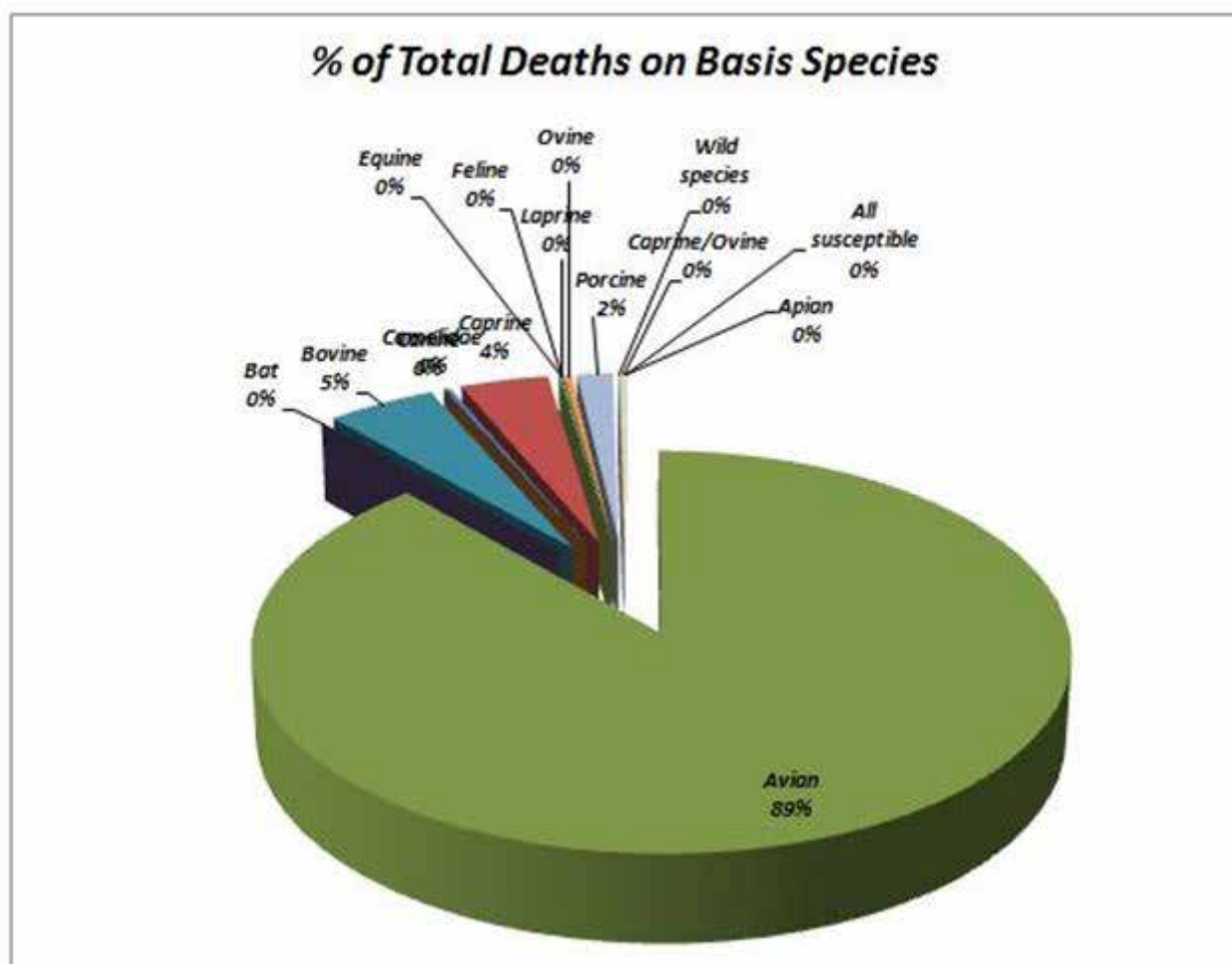


Figure 17: Proportion of mortalities by species affected in the reported outbreaks in 2015

3.7. Nature of disease outbreak investigation and confirmation by laboratory

Similar to the previous years, 36 % of the reports received did not provide the diagnostic methods used to determine the disease involved in the outbreaks against 43 % in 2014 . Only 10 % of reported outbreaks were confirmed by laboratory techniques as follows 1% by advanced laboratory techniques, 8 % basic laboratory,

1% combined clinical signs and laboratory. 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 19.

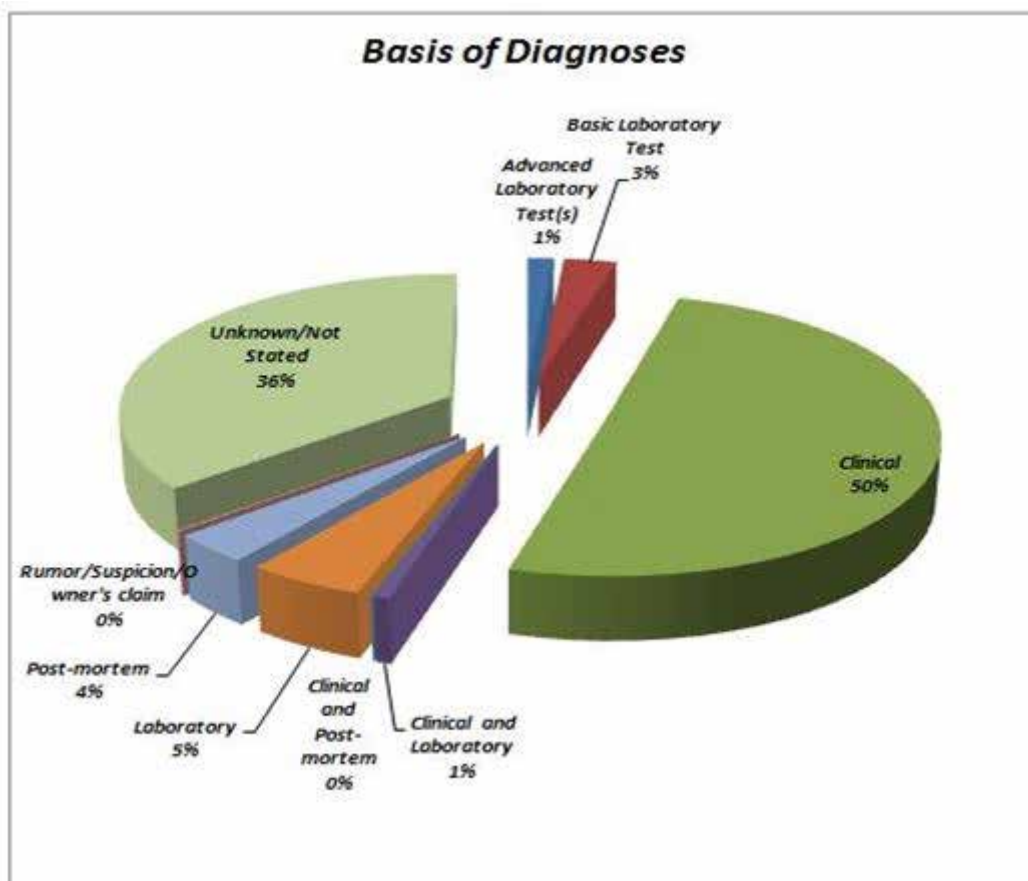


Figure 19: Nature of disease outbreak investigation and confirmation by laboratory in 2015

4. SITUATION OF MAJOR ANIMAL DISEASES IN 2015

4.1. African horse sickness (AHS)

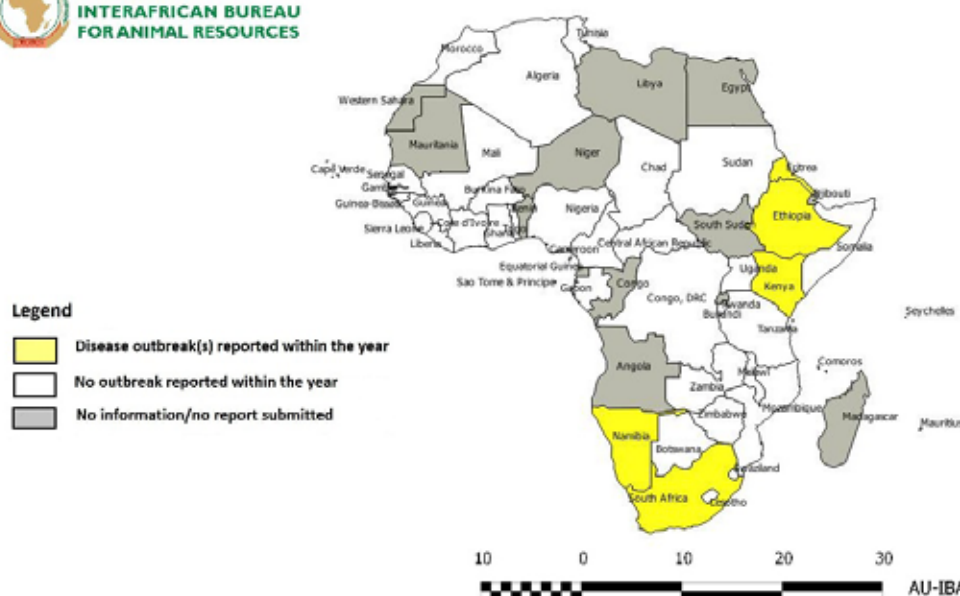
In 2015, a total of 120 AHS outbreaks were recorded in 5 countries, compared to 296 outbreaks from 6 countries in 2014 and 632 outbreaks from 4 countries in 2013. The affected countries in 2015 have been reporting AHS over the last past five years apart from Kenya (see table 2 for the list of affected countries). Considering the importance of equine species for transportation, farming and racing in these countries, there is need for rapid response

in terms of implementation of interventions in order to contain the disease and reduce its negative impact on animal health.

The highest number of AHS outbreaks was reported from South Africa with 85 (70.8%) outbreaks followed by Ethiopia with 30 (25.0%) reported outbreaks. Overall, during the period under report, AHS caused a fatality of 169 equines in the affected MS with mortality rate of 0.15% and case fatality rate of 14.0%.

Table 2: Countries reporting African horse sickness

Country	Outbreaks	Susceptible	Cases	Deaths	Slaughtered	Destroyed
Eritrea	2	1600	50	43	0	0
Ethiopia	30	94501	537	69	0	0
Kenya	1	15000	500	0	0	1
Namibia	2	2	2	2	0	0
South Africa	85	1371	115	55	0	1
Total (5)	120	112474	1204	169	0	2



Map I: Spatial distribution of African Horse Sickness in Africa in 2015

In terms of temporal distribution, the highest number of outbreaks was reported in the month of April with 27 outbreaks (25.0%) followed by March with 21 (17.5%) outbreaks, a trend similar to the previous years (Chart 1 below). This trend suggests that predisposing factors influencing occurrence and transmission of AHS in the

affected MS are predominant in the months of March and April, especially in South Africa that represents 70.8% of the total reported outbreaks. It is imperative to understand such a temporal trend in order for affected MS to undertake preventive measures before March and April, months with the highest prevalence of AHS.

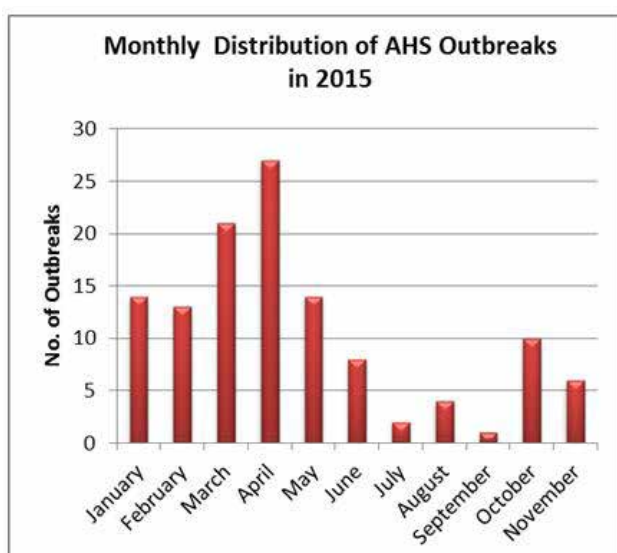


Chart 1: Monthly Distribution of AHS Outbreaks in the Affected Countries

Month	Outbreak
January	14
February	13
March	21
April	27
May	14
June	8
July	2
August	4
September	1
October	10
November	6
Total	120

4.2. African swine fever

During 2015, ASF was reported in 16 countries with 286 outbreaks, much higher than in 2014 during which 14 countries reported 183 outbreaks of ASF. The outbreaks caused 23,228 cases and 12,375 deaths, representing a case fatality rate of 53.3%. Of the 16 countries, 11 of them had in the previously in 2014 reported ASF, suggesting that ASF has become endemic in the pig population in most affected countries with very little being done in terms of disease control interventions.

The Democratic Republic of Congo reported the highest number of outbreaks (178) accounting for 62.2% of the total reported ASF outbreaks, followed by Burundi that reported 21 outbreaks accounting for 7.3 % of the total outbreaks. The Democratic Republic of Congo has consistently reported the highest number of outbreaks for ASF over the last three years implying inadequate interventions have been implemented in the country to control the impact of the disease on the pig population in the country.

Table 3: Countries reporting African swine fever

Country	Outbreaks	Susceptible	Cases	Deaths	Slaughtered	Destroyed
Burkina Faso	7	2646	197	189		
Burundi	21	3	3	0	0	0
Cameroon	16	348	348	206	142	0
CAR	6	39525	10825	2185	0	0
DRC	178	51487	8019	7572	263	40
Ghana	5	598	319	189	6	47
Guinea Bissau	1	180	82	73	9	0
Kenya	12	673	99	75	10	0
Malawi	5	26179	1236	1030	51	189
Mozambique	5	588	162	144	101	21
Nigeria	1	470	8	5	3	0
Senegal	1	16	6	0	0	0
Tanzania	11	11878	1659	542	224	939
Togo	3	121	40	19	19	2
Uganda	7	566	41	22	13	0
Zambia	7	3490	184	124	0	0
Total (16)	286	138768	23228	12375	841	1238

Contrary to the temporal trend of ASF outbreaks in 2014, the highest number of monthly distribution of reported ASF outbreaks in 2015

was in September (24.5%) implying factors influencing occurrence of ASF outbreaks are seasonal, especially in DRC(see Chart 2).

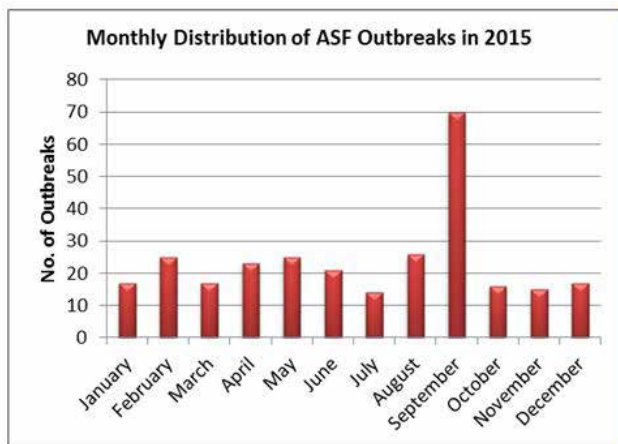
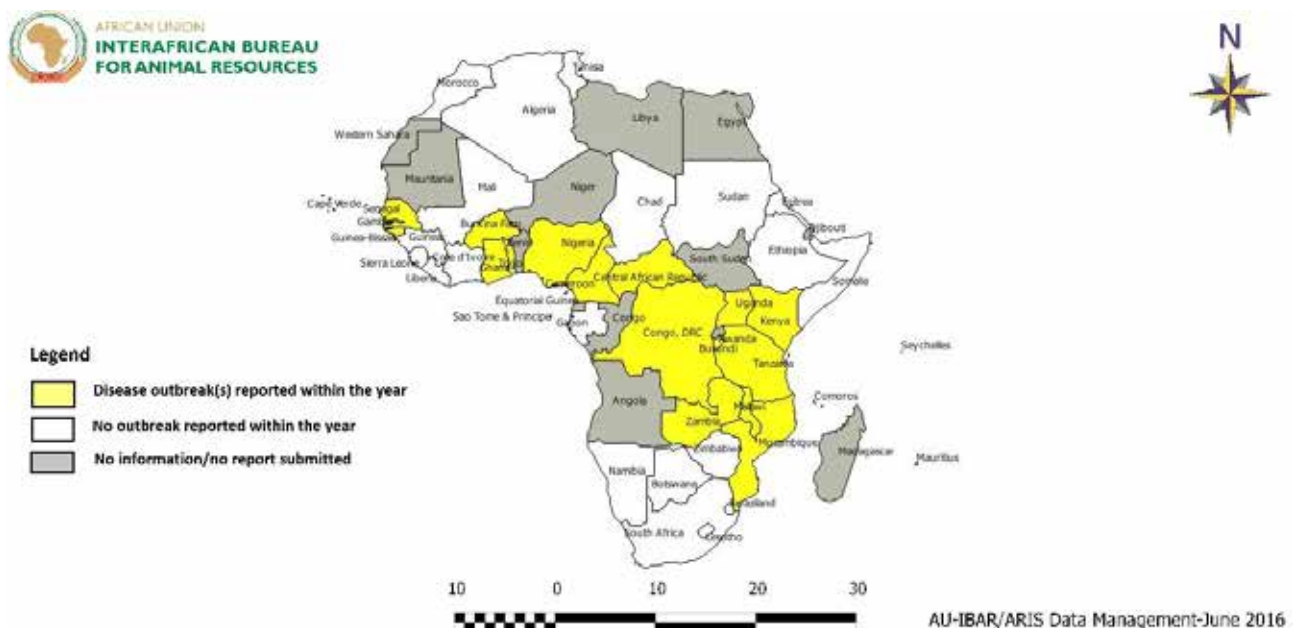


Chart 2: Monthly Distribution of ASF Outbreaks in the Affected Countries

Month	Outbreak
January	17
February	25
March	17
April	23
May	25
June	21
July	14
August	26
September	70
October	16
November	15
December	17
Total	286



Map 2: Spatial distribution of African swine fever

4.3. Avian Influenza

Both highly pathogenic and low pathogenic avian influenza occurred in Africa during the reporting period. Egypt is the only country on the Continent that has been reporting highly pathogenic avian influenza (HPAI) due to H5N1 since 2009, whereas low pathogenic avian influenza (LPAI) has been reported in South Africa over a couple of years since 2011.

Contrary to previous years when Egypt was the only country reporting HPAI, during the

reporting period, Burkina Faso, Cote d'Ivoire, Ghana and Nigeria reported a total of 263 outbreaks of HPAI outbreaks involving 324,407 cases and 270,521 deaths of birds.

This represents a significant increase in the number of countries reporting from 1 to 4, and outbreaks from 46 outbreaks to 263 and cases from 1147 to 324,407 and deaths from 668 to 270,521 from the previous year.

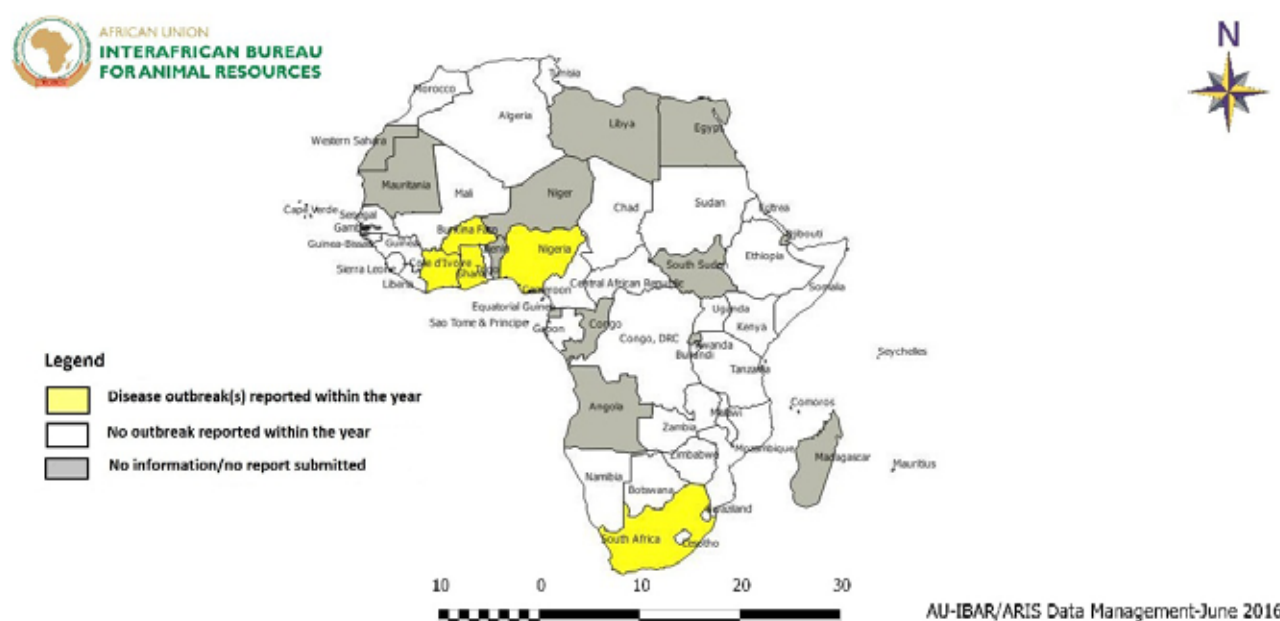
Furthermore, 2 outbreaks of LPAI were reported in South Africa in 2015 involving a total of 996 cases without any mortality. The number of cases due to LPAI in South Africa increased three-fold but mortality declined by 100% from the previous year.

Table 4: Countries reporting Avian Influenza (HPAI and LPAI respectively

HPAI

	Countries Reporting Avian Influenza (HPAI)					
Country	Outbreak	Susceptible	Cases	Deaths	Slaughtered	Destroyed
Burkina Faso	100	278843	151695	150903	14990	929
Cote d'Ivoire	28	61002	55394	33128	21926	0
Ghana	34	125169	25355	24709	5489	67707
Nigeria	101	482650	91963	61781	707	403679
Total(4)	263	947664	324407	270521	43112	472315

	Countries Reporting Avian Influenza (LPAI)					
Country	Outbreak	Susceptible	Cases	Deaths	Slaughtered	Destroyed
South Africa	2	2145	996	0		0
Total (1)	2	2145	996	0		0



Map 2: Spatial distribution of HPAI and LPAI in Africa in 2015

The monthly distribution of HPAI outbreaks showed that most outbreaks occurred in January (see chart suggesting that this period coincided with the winter period in temperate region, hence triggering the migration of aquatic birds (reservoirs for the virus) to the tropics and consequently transmission of HPAI to domestic birds.

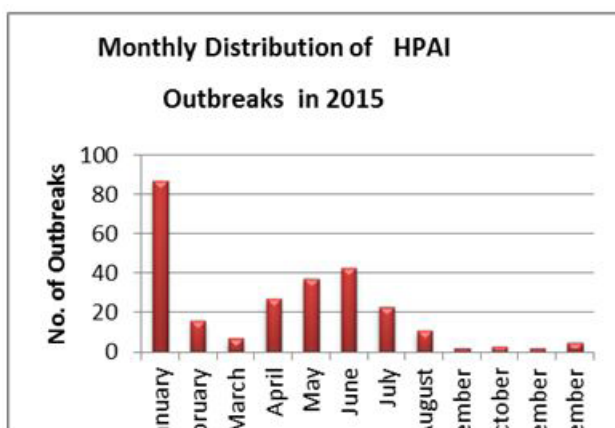


Chart 3: Monthly Distribution of HPAI Outbreaks

Month	Outbreak
January	87
February	16
March	7
April	27
May	37
June	43
July	23
August	11
September	2
October	3
November	2
December	5
Total	263

4.4 Bluetongue (BT)

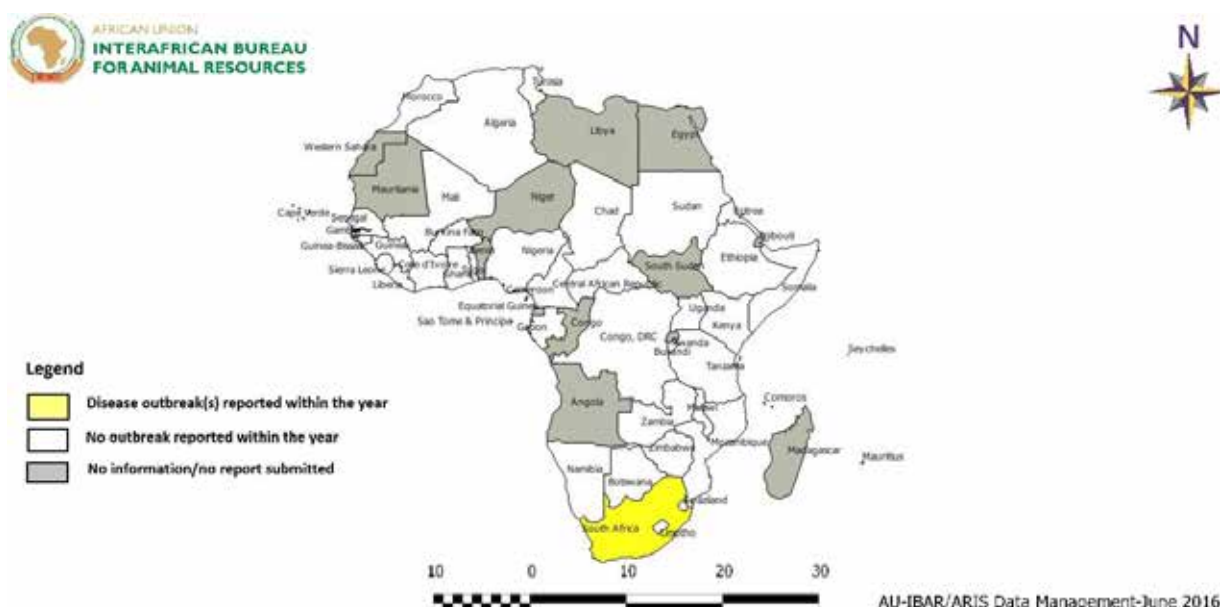
Bluetongue was reported only in South Africa during the reporting period. Four countries including Botswana, Kenya, Lesotho and South Africa reported bluetongue outbreaks in 2014. While in 2013, Lesotho, Namibia and Tunisia reported bluetongue. Whereas there was a decline in terms of countries reporting bluetongue in 2015, the disease focus largely remains Southern Africa. South Africa reported 47 outbreaks with

468 cases and 119 deaths (Table 5).

However, the trend of bluetongue reports has been mainly from Northern and Southern Africa regions since 2008 with only one report from Kenya in Eastern Africa in 2014. Overall, nine countries including Algeria, Botswana, Comoros, Kenya, Lesotho, Namibia, Tunisia, South Africa and Zimbabwe reported bluetongue since 2008.

Table 5: Countries reporting Bluetongue

Country	Outbreaks	Susceptible	Cases	Deaths	Slaughtered	Destroyed
South Africa	47	13423	468	119	0	1
Total (1)	47	13423	468	119	0	1



Map 4: Spatial distribution of Bluetongue

The occurrence and distribution of bluetongue is underpinned by ecological factors (i.e. high rainfall, temperature, humidity and soil characteristics) that influence the vector population of the biting midges (*Culicoides* sp.) that transmit the disease. Hence occurrence of the disease has seasonal patterns. During the

reporting period, the peak season for occurrence of bluetongue was in April during which 42.5% of the outbreaks occurred (Chart 4).

This phenomenon can be attributed to the high shower experienced from December to April in the Southern Africa region.

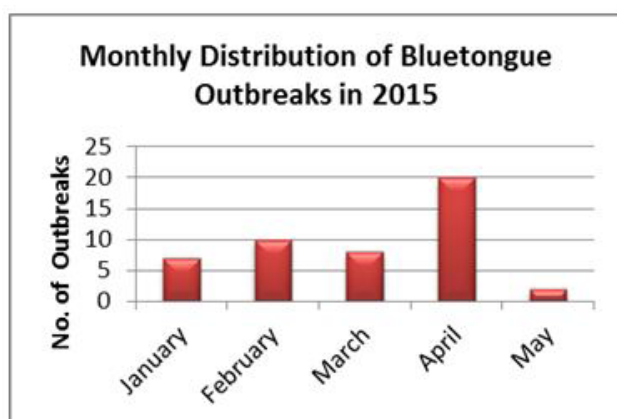


Chart 4: Monthly Distribution of Bluetongue Outbreaks

Month	Outbreak
January	7
February	10
March	8
April	20
May	2
Total	47

4.5. Contagious Pleuropneumonia

The situation of CBPP in 2015 is not different from the previous years characterized by wide geographical distribution and large number of reported outbreaks. During the reporting period, CBPP was reported in seventeen as compared to nineteen countries during 2014. During the reporting period, 352 outbreaks of CBPP with 107,048 cases and 29,531 deaths were

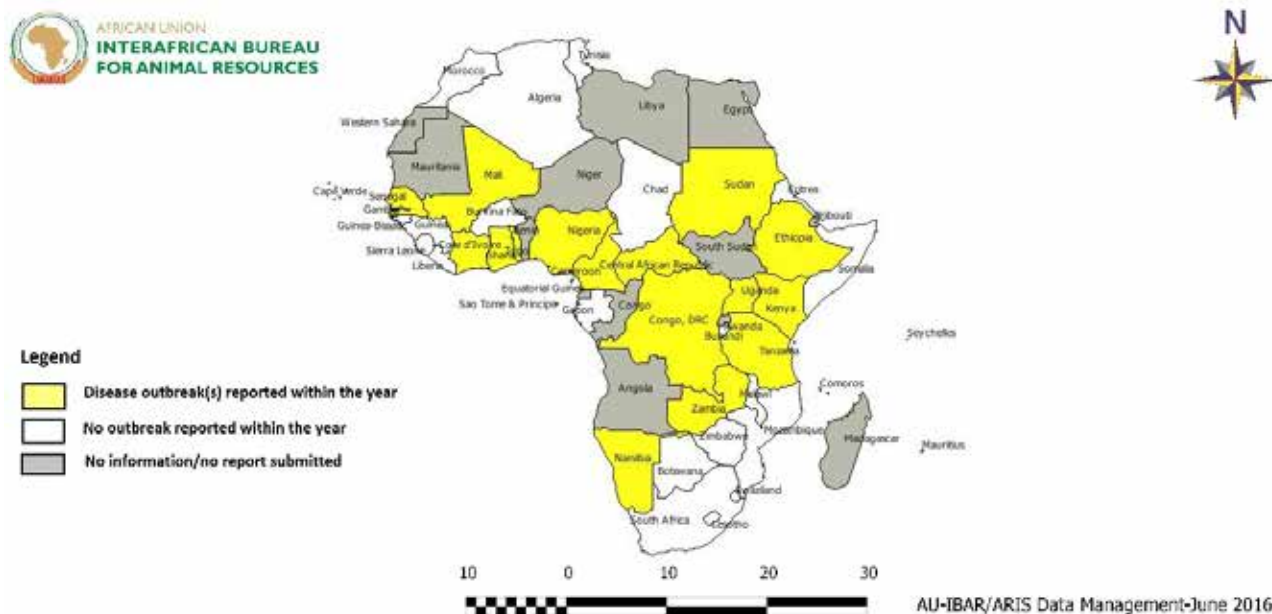
Bovine

reported, with an estimated case fatality rate of 27.6% (Table 6). In comparison with the previous year, this is a ten-fold and nine-fold increase in the number of CBPP cases and deaths, respectively. The highest number of CBPP outbreaks were reported in Ghana and Nigeria each with 88 (25%), followed by Democratic Republic of Congo with 42 (11.9%) outbreaks. Out of the 19 countries that had reported CBPP in 2014 only Burkina Faso and Somalia did not reported CBPP

Table 6: Countries reporting CBPP

Country	Outbreaks	Susceptible	Cases	Deaths	Slaughtered	Destroyed
Cameroon	22	2353	589	48	0	0
CAR	34	268684	96260	28075	0	0
Cote d'Ivoire	5	377	105	31	0	0
DRC	42	8923	5794	576	344	0
Ethiopia	2	6258	23	6	0	0
Gambia	9	733	49	2	0	0
Ghana	88	3377	218	4	371	0
Kenya	9	1310	36	12	0	0
Mali	1	240	29	10	1	0
Namibia	2	155	20	10	0	0
Nigeria	88	2561	188	39	16	0
Senegal	1	115	7	3	0	0
Sudan	3	1520	75	22	0	0
Tanzania	28	133735	3590	647	0	0

Country	Outbreaks	Susceptible	Cases	Deaths	Slaughtered	Destroyed
Togo	3	98	3	0	3	0
Uganda	12	1321	17	3	1	0
Zambia	3	230	45	43	0	0
Total (17)	352	431990	107048	29531	736	0



Map 5: Spatial distribution of CBPP

in 2015.

The peak of CBPP outbreaks occurred in August with 77 (22%) outbreaks. Otherwise, CBPP

occurred throughout the year without much variability among the different months, a trend similar to 2014 and 2013 (chart 5).

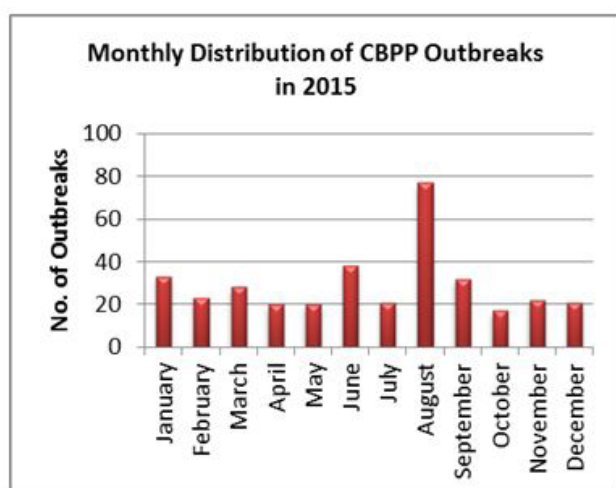


Chart 5: Monthly Distribution of CBPP Outbreaks

Month	Outbreak
January	33
February	23
March	28
April	20
May	20
June	38
July	21
August	77
September	32
October	17
November	22
December	21
Total	352

4.6. Contagious Caprine Pleuropneumonia

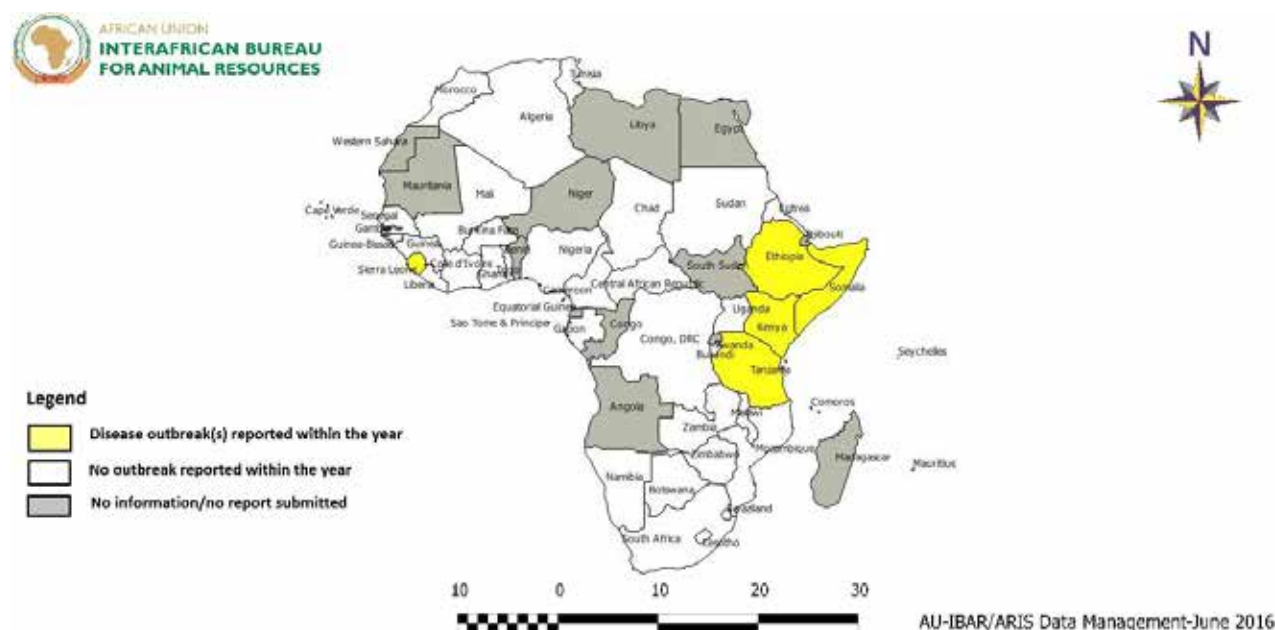
In 2015, CCPP was reported in five countries including Ethiopia, Kenya, Sierra Leone, Somalia and Tanzania with 61 outbreaks, 1571 cases and 242 deaths (Table 7). Somalia reported the highest number of outbreaks - 27 (44%), followed by Kenya - 26 (42.6%). Overall, fewer countries (5) reported outbreaks of CCPP in 2015 than in 2014 (6). In addition, there was a decline in

the number of outbreaks from 117 in 2014 to 61 in 2015, and in the number of cases and deaths from 3729 and 594 in 2014 to 1571 and 242 in 2015, respectively.

However, the case fatality rate observed in 2014 of 15.9% was similar to that of 15.4% observed in 2015. The major focus for CCPP occurrence within the Continent remains the East Africa region given that most outbreaks reported over the past several years originated from this region.

Table 7: Countries reporting CCPP

Country	Outbreak	Susceptible	Cases	Deaths	Slaughtered	Destroyed
Ethiopia	2	40000	130	15	0	0
Kenya	26	31180	891	171	0	0
Sierra Leone	1	3	3	0	0	0
Somalia	27	22716	493	44	26	15
Tanzania	5	22254	54	12	0	0
Total (5)	61	116153	1571	242	26	15



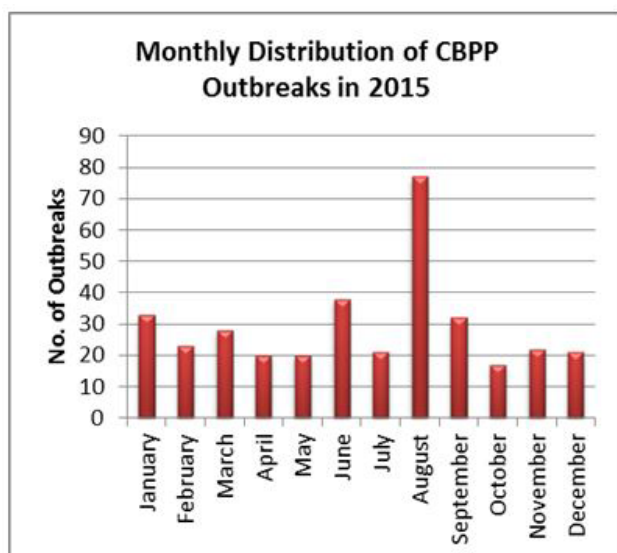
Map 6: Spatial distribution of CCPP

However, other parts of the Continent also reported outbreaks.

The peak of outbreaks of CCPP in 2015 in

affected countries occurred in August (Chart 6).

The monthly distribution of CCPP for the rest of the months from January to December was



Month	Outbreak
January	33
February	23
March	28
April	20
May	20
June	38
July	21
August	77
September	32
October	17
November	22
December	21
Total	352

Chart 6: Monthly Distribution of CCPP Outbreaks

similar. A fairly similar trend was observed in 2014.

4.7. Foot and Mouth Disease

Foot and Mouth Disease occurred in 23 countries in 2015 representing an 11.5% decline in the number of affected countries from the previous year. In addition, 886 outbreaks were reported

from 23 affected countries, representing a 28.9% decline from the previous year.

A total of 29,170 cases led to 887 deaths during 2015, with an estimated case fatality rate of 3.0%. DRC (241) reported the highest number of fatalities, followed by CAR (200), Uganda (140)

Table 8: Countries reporting FMD

Country	Outbreaks	Susceptible	Cases	Deaths	Slaughtered	Destroyed
Algeria	34	5500	169	0	0	0
Botswana	3	969	142	0	0	0
Burkina Faso	28	18519	1464	29	0	0
Burundi	38	12061	851	0	0	0
Cameroon	40	2549	1034	28	0	0
CAR	2	18780	830	200	0	0
Cote d'Ivoire	14	2022	530	17	0	0
DRC	79	17594	4866	241	1113	0
Ethiopia	34	345390	3790	24	0	0
Gambia	39	929	81	33	0	0
Ghana	16	8064	242	28	2	0
Kenya	47	24402	190	6	0	0
Mozambique	2	4707	37	0	0	0
Namibia	12	9595	101	0	0	0
Nigeria	38	629	306	21	65	0
Senegal	5	283	86	3	0	0
Somalia	5	218	40	1	0	0
Sudan	5	325	127	1	0	0
Tanzania	33	90502	4870	75	0	0
Togo	2	306	46	4	7	0
Uganda	17	21859	483	140	0	0
Zambia	4	71500	559	0	0	0
Zimbabwe	389	347281	8326	36	0	0
Total (23)	886	1003984	29170	887	1187	0

and Tanzania (75) (Table 8).

FMD outbreaks were reported in different species of animals including bovine, buffaloes, caprine, ovine and porcine.

The highest number of FMD outbreaks was reported in January, followed by February and March (Chart 7).

However, not sufficient data was provided to highlight the main risk factors underpinning

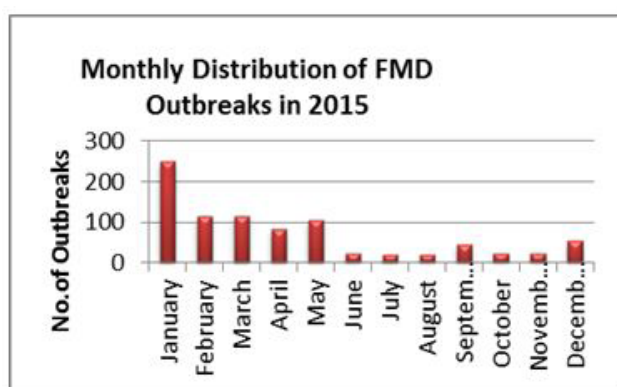
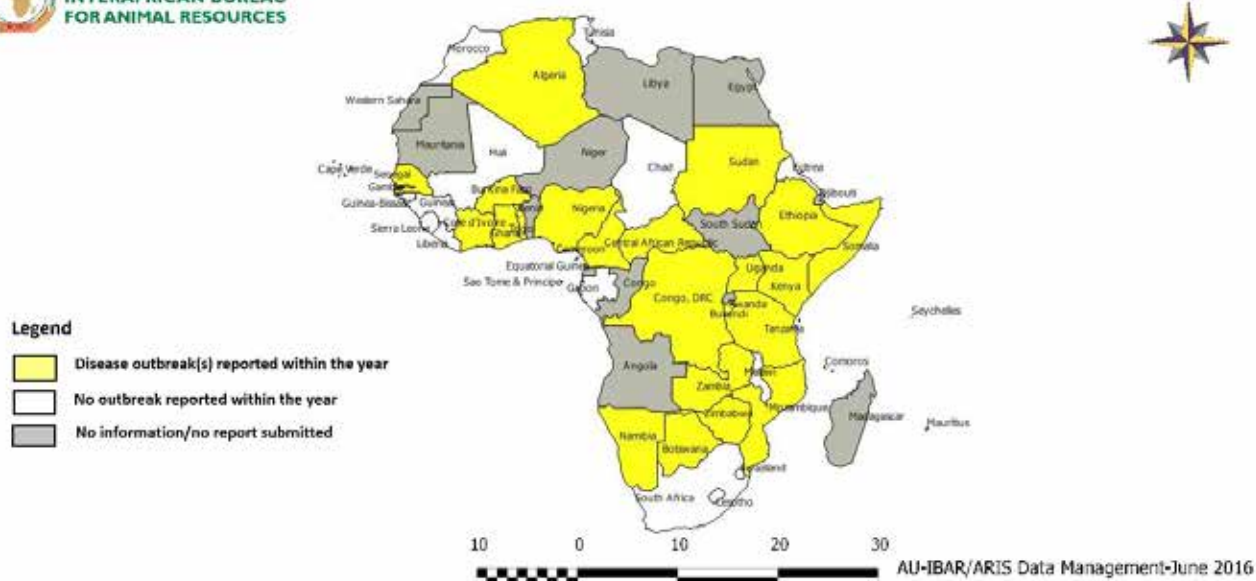


Chart 7: Monthly Distribution of FMD Outbreaks

Month	Outbreak
January	250
February	115
March	116
April	84
May	106
June	24
July	22
August	21
September	47
October	23
November	23
December	55
Total	886



Map 7: Spatial distribution of FMD

FMD's temporal distribution in the affected countries.

4.8 Lumpy Skin Disease

Lumpy skin disease was reported in 19 affected countries in 2015, representing, 20.8% decrease from the previous year (Table 10). The disease covered all the geographical regions of Africa, making it as the fourth most widely distributed

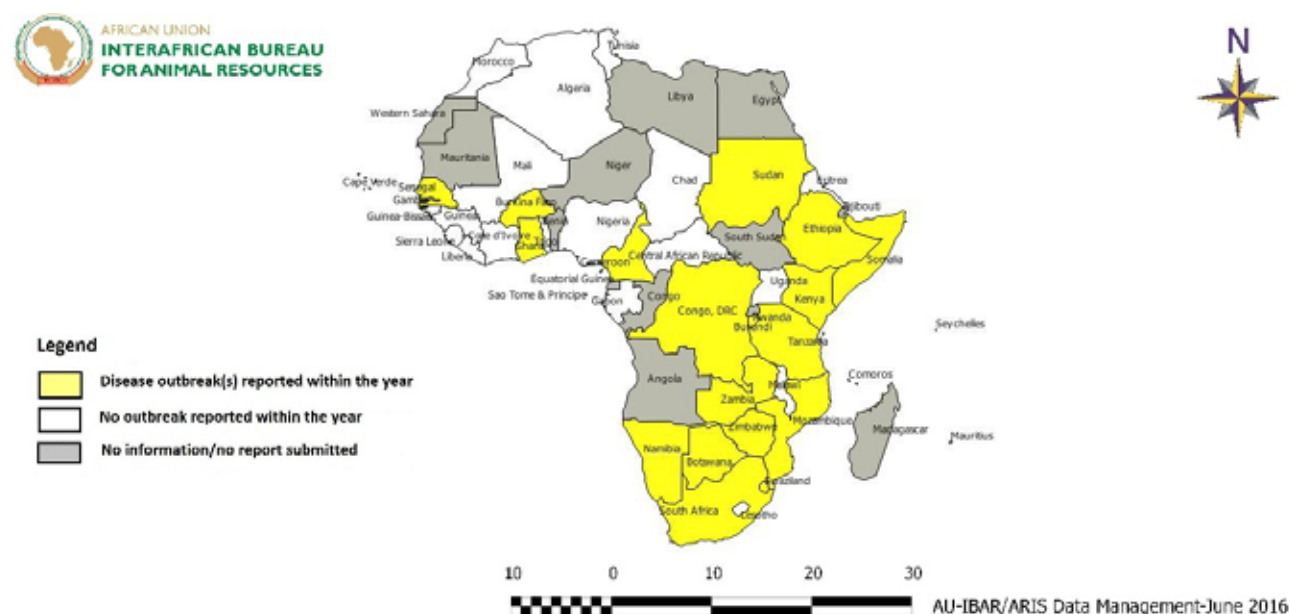
TAD on the continent after ND, FMD and PPR (map 8). A total 1664 outbreaks were reported during 2015, with 14133 cases and 669 deaths, giving an estimated case fatality rate of 4.7%.

Zimbabwe reported the highest number of outbreaks (75%), followed by Ethiopia (9%), Zambia (4%), Swaziland (3%), DRC (2.6%) and

Kenya (2.3%). However, the highest number of from 1244 outbreaks), Kenya (14.3% from 38 fatalities was recorded in Ethiopia (45.1% from outbreaks) and The Gambia (4.5% from 14 142 outbreaks), from by Zimbabwe (31.8% outbreaks), depicting variability in the severity of

Table 10: Countries reporting LSD

Country	Outbreaks	Susceptible	Cases	Deaths	Slaughtered	Destroyed
Botswana	2	63	4	0	0	0
Burkina Faso	2	90	5	1	0	0
Burundi	5	12056	12	0	0	0
Cameroon	6	150	46	1	0	0
DRC	44	6225	1384	5	39	0
Ethiopia	142	1904260	5978	302	5	0
Gambia	14	1168	77	30	0	0
Ghana	1	6	1	0	0	0
Kenya	38	60350	537	96	0	2
Mozambique	5	2188	111	0	0	0
Namibia	4	115	8	0	0	0
Senegal	2	139	49	8	0	0
Somalia	9	1106	49	3	0	0
South Africa	16	7500	31	0	0	1
Sudan	7	5502	115	3	0	0
Swaziland	49	53525	238	5	0	0
Tanzania	13	14779	154	1	0	0
Zambia	61	16265	648	1	0	0
Zimbabwe	1244	688753	4686	213	0	0
Total (19)	1664	2774240	14133	669	44	3



Map 8: Spatial distribution of LSD in 2014 in Africa.

the disease among different populations.

During 2015, the highest number of outbreaks

occurred in February (23.1%), followed by March (19.0%). This was consistent with the trend during previous years. It might be attributed to high

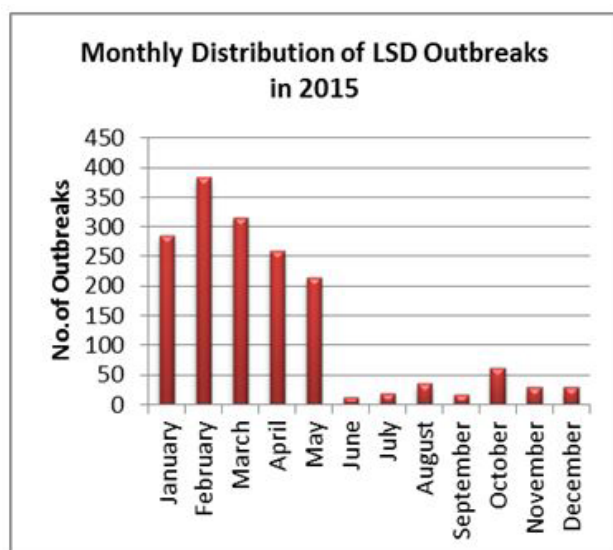


Chart 8: Monthly Distribution of LSD Outbreaks

vector activity in the severely affected countries normally during this period (Chart 8).

4.9. Newcastle Disease

Newcastle disease remained the most widely distributed TAD on the continent reported by 26 African countries covering the west, central, east and southern Africa regions in 2015 (Table 11), a trend similar to the previous years (Map 9). Contrary to 2014, a total of 26 affected countries reported outbreaks of Newcastle diseases in 2015, representing a 3.7% decline in countries reporting ND.

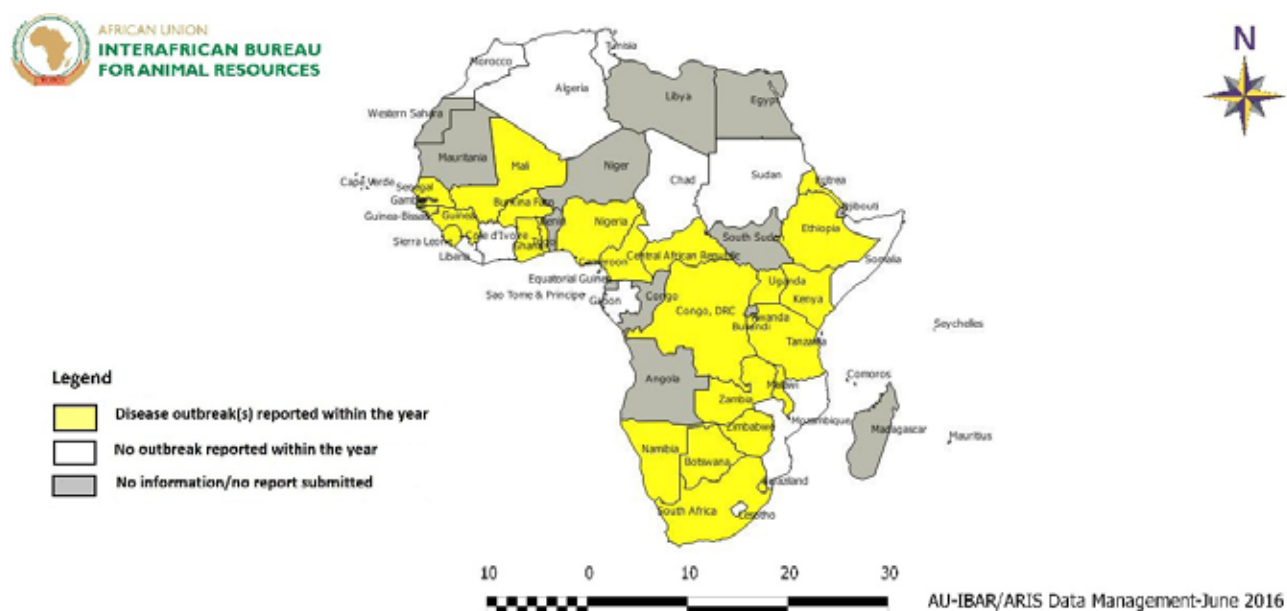
Overall, 795 outbreaks were reported during the 2015, with 205,922 cases and 128,232 deaths, representing an estimated case fatality rate of 62.3%. Compared to 2014, there was a substantial decline in the reported ND outbreaks, cases and deaths of 0.3%, 70.8% and 73.6%, respectively.

The four countries with the highest number of reported ND outbreaks included The Gambia (23.5%), Ghana (16.1%), Zambia (10.3%) and Botswana (5.3%).

Table 11: Countries reporting ND

Country	Outbreak	Susceptible	Cases	Deaths	Slaughtered	Destroyed
Botswana	42	5398	2213	1012	0	0
Burkina Faso	40	113257	2379	1352	0	0
Burundi	29	10005	1605	0	0	0
Cameroon	25	4401	2877	1799	3	0
CAR	37	228743	95800	55395	0	0
DRC	40	37391	23255	23255	0	0
Eritrea	1	3000	350	200	0	0
Ethiopia	25	168163	1400	548	0	0
Gambia	187	22147	387	69	0	0
Ghana	128	614245	39843	31711	20	0
Guinea Bissau	8	675	252	216	0	36

Country	Outbreak	Susceptible	Cases	Deaths	Slaughtered	Destroyed
Guinea Conakry	37	5739	1611	1072	284	0
Kenya	15	3229	1152	565	0	0
Malawi	2	8400	392	392	321	50
Mali	2	6221	110	91	6	0
Namibia	2	170	31	30	0	0
Nigeria	21	7941	235	19	5	0
Senegal	2	842	316	307	0	0
Sierra Leone	4	3893	99	68	0	0
South Africa	19	51340	1542	1437	0	14
Swaziland	2	160	22	22	0	0
Tanzania	6	12574	222	164	0	0
Togo	1	25	15	7	5	3
Uganda	2	2000	8	0	0	0
Zambia	82	129103	26090	6952	0	0
Zimbabwe	36	32211	2816	1549	0	133
Total (26)	795	1471273	205022	128232	644	236



Map 9: Spatial distribution of ND during 2015

Whereas the highest number of outbreaks was reported in February (23.5%) followed by June (12.3%), ND occurred throughout the year without significant monthly variability and temporal pattern. This suggests lack of seasonality for the risk factors that influence the occurrence

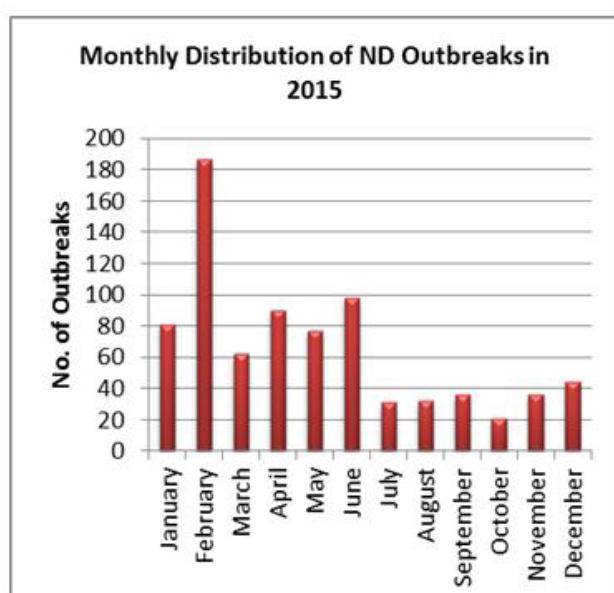


Chart 9: Monthly Distribution of ND Outbreaks

and transmission of ND (Chart 9).

4.10. Peste des Petits Ruminants

In 2015, PPR was reported in 23 countries, representing a decline of 8.0% from the previous year (Table 12). A total of 834 outbreaks with 78,699 cases and 31,598 deaths were reported in 2015, representing an increase of 39.9%, 117% and 52.6% in the number of outbreaks, cases and deaths, respectively, as compared to 2014. An

Month	Outbreak
January	81
February	187
March	62
April	90
May	77
June	98
July	31
August	32
September	36
October	21
November	36
December	44
Total	795

estimated case fatality rate of PPR of 40.2% was observed during the reporting period.

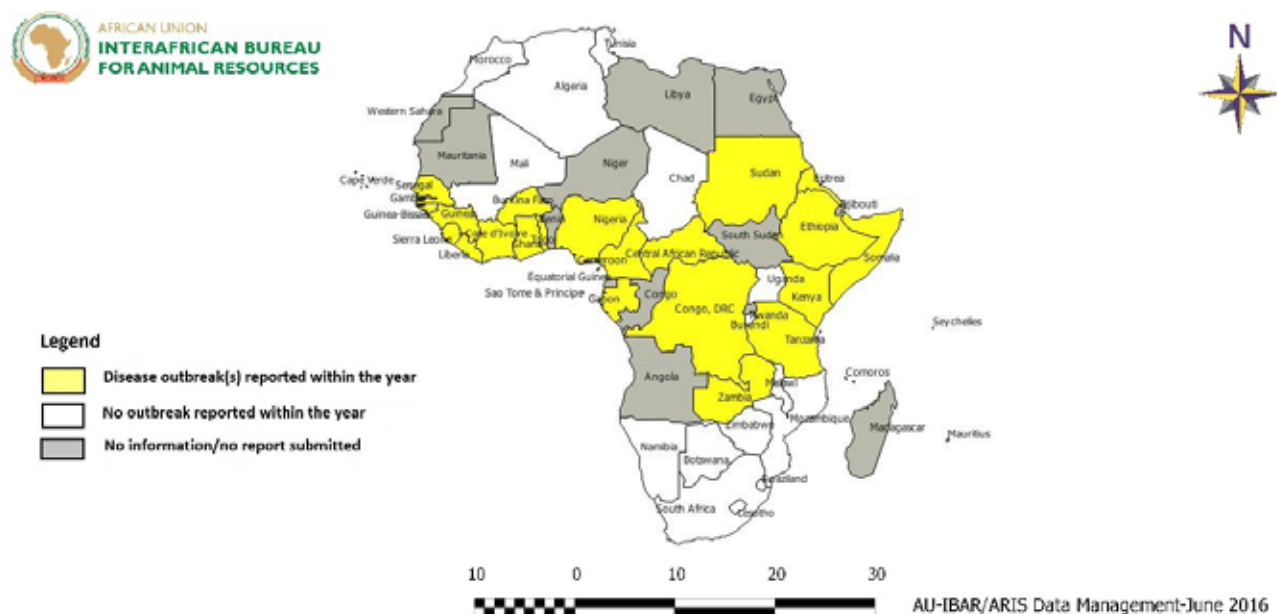
PPR was the third widely distributed TAD on the continent in 2015. Apparently, most of the reporting countries in 2015 had also reported PPR in the previous years (Map 10).

The four countries with the highest number of fatalities due to PPR were Central African Republic (73.5%), followed by DRC (14.0%), the

Table 12: Countries reporting PPR

Country	Outbreaks	Susceptible	Cases	Deaths	Slaughtered	Destroyed
Burkina Faso	2	50	32	12	0	0
Cameroon	15	710	381	121	0	0
CAR	38	217075	58000	23230	0	0
Comoros	3	11	11	6	0	0
Cote d'Ivoire	7	525	83	50	0	0
DRC	73	20127	4562	4434	181	28
Eritrea	4	24300	860	195	0	0
Ethiopia	32	166886	442	93	2	0
Gabon	30	1	1	0	0	0
Gambia	187	11205	1811	635	0	0
Ghana	48	13740	563	212	61	2
Guinea Bissau	17	1472	550	323	0	164
Guinea Conakry	34	8303	1885	475	99	10
Kenya	24	341619	2173	184	0	0
Liberia	1	2572	2373	600	0	0
Nigeria	269	14805	2424	240	94	0
Senegal	2	46	31	20	0	0

Country	Outbreaks	Susceptible	Cases	Deaths	Slaughtered	Destroyed
Sierra Leone	5	332	155	89	0	0
Somalia	9	39611	458	34	16	9
Sudan	18	22591	853	358	0	0
Tanzania	7	13073	986	280	0	0
Togo	4	143	32	7	7	2
Zambia	5	54715	33	0	0	0
Total (23)	834	953912	78699	31598	460	215



Map 10: Spatial distribution of PPR

The Gambia (2.0%) and Liberia (1.9%) (Table 12). PPR outbreaks, followed by February (106), PPR didn't show any defined temporal trend in the monthly incidence of outbreaks having occurred. Although April (112) had the highest number of

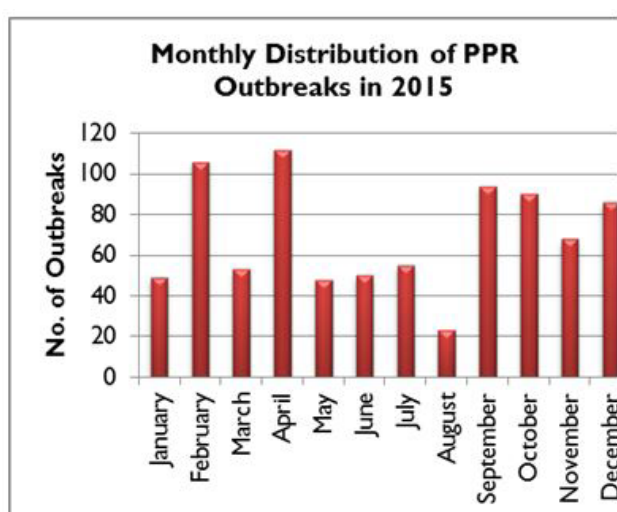


Chart 10: Monthly Distribution of PPR Outbreaks

Month	Outbreak
January	49
February	106
March	53
April	112
May	48
June	50
July	55
August	23
September	94
October	90
November	68
December	86
Total	834

throughout the year without significant variability (Chart 10).

4.1.1. Rift Valley fever

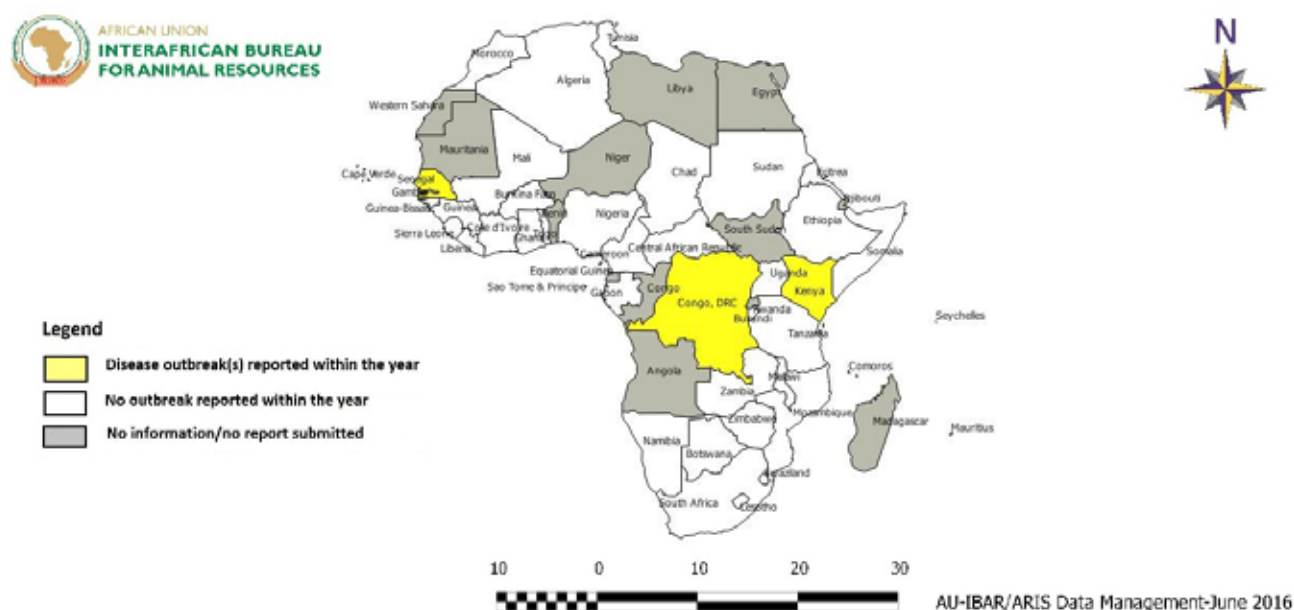
During the year under report, four countries including Comoros, DRC, Kenya and Senegal reported RVF. Kenya has been reporting the disease in the last four years since 2012. During the reporting period, a total of 25 outbreaks, involving 131 cases and 17 deaths were reported in four affected countries, an increase of 212.5%, 322.6% and 467% in the number of

RVF outbreaks, cases and deaths, respectively, as compared to 2014.

The last major outbreak of RVF in Kenya was experienced in 2014. Outbreaks are normally associated with the occurrence of El Niño – ENSO in the Greater Horn of Africa. Such conditions associated with flooding lead to multiplication of vector *Aedes* sp. mosquitoes that normally harbor the RVF virus passed from

Table 13: Countries reporting RVF

Country	Outbreaks	Susceptible	Cases	Deaths	Slaughtered	Destroyed
Comoros	11	73	73	5	0	0
DRC	11	440	22	0	0	0
Kenya	2	2500	2	0	0	0
Senegal	1	90	34	12	0	0
Total(4)	25	3103	131	17	0	0



Map 11: Spatial distribution of RVF

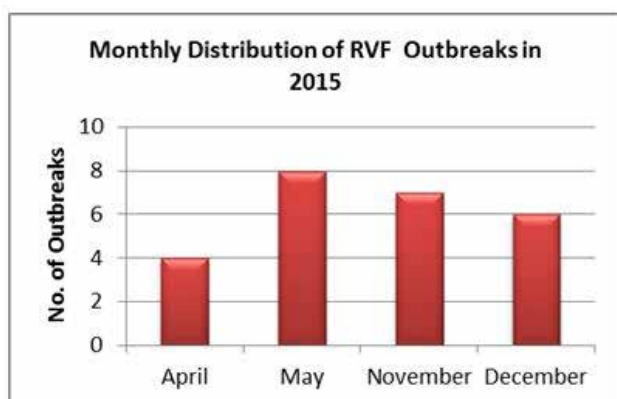


Chart 11: Monthly Distribution of RVF Outbreaks

Month	Outbreak
April	4
May	8
November	7
December	6
Total	25

one generation to another through a transovarial process.

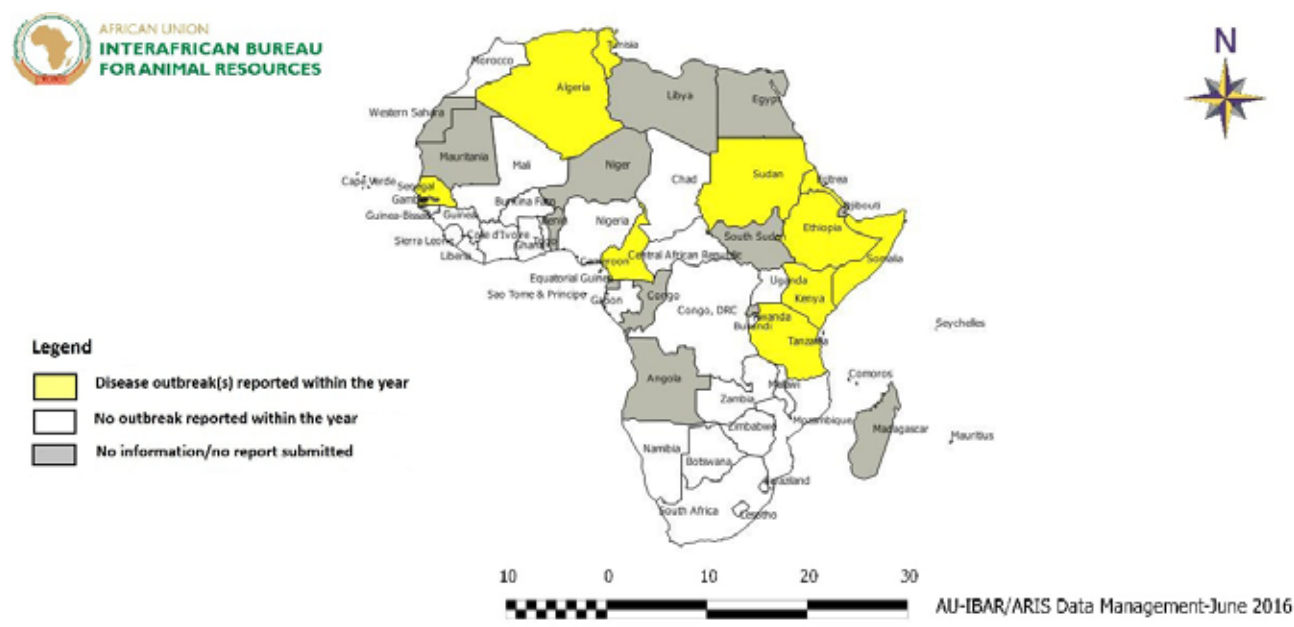
During 2015, RVF outbreaks were reported in April and May, then November and December. This corresponded with wet seasons when flooding normally occurs due to high rainfall in affected countries. RVF occurrence is associated with exceptional environmental phenomenon such as sustained above normal rainfall and flooding.

4.12. Sheep Pox and Goat Pox

In 2015, ten countries reported outbreaks of SGP, representing a 23.1% decline as compared to 2014 (Table 14 and Map 11). Overall, a total of 337 outbreaks involving 5197 cases and 755 deaths were reported in 2015, representing a decline of the number of outbreaks, cases and deaths of 41.7%, 28.9% and 12.9%, respectively, compared to 2014.

Table 14: Countries reporting sheep pox and goat pox

Country	Outbreaks	Susceptible	Cases	Deaths	Slaughtered	Destroyed
Algeria	77	13269	476	33	0	0
Cameroon	4	100	49	3	0	0
Eritrea	6	11600	1220	180	0	0
Ethiopia	118	405836	1763	264	30	0
Kenya	16	113551	361	17	0	0
Senegal	1	4000	57	8	0	0
Somalia	15	22999	135	21	19	6
Sudan	25	28176	597	128	5	0
Tanzania	7	45133	159	35	0	0
Tunisia	68	10050	380	66	0	0
Total (10)	337	654714	5197	755	54	6



Map 12: Spatial distribution of SGP during 2015 in Africa.

The three countries that recorded the highest number of outbreaks in 2015 included Ethiopia (118), Algeria (77) and Tunisia (68).

During 2015, the highest number of SGP outbreaks was recorded in the month of January (17.8%), followed by August (15.1%) and February (13.6%).

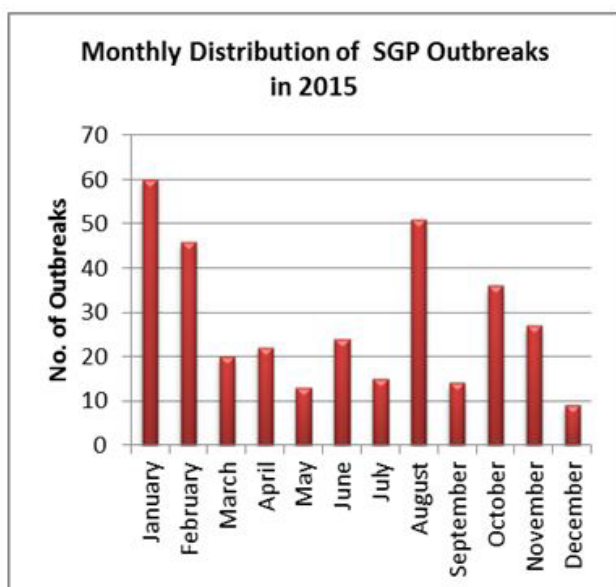


Chart 12: Monthly Distribution of SGP Outbreaks

Month	Outbreak
January	60
February	46
March	20
April	22
May	13
June	24
July	15
August	51
September	14
October	36
November	27
December	9
Total	337

However, outbreaks were reported throughout the year with no marked seasonal variability (Chart 12).

5. SITUATION OF OTHER IMPORTANT DISEASES IN AFRICA IN 2015

5.1 Anaplasmosis

Similar to 2014 and 2013, Anaplasmosis was reported in 14 countries in Africa in 2015. A total of 1292 outbreaks involving 7812 cases and 1092 deaths were reported, representing a decline of 27.6% and 8.8% in number of outbreaks and

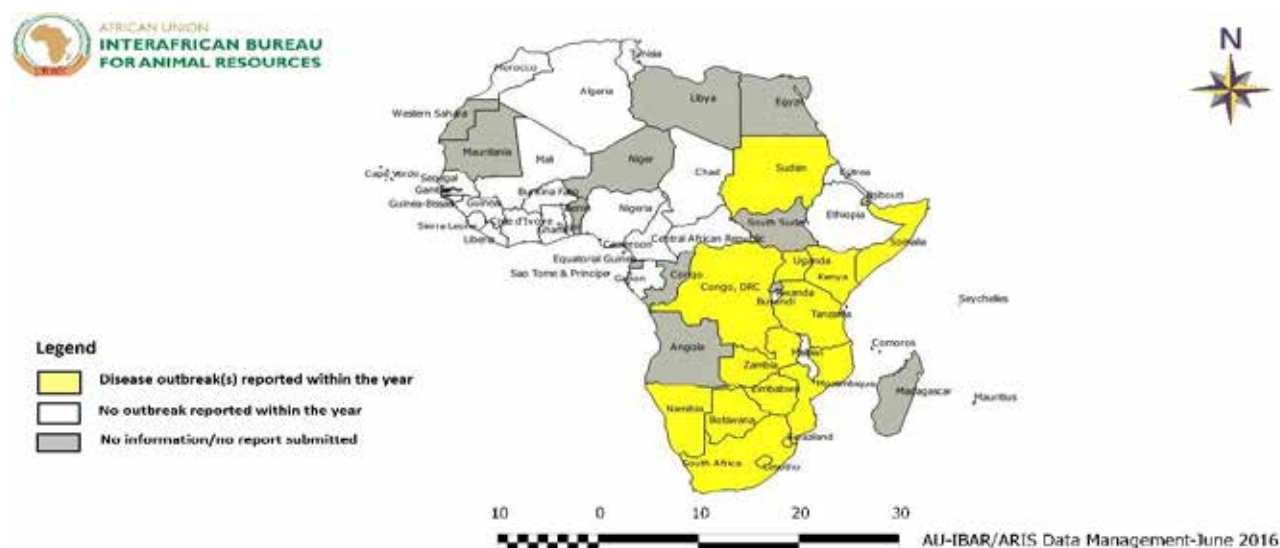
deaths, respectively, and an increase of 17.1% in the number of cases as compared to 2014. During the reporting period, Zimbabwe reported the highest number of outbreaks (66.5%), followed by Zambia (5.8%) and Tanzania (1.0%).

Table 14: Anaplasmosis reported Countries

Country	Countries Reporting Anaplasmosis			Deaths	Slaughtered	Destroyed
	Outbreaks	Susceptible	Cases			
Botswana	1	136	4	3	0	0
DRC	15	1039	284	0	0	0
Kenya	4	14	7	2	0	0
Lesotho	3	378	3	0	0	0
Mozambique	8	2176	49	13	0	0
Namibia	1	74	2	1	0	0
Somalia	5	313	15	0	0	0
South Africa	16	252	22	5	0	0
Sudan	6	2072	132	55	0	0
Swaziland	15	13989	25	5	0	0
Tanzania	25	109806	1887	331	0	0
Uganda	1	25	1	0	0	0
Zambia	96	16519	1399	226	0	0
Zimbabwe	1096	575081	3983	452	2	5
Total(14)	1292	721874	7813	1093	2	5

The geographical distribution of the disease (Map 13) showed that it was mainly recorded in the eastern and southern parts of the continent. The monthly distribution of the disease during 2015

indicated that major outbreaks were recorded from January to May with monthly reported number of outbreaks ranging from 166 to 285 (Chart 13).



Map 13: Spatial distribution of Anaplasmosis

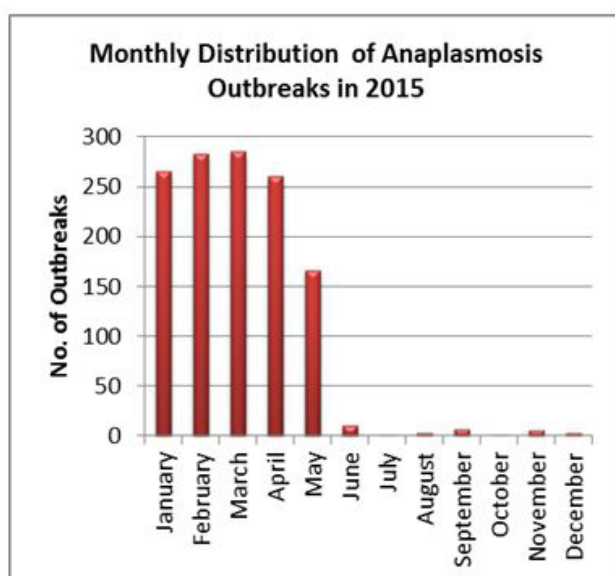


Chart 13: Monthly Distribution of Anaplasmosis Outbreaks

Month	Outbreak
January	266
February	283
March	285
April	260
May	166
June	11
July	1
August	3
September	7
October	1
November	6
December	3
Total	1292

5.2 Anthrax

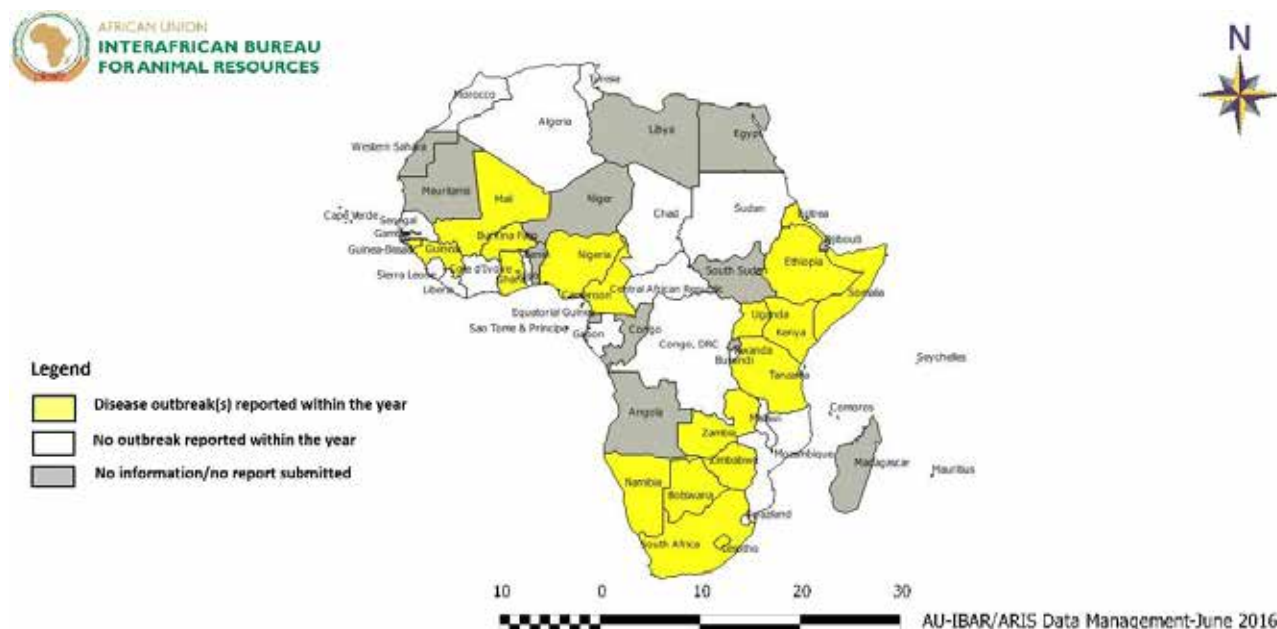
In 2015, 19 countries reported outbreaks of anthrax, representing a 5.6% increase as compared to 2014 (Table 15). During the reporting period, a total of 239 outbreaks of anthrax involving 1218 cases and 608 deaths were reported, representing a decline of 69.9%, 69.6% and 58.8% in the number of outbreaks, cases and deaths as compared to 2014. Overall, a case fatality rate of 49.9% was observed.

During the reporting period, the highest number of outbreaks was reported in Ethiopia (54.8%), followed by Kenya (7.9%), then Zimbabwe (6.3%) and Guinea Bissau (6.3%). The highest number of outbreaks of anthrax were reported in August (22.6%). However, occurrence of outbreaks was evenly distributed throughout the year (Chart 14).

Table 15: Anthrax reporting Countries

Country	Countries Reporting Anthrax		Cases	Deaths	Slaughtered	Destroyed
	Outbreak	Susceptible				
Botswana	2	160000	2	2	0	0
Burkina Faso	4	2000	5	5	0	0
Cameroon	1	100	4	4	0	0
Eritrea	1	5000	50	50	0	0
Ethiopia	131	310439	679	206	27	0
Ghana	4	2105	50	42	0	0
Guinea Bissau	15	1668	89	52	0	16
Guinea Conakry	13	1597	134	101	0	13
Kenya	19	54504	74	53	2	8
Lesotho	1	2145	1	0	0	0
Mali	2	460	11	9	0	0
Namibia	1	1	1	1	0	0
Nigeria	5	18	5	5	0	0
Somalia	8	470	26	7	1	0
South Africa	6	6	6	6	0	0
Tanzania	3	6161	3	2	0	0

Country	Outbreak	Susceptible	Cases	Deaths	Slaughtered	Destroyed
Uganda	7	3270	12	10	2	2
Zambia	1	270	7	5	0	0
Zimbabwe	15	9585	59	48	0	0
Total(19)	239	559799	1218	608	32	39



Map 14: Spatial distribution of Anthrax

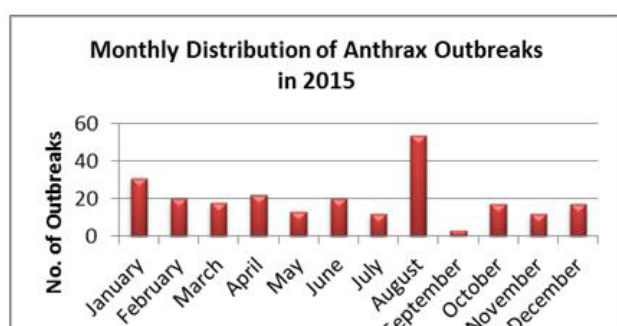


Chart 14: Monthly Distribution of Anthrax Outbreaks

Month	Outbreak
January	31
February	20
March	18
April	22
May	13
June	20
July	12
August	54
September	3
October	17
November	12
December	17
Total	239

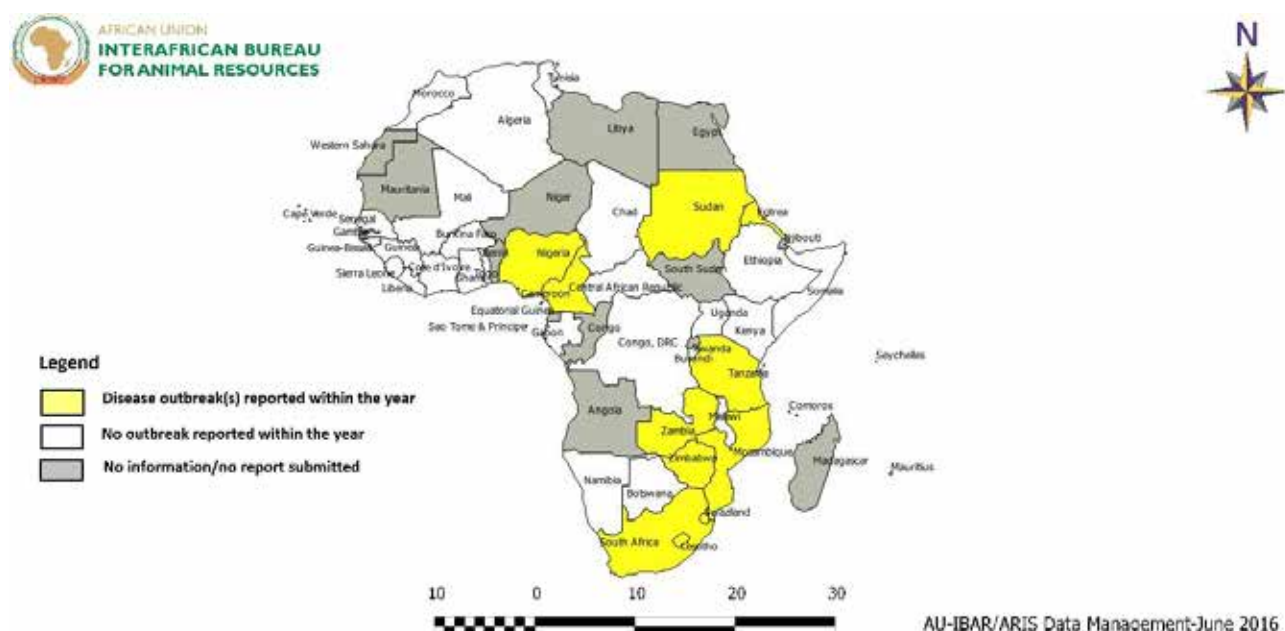
5.3 Babesiosis

During 2015, Babesiosis was reported by 12 countries, representing a 9.1% increase as compared to 2014. During the reporting period, a total of 646 outbreaks involving 4022 cases and 486 deaths were reported, representing a decline of 49.3%, 95.2% and 88.7% in the number of outbreaks, cases and deaths, respectively, as compared to 2014 (Table 16). Zimbabwe

recorded the highest number of outbreaks (80.7%), followed by Zambia (7.0%), then South Africa (4.3%) and Swaziland (2.6%). According to the monthly distribution of outbreaks of Babesiosis, the highest number of outbreaks were recorded in January (23.7%) followed by March (20.1%) (Chart 15).

Table 16: Babesiosis reporting countries

Country	Outbreak	Susceptible	Cases	Deaths	Slaughtered	Destroyed
Cameroon	1	8	8	0	0	0
Comoros	8	13	13	2	0	0
Eritrea	1	1500	86	10	0	0
Lesotho	10	1878	1	0	0	0
Mozambique	4	1579	175	28	0	0
Nigeria	6	104	22	0	0	0
South Africa	28	25963	1723	151	0	0
Sudan	3	500	26	11	0	0
Swaziland	17	13234	71	7	0	0
Tanzania	2	3384	18	9	0	0
Zambia	45	2297	181	32	0	0
Zimbabwe	521	330836	1698	236	0	1
Total(12)	646	381296	4022	486	0	1



Map 15: Spatial distribution of Babesiosis in Africa 2014

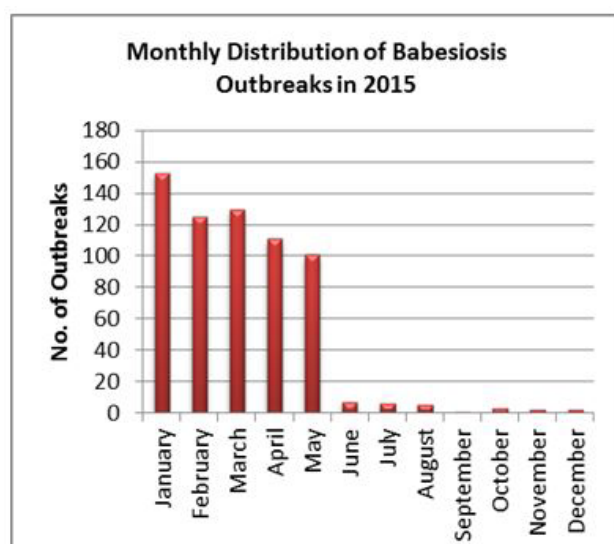


Chart 15: Monthly Distribution of Babesiosis Outbreaks

Month	Outbreak
January	153
February	125
March	130
April	111
May	101
June	7
July	6
August	5
September	1
October	3
November	2
December	2
Total	646

5.4 Blackleg

During 2015, Blackleg was reported by 17 countries, similar to 2014. A total of 583 outbreaks, 9397 cases and 1259 deaths were reported during the reporting period, representing a decline of 14.8% and 7.8% in the number of outbreaks and deaths, respectively, and an increase of 138.6% in the number of cases, as compared to 2014 (Table

17). A case fatality rate of 13.4% was observed.

Zimbabwe reported the highest number of outbreaks (39.6%), followed by The Gambia (15.6%), then Ethiopia (12.9%) and Zambia (7.7%). The highest number of outbreaks was reported in April (16.6%), followed by February (14.9%) and May (14.8%) (Chart 15).

Table 17: Blackleg reporting Countries

Country	Sum of Total Outbreak	Sum of Susceptible	Sum of Cases	Sum of Deaths	Sum of Slaughtered	Sum of Destroyed
Cameroon	1	30	2	2	0	0
Comoros	1	2	2	2	0	0
DRC	32	10681	4647	482	113	0
Ethiopia	75	263859	678	90	4	0
Gambia	91	6836	649	136	0	0
Ghana	3	3006	6	1	5	0
Guinea Bissau	34	1620	805	134	0	29
Kenya	7	624	31	11	0	0
Sierra Leone	3	328	56	16	0	0
Somalia	14	511	8	0	0	0
South Africa	8	18	19	17	0	0
Sudan	7	6094	47	23	0	0
Swaziland	19	19851	42	2	0	0
Tanzania	9	42980	864	60	0	0
Uganda	3	64	3	3	0	0
Zambia	45	9064	339	48	0	0
Zimbabwe	231	150139	1199	232	0	12
Total (17)	583	515707	9397	1259	122	41

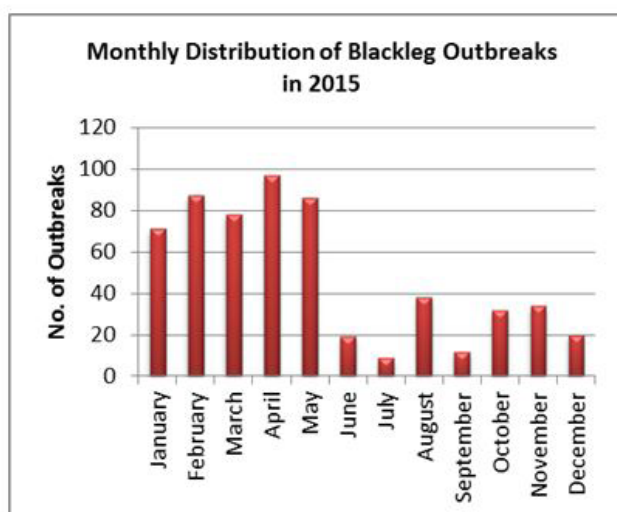


Chart 15: Monthly Distribution of Blackleg Outbreaks

Month	Outbreak
January	71
February	87
March	78
April	97
May	86
June	19
July	9
August	38
September	12
October	32
November	34
December	20
Total	583

5.5 Brucellosis

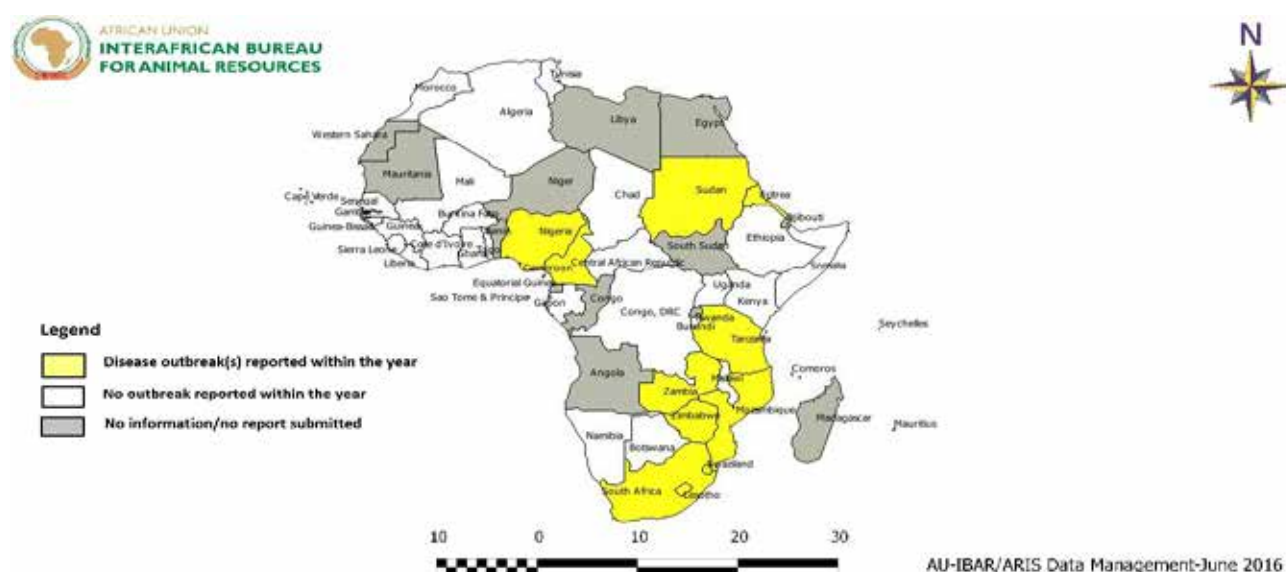
During 2015, Brucellosis was reported by 18 countries, representing a 20% increase as compared to 2014 (Table 18). A total of 466 outbreaks involving 7075 cases and 100 deaths was reported in 2015, representing a 66.5% and 43.8% decline in the number of outbreaks and deaths, respectively and a 10.9% increase in the number of cases as compared to 2014. A case fatality rate of 1.4% was observed.

Overall, South Africa reported the highest number of outbreaks of Brucellosis (47.0%), followed by Namibia (12.2%), then Algeria (9.2%) and Uganda (7.9%).

The highest number of outbreaks was reported in February (17.8%), followed by March (17.2%) (Chart 16). However, outbreaks were reported throughout the year.

Table 18: Brucellosis reporting countries

Country	Outbreak	Susceptible	Cases	Deaths	Slaughtered	Destroyed
Algeria	43	7623	1683	0	1680	0
Botswana	2	623	7	0	0	0
DRC	28	7202	1732	0	694	0
Ethiopia	1	5000	1	0	1	0
Ghana	1	23	1	0	1	0
Kenya	5	554	5	0	0	0
Mozambique	12	2331	55	1	14	0
Namibia	57	2824	590	0	0	0
Nigeria	1	41	5	0	0	0
Somalia	6	2193	37	5	5	1
South Africa	219	15573	2386	87	0	713
Sudan	1	240	5	0	5	0
Swaziland	19	19621	148	0	0	0
Tanzania	3	2427	11	1	2	0
Tunisia	2	90	28	0	0	0
Uganda	37	3331	128	1	0	0
Zambia	6	557	18	1	0	0
Zimbabwe	23	6651	235	4	0	0
Total(18)	466	76904	7075	100	2402	714



Map 22: Spatial distribution of Brucellosis

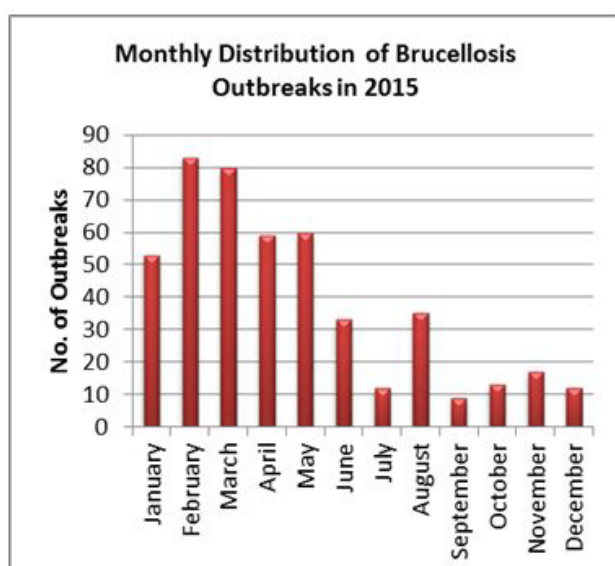


Chart 16: Monthly Distribution of Brucellosis Outbreaks

5.6 Dermatophilosis

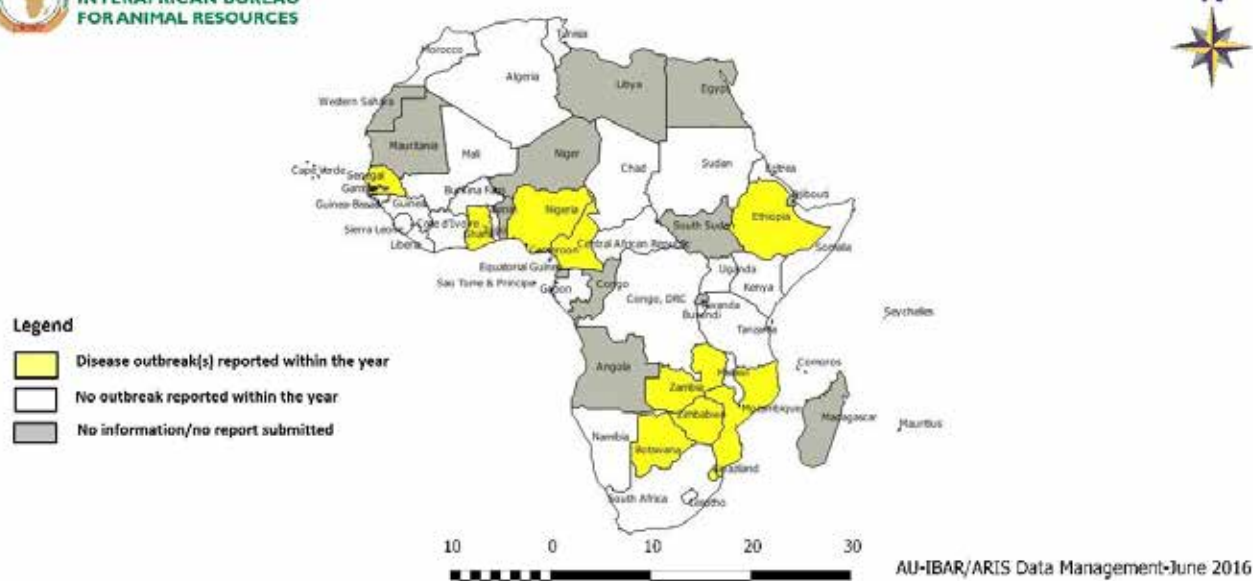
Similar to 2014, dermatophilosis or streptothrichosis was reported by 10 countries in 2015 (Table 19). A total of 657 outbreaks involving 2797 cases and 93 deaths were reported during the reporting period, representing an increase of 1.7%, 14.0% and 121.4% in the number of outbreaks, cases and deaths, as compared to

2014.

Like previous years, Zimbabwe reported the highest number of outbreaks (91.9%), followed by Zambia (4.4%) and Ghana (1.2%). Major outbreaks were reported between January to May, reported monthly outbreaks ranging from 108 to 156 recorded (Chart 17).

Table 19: Dermatophilosis reporting countries

Country	Outbreak	Susceptible	Cases	Deaths	Slaughtered	Destroyed
Botswana	1	30	3	2	0	0
Cameroon	6	233	53	2	0	0
Ethiopia	3	9145	15	1	0	0
Ghana	8	306	32	1	2	0
Mozambique	1	250	3	0	0	0
Nigeria	2	891	8	1	0	0
Senegal	1	43	8	0	0	0
Swaziland	2	3369	4	0	0	0
Zambia	29	6490	255	3	0	0
Zimbabwe	604	550781	2416	83	0	0
Total(10)	657	571538	2797	93	2	0



Map 19: Spatial distribution of Dermatophilosis

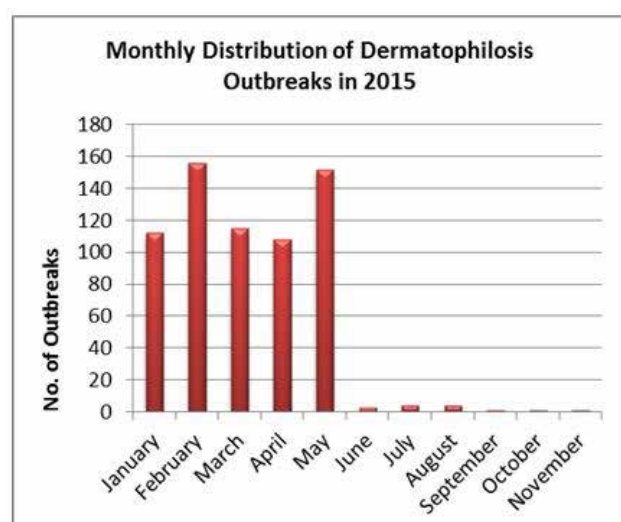


Chart 17: Monthly Distribution of Dermatophilosis Outbreaks

Month	Outbreak
January	112
February	156
March	115
April	108
May	152
June	3
July	4
August	4
September	1
October	1
November	1
Total	657

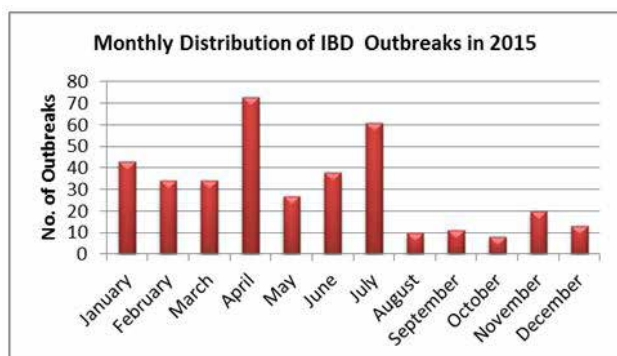
5.7 Gumboro disease (Infectious Bursal disease)

During 2015, 7 countries reported Gumboro disease, representing a increase of 16.7% as compared to 2014 (Table 22). Overall, a total 372 outbreaks involving 35,122 cases and 13,869 deaths were reported, representing a decline of 16.0%, 55.0% and 56.7% in the number of outbreaks, cases and deaths, respectively, compared to 2014. A case fatality

rate of 39.5% was observed. Ghana recorded the highest number of outbreaks (45.5%), followed by Zimbabwe (23.7%) and Nigeria (21.5%). Regarding the monthly distribution of outbreaks, April had the highest number of outbreaks (19.6%), followed by July (16.4%). However, outbreaks occurred throughout the year without significant difference between seasons (Chart 18).

Table 22: Countries reporting Gumboro disease (2015)

Country	Outbreak	Susceptible	Cases	Deaths	Slaughtered	Destroyed
Botswana	4	10118	232	224	0	0
Cameroon	4	7450	6240	90	0	0
Ghana	168	582568	18135	5876	0	0
Kenya	5	2620	1372	77	0	0
Nigeria	80	1566	250	29	1	0
Zambia	23	71545	6571	6012	0	0
Zimbabwe	88	27097	2322	1561	0	0
Total(7)	372	702964	35122	13869	1	0

**Chart 18:** Monthly Distribution of Gumboro Outbreaks (2015)

Month	Outbreak
January	43
February	34
March	34
April	73
May	27
June	38
July	61
August	10
September	11
October	8
November	20
December	13
Total	372

5.8. Heartwater

Heartwater or Cowdriosis a rickettsial disease of ruminants caused by *Ehrlichia ruminantium* was reported by 15 countries in 2015, representing an increase of 15.4% as compared to 2014. During the reporting period, a total of 840 outbreaks, 4158 cases and 1040 deaths were reported, representing a decline of 39.0%, 2.2% and 25.4% in the number of outbreaks, cases and deaths, respectively, as compared to 2014 (Table 23). A case fatality rate of 25.0% was observed.

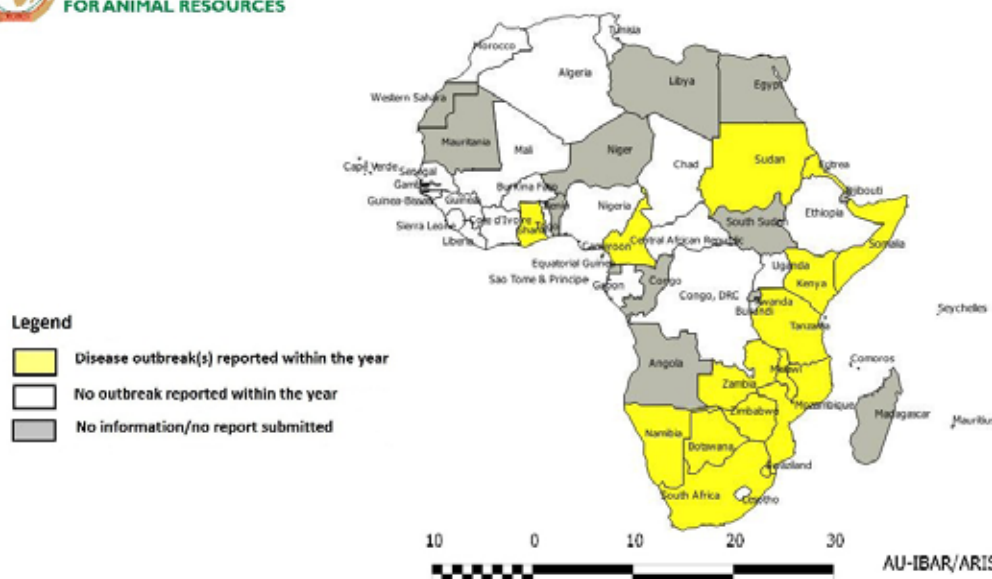
Zimbabwe reported the highest number of outbreaks (71.7%), followed by Zambia (7.1%),

Botswana (6.3%) and South Africa (4.9%). The trend of reporting on this disease has remained the same with the same countries reporting the disease suggesting that such countries still have high tick infestation and do practice unsustainable disease control measures. Such conditions have led to persistence of the disease.

Outbreaks of Heartwater mainly occurred between January and June with a monthly number of outbreaks ranging from 26 to 174 (Chart 19).

Table 23: Countries reporting Heartwater (2015)

Country	Outbreak	Susceptible	Cases	Deaths	Slaughtered	Destroyed
Botswana	53	2290	144	115	0	0
Comoros	2	5	5	0	0	0
Eritrea	1	2500	130	80	0	0
Ghana	4	27	9	0	1	0
Kenya	5	63	78	0	0	0
Malawi	1	582	444	23	0	0
Mozambique	1	1020	38	12	0	0
Namibia	5	404	8	7	0	0
Somalia	25	1647	144	15	1	1
South Africa	41	363	66	31	0	1
Sudan	10	4500	242	107	0	0
Swaziland	25	15890	49	27	0	0
Tanzania	5	10589	151	100	0	0
Zambia	60	11007	288	131	0	0
Zimbabwe	602	341549	2362	392	0	5
Total(15)	840	392436	4158	1040	2	7



Map 20: Spatial distribution of Heartwater

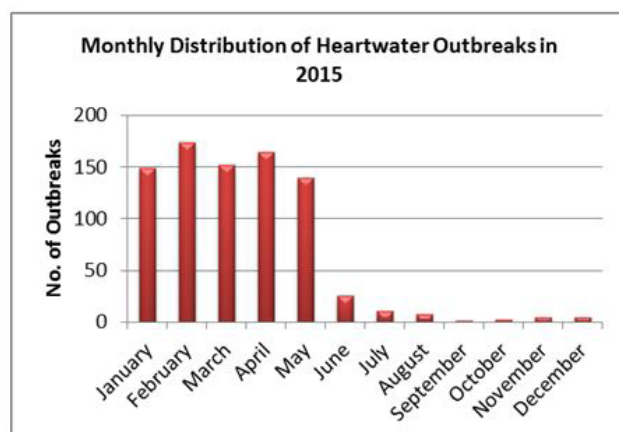


Chart 19: Monthly Distribution of Heartwater Outbreaks (2015)

Month	Outbreak
January	149
February	174
March	152
April	165
May	140
June	26
July	11
August	8
September	2
October	3
November	5
December	5
Total	840

5.9 Mange

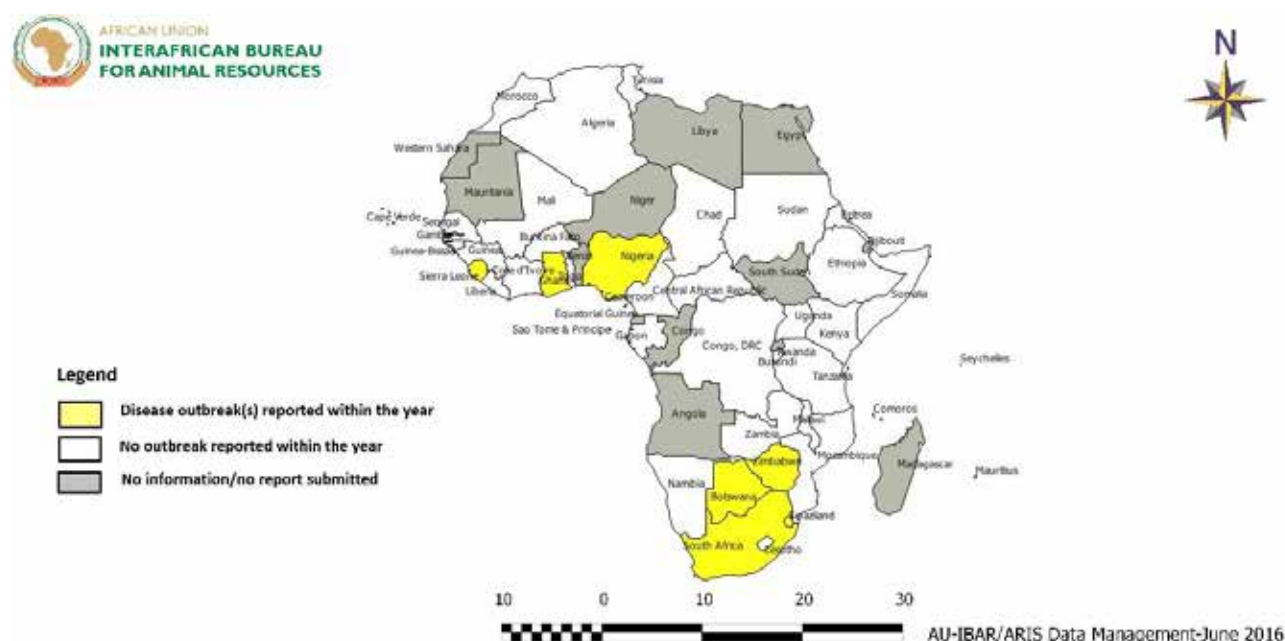
Mange is a skin disease of mammals caused by a tissue-burrowing arthropod, the mange mite. During 2015, outbreaks of mange were reported by 8 countries, representing a 27.3% decline in the number of countries reporting mange as compared to 2014 (Table 24). During the reporting year, a total of 402 outbreaks involving 5275 cases and 172 deaths were reported, representing a decline of 21.4% and 34.1% in the number of outbreaks and deaths, respectively, and an increase of 60.8% in the number of cases of mange as compared to 2014.

A case fatality rate of 3.3% was observed. Mange is rarely 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 2015, Ghana recorded the highest number of outbreaks of mange (34.8%), followed by Zimbabwe (28.6%) and Nigeria (20.9%). Regarding the monthly distribution, April had the highest number of outbreaks (17.7%), followed by May (12.4%) and March (12.2%) (Chart 20).

Table 24: Countries reporting Mange (2015)

Country	Outbreak	Susceptible	Cases	Deaths	Slaughtered	Destroyed
Botswana	13	482	166	7	0	0
Comoros	2	15	15	0	0	0
Ghana	140	24694	900	45	62	2
Nigeria	84	3842	214	28	0	0
Sierra Leone	9	396	274	38	0	0
South Africa	36	22773	3028	0	0	0
Swaziland	3	2698	6	0	0	0
Zimbabwe	115	46434	672	54	0	4
Total(8)	402	101334	5275	172	62	6



Map 21: Spatial distribution of Mange

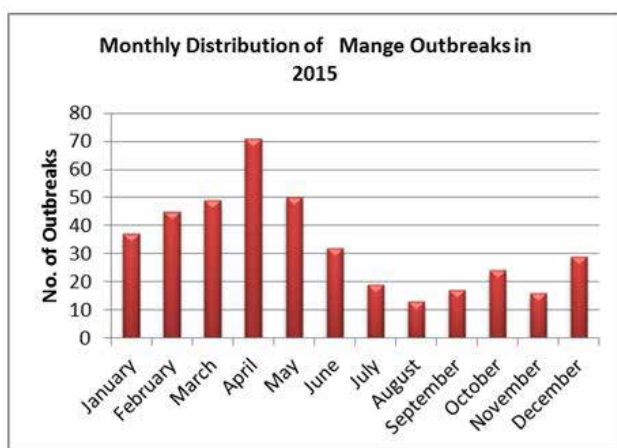


Chart 20: Monthly Distribution of Mange Outbreaks (2015)

Month	Outbreak
January	37
February	45
March	49
April	71
May	50
June	32
July	19
August	13
September	17
October	24
November	16
December	29
Total	402

5.10 Haemorrhagic Septicaemia and other Pasteurellosis

During 2015, 16 countries reported outbreaks of Haemorrhagic Septicaemia, representing an increase of 14.3% as compared to 2014 (Table 25). Overall, a total of 572 outbreaks involving 5939 cases and 1489 deaths were reported during the reporting period, representing an increase of 34.3%, 37.5% and 83.6% in the number of outbreaks, cases and deaths, respectively, as compared to 2014. A case fatality rate of 25.1%

was observed. The highest number of outbreaks were reported by The Gambia (68.2%), followed by Ethiopia (17.3%), Sudan (3.5%) and Somalia (3.1%). Regarding the monthly distribution of outbreaks, the highest number of outbreaks were reported in December (13.1%), followed by May (12.9%) and January (12.8%). However, outbreaks occurred throughout the year without significant difference in the number of reported monthly outbreaks (Chart 21).

Table 25: Countries reporting HS and other Pasteurellosis (2015)

Country	Outbreak	Susceptible	Cases	Deaths	Slaughtered	Destroyed
Botswana	3	179	5	3	0	0
Burkina Faso	9	3496	331	18	0	0
Cameroon	2	85	56	1	0	0
Chad	1	1	1	0	0	0
Ethiopia	99	337613	1005	208	49	0
Gambia	390	15809	2522	499	0	0
Guinea Conakry	2	252	6	5	1	0
Kenya	1	100	30	0	0	0
Namibia	1	500	1	1	0	0
Senegal	7	776	197	70	0	0
Sierra Leone	3	610	111	48	0	0
Somalia	18	19963	576	207	0	0
South Africa	6	219	59	53	0	0
Sudan	20	28415	915	358	0	0
Tanzania	2	30366	71	10	0	0
Zambia	8	3357	53	8	0	0
Total(16)	572	441741	5939	1489	50	0



Map 22: Spatial distribution of HS and other Pasteurellosis in Africa in 2015

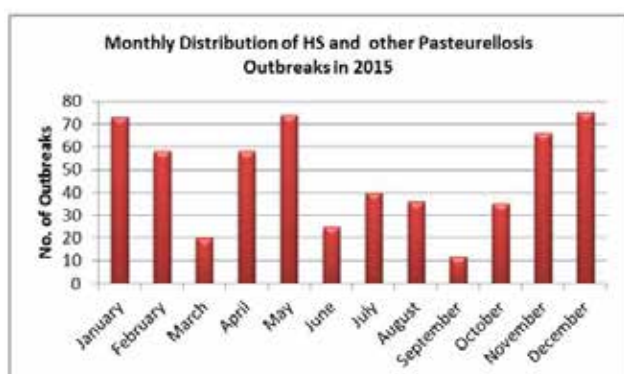


Chart 21: Monthly Distribution of HS and other Pasteurellosis Outbreaks (2015)

Month	Outbreak
January	73
February	58
March	20
April	58
May	74
June	25
July	40
August	36
September	12
October	35
November	66
December	75
Total	572

5.11 Rabies

Rabies remains widely reported in Africa, a trend that remained consistent over many years. During 2015, 28 countries reported outbreaks of rabies, representing an increase of 3.7% in the number of countries that reported the disease as compared to 2014 (Table 26). During the reporting period, a total of 3078 outbreaks involving 6187 cases and 2352 deaths were reported, representing an increase of 33.0%, 23.8% and 0.2% in the number of outbreaks, cases and deaths, respectively, as

compared to 2014. A case fatality rate of 38.0% was observed. The Democratic Republic of the Congo (DRC) reported the highest number of outbreaks (20.5%), followed by Algeria (17.3%), Zimbabwe (10.9%), Namibia (10.1%) and Zambia (7.5%). Regarding the monthly distribution, the highest number of outbreaks was recorded in March (13.3%), followed by January (10.8%) and February (10.3%). However, outbreaks were distributed evenly across all months without significant difference between months.

Table 26: Countries reporting Rabies

Country	Outbreak	Susceptible	Cases	Deaths	Slaughtered	Destroyed
Algeria	531	17775	583	88	2	518
Botswana	76	2296	77	62	0	0
Burkina Faso	102	156	152	152	0	0
Burundi	5	500	5	0	0	0
Cameroon	18	20	20	18	14	0
CAR	62	14065	2692	772	75	0
Cote d'Ivoire	8	51	8	3	0	0
DRC	632	633484	632	52	2	525
Eritrea	40	2700	40	33	0	0
Ethiopia	92	40272	92	84	0	0
Gabon	1	155	155	155	0	0
Ghana	89	16154	89	82	2	9
Kenya	83	9454	92	36	0	4
Lesotho	71	1811	92	1	0	0
Malawi	7	5168	7	3	0	58
Mozambique	4	1453	4	4	0	3
Namibia	312	6315	317	295	0	0
Nigeria	43	32	16	1	0	0
Senegal	11	197	11	10	0	0
Sierra Leone	14	24	14	14	0	0
South Africa	101	6419	101	46	0	59
Sudan	43	1808	238	117	0	28
Swaziland	15	10436	15	15	0	0
Tanzania	21	2966	38	25	0	0
Tunisia	98	676	98	98	0	0
Uganda	33	4202	33	4	1	0
Zambia	230	52285	230	75	0	0
Zimbabwe	336	37354	336	107	0	5
Total(28)	3078	868228	6187	2352	96	1209

Map 23 is the spatial distribution of Rabies outbreaks in Africa in 2015 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 affected, Dog was the most commonly affected species (Figure 19), accounting for 68% of all outbreaks followed by cattle (16%) and wildlife (4.0%).

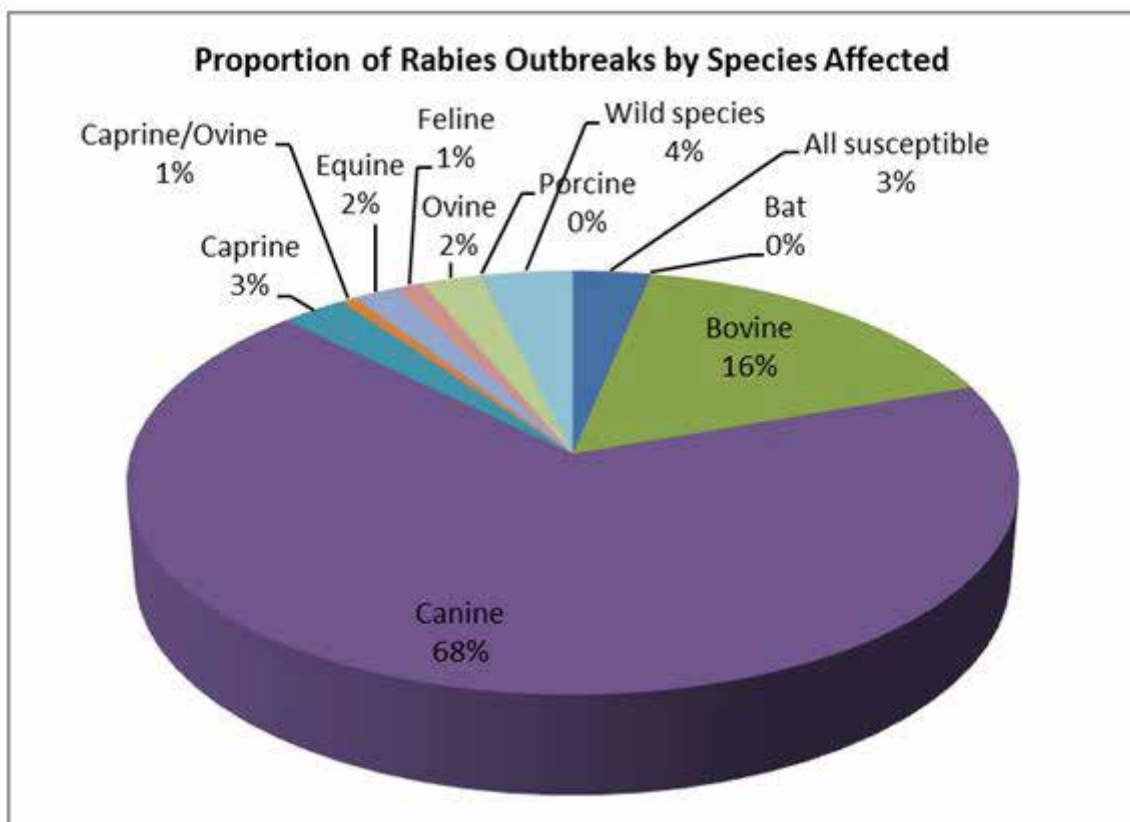
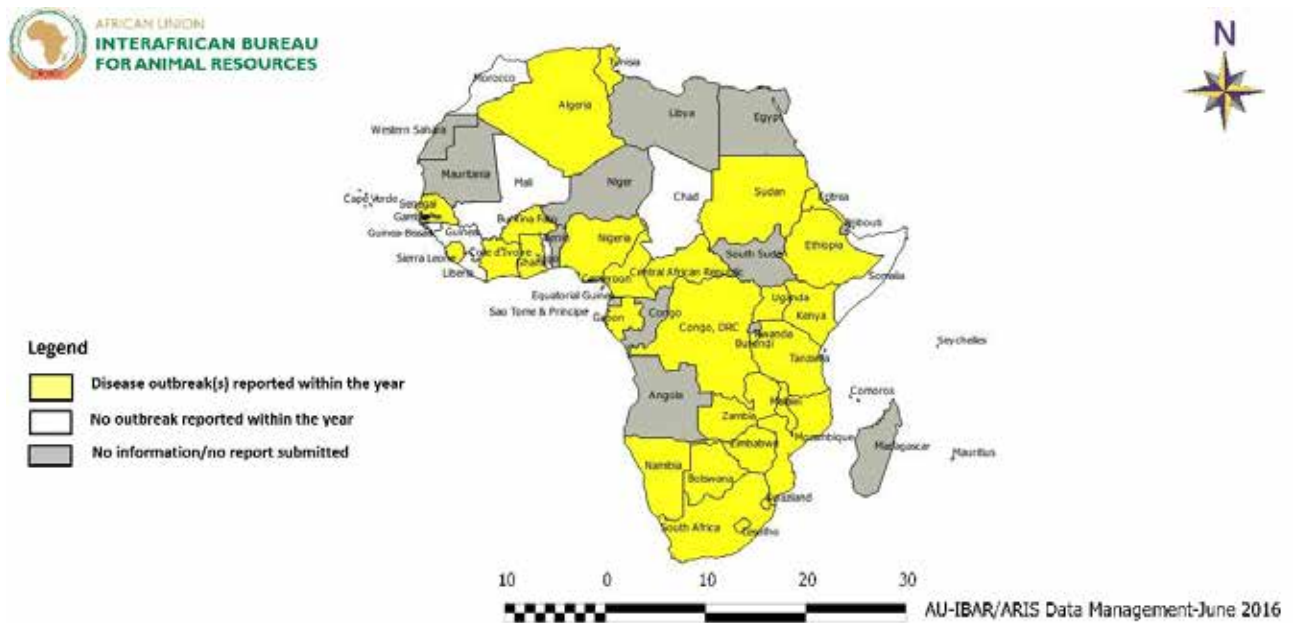
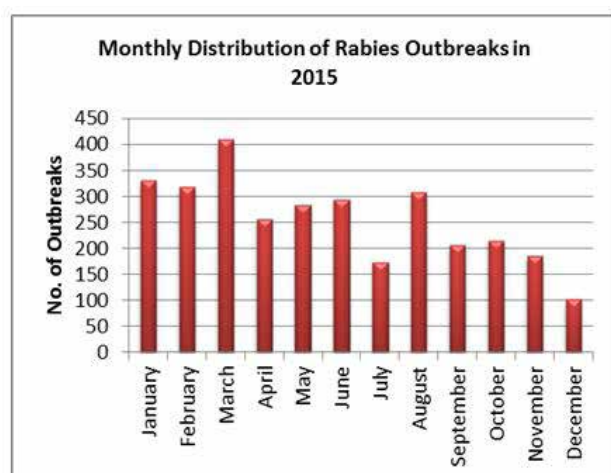


Figure 19: Proportion of species affected with rabies during 2015



Map 23: Spatial distribution of Rabies outbreaks



Month	Outbreak
January	331
February	318
March	409
April	255
May	284
June	293
July	173
August	307
September	207
October	215
November	185
December	101
Total	3078

5.12 Theileriosis

Bovine Theileriosis or East Coast Fever (ECF) is most prevalent in central and eastern Africa. During 2015, 10 countries reported outbreaks, representing a decline of 9.1% as compared to 2014 (Table 27). During the reporting period, 365 outbreaks involving 11864 cases and 1217 deaths, representing a decline of 34.7%, 51.4% and 61.0% in the number of outbreaks, cases and deaths, respectively, as compared to 2014. A case fatality rate of 10.3% was observed. Zambia

recorded the highest number of outbreaks (28.5%), followed by Zimbabwe (18.4%), Kenya (15.3%) and Comoros (12.6%). Regarding monthly distribution of outbreaks, the highest number of outbreaks was recorded in February (24.4%), followed by April (16.4%) and January (16.2%) (Chart 23). Most of the outbreaks were reported from November to June, suggesting a seasonal occurrence of theileriosis as influenced seasonally changes in tick vector population.

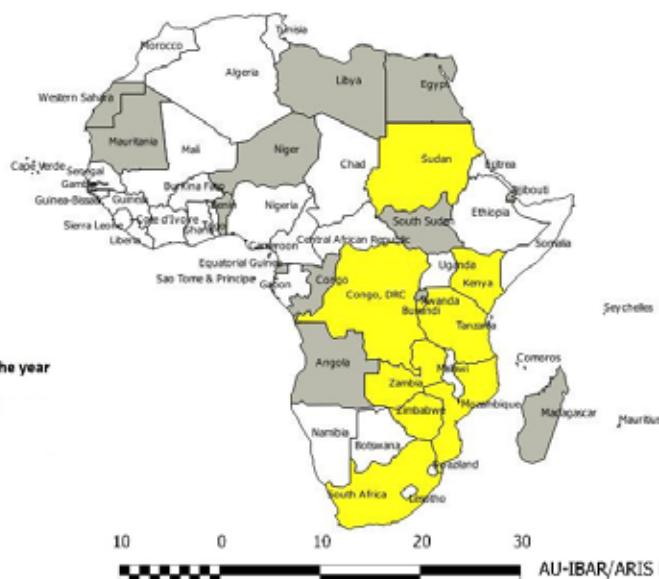
Table 27: Countries reporting Theileriosis (2015)

Country	Outbreak	Susceptible	Cases	Deaths	Slaughtered	Destroyed
Burundi	14	12001	500	0	0	0
Comoros	46	119	119	57	0	0
DRC	33	15401	6034	91	21	0
Kenya	56	7092	169	18	0	6
Mozambique	5	1543	51	11	0	0
South Africa	8	618	30	36	0	0
Sudan	9	2065	156	74	0	0
Tanzania	23	46599	398	56	0	0
Zambia	104	37343	4130	798	0	0
Zimbabwe	67	21792	277	76	0	0
Total(10)	365	144573	11864	1217	21	6



Legend

- Disease outbreak(s) reported within the year
- No outbreak reported within the year
- No information/no report submitted



Map 24: Shows the spatial distribution of Theileriosis in Africa in 2015.

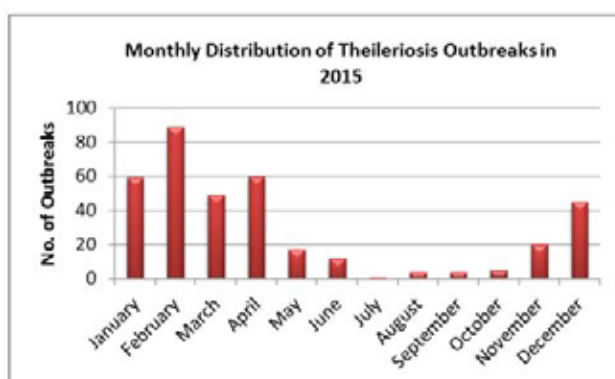


Chart 23: Monthly Distribution of Theileriosis Outbreaks (2015)

Month	Outbreak
January	59
February	89
March	49
April	60
May	17
June	12
July	1
August	4
September	4
October	5
November	20
December	45
Total	365

5.13. Trypanosomosis

During 2015, 15 countries reported outbreaks of trypanosomosis, representing a 21.1% decline in the number of countries that reported the diseases in 2104 (Table 28). Overall, a total of 252 outbreaks involving 7515 cases and 172 deaths were reported during the reporting, representing a decline of 42.1% and 47.2% in number of outbreaks and deaths, respectively, and an increase of 35.2% in the number of reported cases as compared to 2014.

A case fatality rate of 2.3% was observed.

Somalia reported the highest number of outbreaks (27.0%), followed by DRC (23.0%), Zambia (15.9%) and Ghana (8.3%).

The highest number of outbreaks were reported in January (22.2%) followed by February (17.1%). However, most of the outbreaks were reported from January to May, with monthly reported outbreaks, ranging from 30 to 56 (Chart 24).

Table 28: Countries reporting Trypanosomosis

Country	Outbreak	Susceptible	Cases	Deaths	Slaughtered	Destroyed
Cameroon	10	386	52	6	0	0
DRC	58	17575	4536	11	4	0
Ghana	21	984	316	0	26	0
Kenya	2	17	4	0	0	0
Mozambique	6	936	57	19	0	0
Namibia	16	107	23	0	0	0
Nigeria	5	135	12	2	0	0
Sierra Leone	2	421	78	19	0	0
Somalia	68	4107	218	21	12	4
South Africa	2	2	2	0	0	1
Sudan	2	1150	45	14	0	0
Tanzania	14	56644	1265	48	0	0
Tunisia	5	421	16	0	0	0
Uganda	1	130	5	0	0	0
Zambia	40	8840	886	32	0	0
Total(15)	252	91855	7515	172	42	5

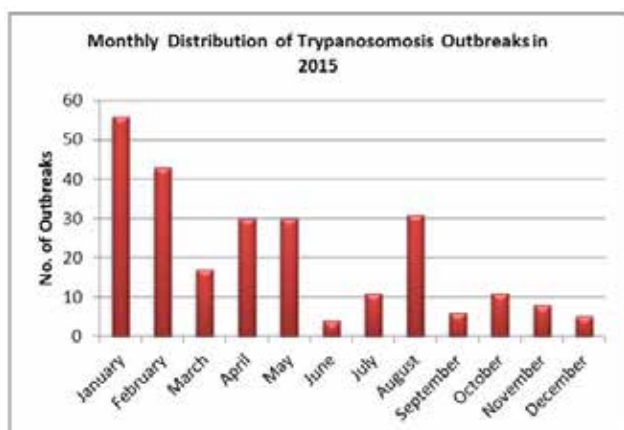
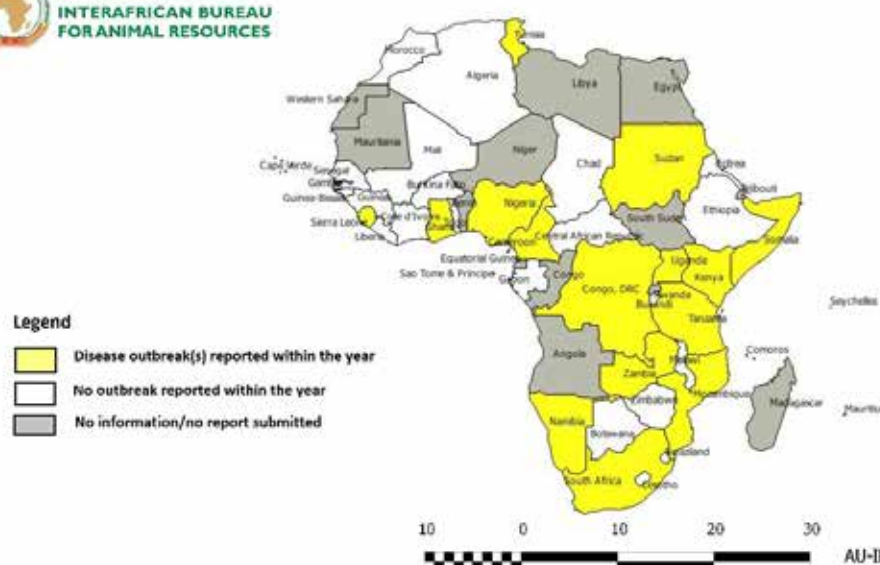


Chart 24: Monthly Distribution of Trypanosomosis Outbreaks (2015)

Month	Outbreak
January	56
February	43
March	17
April	30
May	30
June	4
July	11
August	31
September	6
October	11
November	8
December	5
Total	252



Map 25: Spatial distribution of Trypanosomosis (2015)

5.14 Tuberculosis

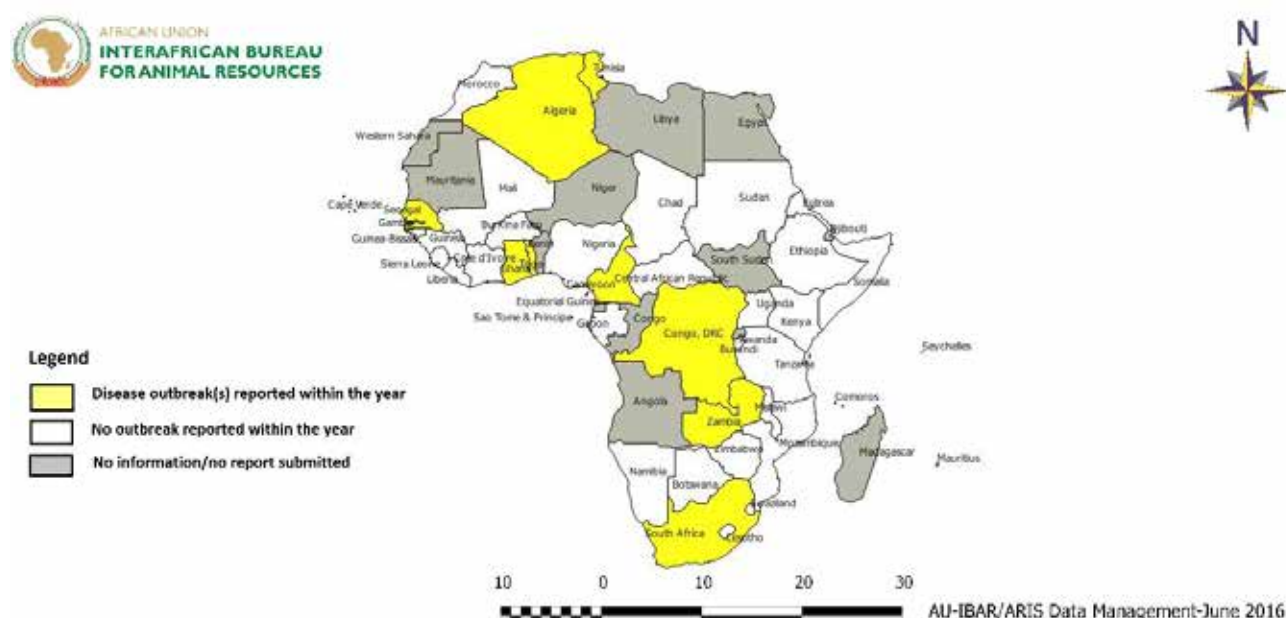
During 2015, 9 countries reported outbreaks of tuberculosis, representing a 30.8% decline in the number of countries reporting the disease as compared to 2104 (Table 29). During the reporting period, a total of 241 outbreaks of tuberculosis involving 3156 cases and 24 deaths were reported, representing a decline of 16.0% and 9.5% in the number of outbreaks and cases, respectively, and an increase of 9.1% in the

number of deaths as compared to 2014. Ghana reported the highest number of outbreaks of tuberculosis (36.1%), followed by DRC (33.6%) and Algeria (16.6%).

The highest number of outbreaks of tuberculosis were reported in September (23.2%) followed by February (18.7%) (Chart 25). However, outbreaks were distributed across all months but low level.

Table 29: Countries reporting Tuberculosis (2015)

Country	Outbreak	Susceptible	Cases	Deaths	Slaughtered	Destroyed
Algeria	40	2080	930	0	891	0
Cameroon	2	26	3	0	0	0
DRC	81	12038	1456	16	4489	0
Ghana	87	2789	214	0	389	5
Senegal	1	1	1	0	0	0
South Africa	10	2087	33	1	0	26
Togo	9	50	9	0	9	0
Tunisia	3	27322	495	0	18868	40
Zambia	8	442	15	7	0	0
Total(9)	241	46835	3156	24	24646	71



Map 26: Spatial distribution of Tuberculosis in Africa in 2015

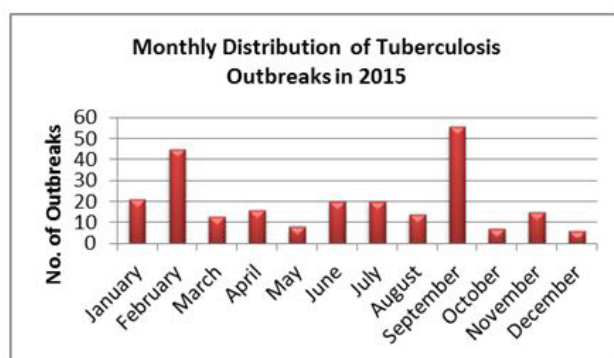


Chart 25: Monthly Distribution of Tuberculosis Outbreaks (2015)

Month	Outbreak
January	21
February	45
March	13
April	16
May	8
June	20
July	20
August	14
September	56
October	7
November	15
December	6
Total	241

6. AFRICA LIVESTOCK POPULATION AND COMPOSITION IN 2015

African Animal (AnGR) and Aquatic (AqGR) Genetic Resources

Africa is home to a world of diverse Animal Genetic Resources. The rich bio-diversity span across genetic diversity, species diversity and ecosystem diversity, that has contributed to the vast range of Darwinian adaptations that have been documented and continue to evolve within these species. These genetic resources are of great significance spanning from economic value, ecological value, cultural value and historical importance and thus it is critical that these resources are effectively managed by ensuring a deeper understanding of their population dynamics, status and trends.

A description of the current African AnGR is presented here, with a special focus on the population status and trends. The sources of information are recently submitted country reports (2014) and the FAO – FAOSTAT database <http://faostat3.fao.org>.

State of species diversity

In Africa, (based on the FAO statistics division records which populates aggregate data attained from official records, semi-official and estimates-2013), the approximated population numbers for some selected mammalian species currently stands at 304 million for the cattle, 347 million for goats, 328 million for sheep, 35 million for pigs, 6 million horses and 23 million camels amongst others. Figure 1 represents the percentage proportions of some selected livestock species in Africa based on 2013 updates.

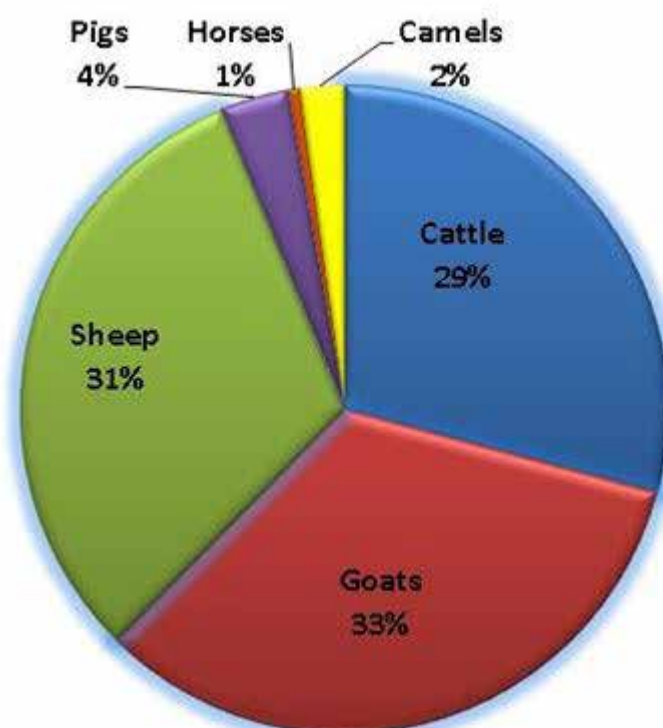


Figure 1: Distribution of some selected mammalian livestock species found in Africa (Source : updated 2013 entries in FAOSTAT <http://faostat3.fao.org>)

Generally, in Africa, Avian species are also in abundance as indicated in Figure 2. They include approximately 1.8 billion, 25 million, 20 million and 25 million for chicken, ducks, Turkeys and geese and Guinea fowls respectively. The largest percentage proportion (95%) is attributed to the chicken species followed by ducks (2%) while Geese, guinea fowls and turkeys have the lowest proportion (1%) across the continent.

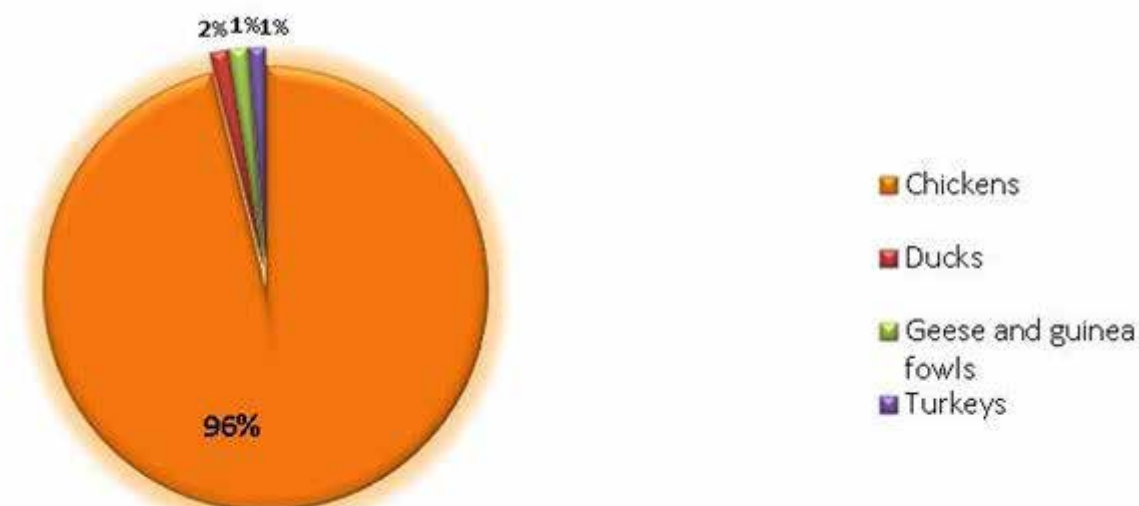


Figure 2: Distribution of some selected Avian Species found in Africa (Source: updated 2013 entries in FAOSTAT <http://faostat3.fao.org>)

Regional distribution of species diversity

From the population size estimates attained from the FAOSTAT, Africa has wide species diversity with different species dominating different regions. This differential occurrence could be attributed to various aspects such as cultural, traditional preferences and religious values of the human populations occupying these regions. Figure 3 presents the regional distribution of some selected livestock species across the regions.

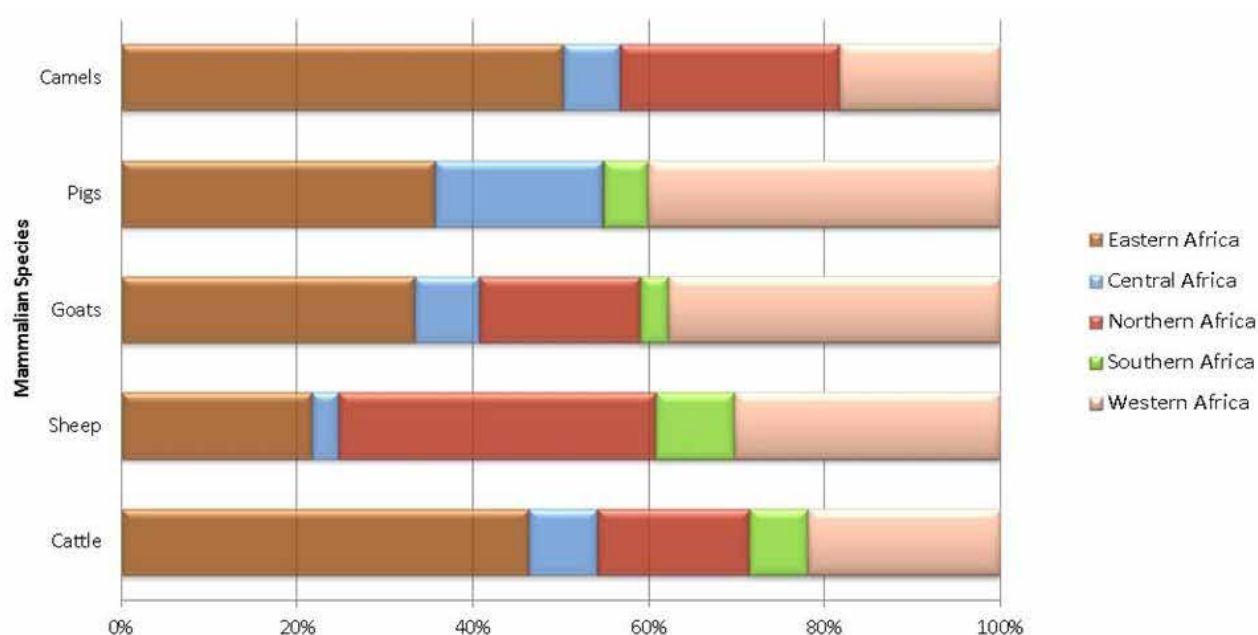


Figure 3: Distribution of selected livestock species at regional level in Africa (Source: updated 2013 entries in FAOSTAT <http://faostat3.fao.org>)

Northern Africa recorded the largest sheep populations' approximately 118 Million head in the continent. This large sheep population can be attributed to the cultural/traditional preferences and religious values of the human populations that occupy these regions, sheep meat is considered of greater value as opposed to other livestock populations. Goats are the second largest livestock population approximated at 63 million and Cattle follow at 52 Million. In addition, this sub region also boasts of considerably high population of buffaloes approximated at 4.2 Million head.

Eastern Africa recorded the largest number of cattle populations as opposed to the other African sub-regions. Sudan and Ethiopia have been listed as amongst the top ten countries with the highest cattle populations globally reportedly at approximately 41 million and 53 million respectively (FAOSTAT-<http://faostat3.fao.org>). From the latest submitted Country reports, Rwanda reported population counts of the following species as; cattle (1.3 million), goats (2.7 million), rabbits (844,700), pigs (706,000), sheep (799,000) (Country Report-Rwanda, 2013). Uganda also reported actual counts based on a recent livestock census, the National herd cattle population was estimated to be 11.4 million of which indigenous cattle represented 10.6 million (93.6%) and the exotic cattle were estimated to be 1.52 million. The National goat population was estimated to be 12.5 million. The National sheep herd and pigs were estimated at 3.4 million and 1.3 million respectively. While, the National chicken flock was estimated to be 37.4 million with indigenous chicken representing the highest proportion (87.7%) while the exotic layer was 2.5 million (6.6%) and broilers 1.5 million (4.1%) (Country Report-Uganda, 2013)

Western Africa boasts of the largest goat and pig populations recorded at 130 million and 14 million respectively and as noted have the highest proportions (figure 3). In general, this region has the largest small ruminant population (219 million) with majority of the populations being owned by rural folk mainly men and women. Most of these animal populations in this sub region are reared under traditional livestock systems.

In the Southern Africa region, South Africa is reported to have the highest number of cattle head estimated at 1.4 million as well as goats at 6.2 million. The estimated current livestock population in this region is approximately 62 million. More than 75% of these animal populations are reared under small holder traditional systems and reportedly sustain 150 million rural poor (Banda and Kazembe, 2008).

Middle Africa (Central Africa) represented by a total of 9 countries, has the lowest population sizes but is rich in species diversity. It is home to estimated totals of 23 million, 35 million and 6.7 million of cattle, small ruminants (sheep and goats) and pigs respectively.

For some non-conventional species such as grass cutters/Cane rat and Guinea pigs, there appears to be evident data gaps on the population estimates or actual counts reported in FAOSTAT database. With the ongoing increased consumer preference for these non-conventional species, there is need to provide these actual population counts thus countries with these animal populations should be sensitized on the need to avail this vital information. For the Avian species (Figure 4), Northern Africa and Western Africa have the largest chicken population reported at 603 million and 514 million respectively. Interestingly, information on population sizes for the Guinea fowls and geese is missing for Western and Central Africa, yet these avian species are found in these regions. This phenomenon further emphasizes the need to have regular inventory actions concerning AnGR in Africa.

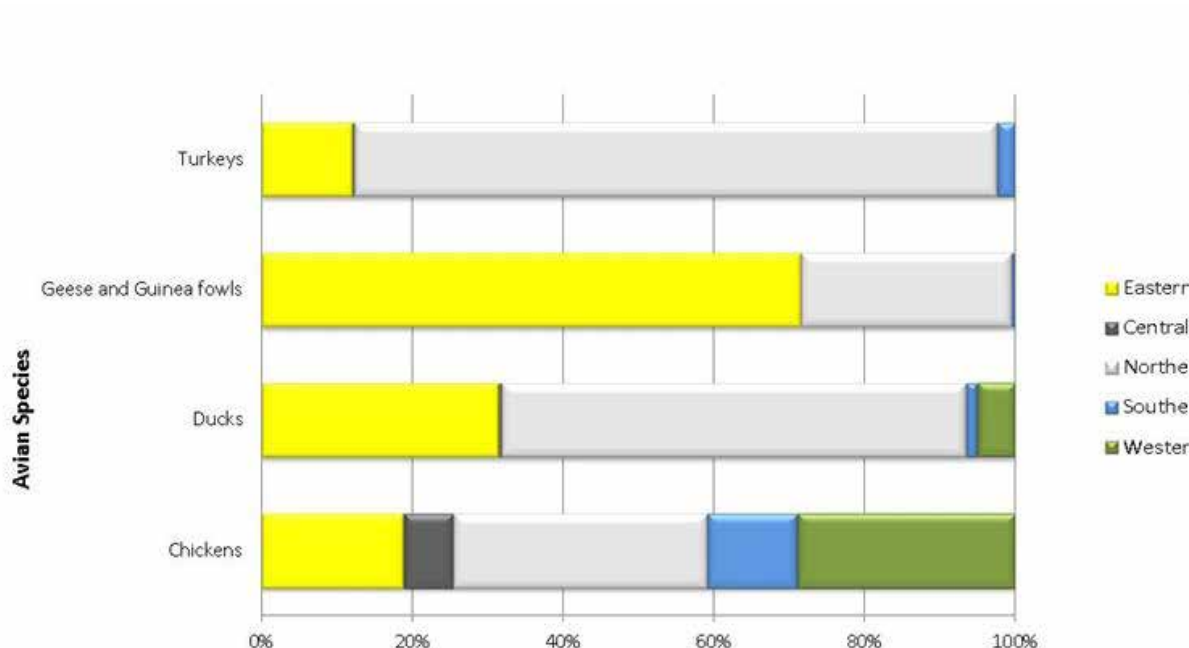
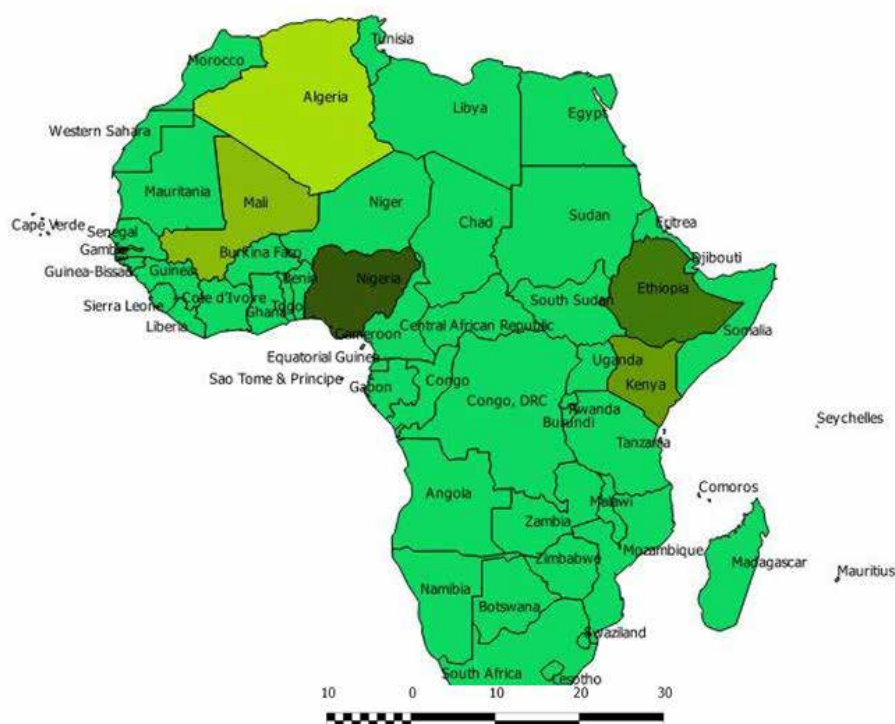


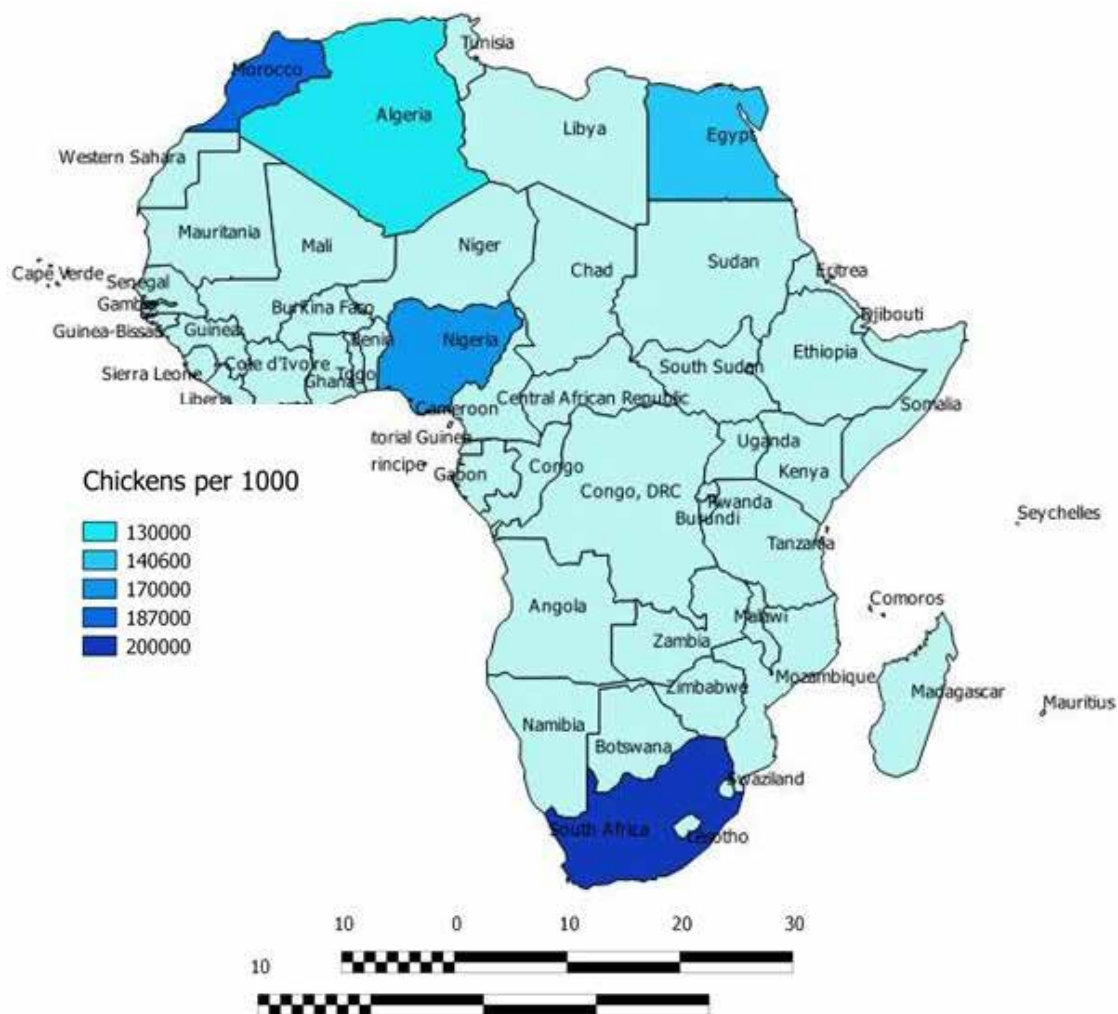
Figure 4: Distribution of selected avian species at regional level in Africa (*data source based on updated 2013 entries in FAOSTAT <http://faostat3.fao.org>)

Species with limited distribution

Other species with a relatively narrow distribution as presented in the 2013 entries in FAOSTAT (<http://faostat3.fao.org>), across Africa include; buffaloes (4.2 million), camels (23 million), Horses (6.1 million) donkeys (966,392) and rabbits and hares (4 million). According to Country reports of Kenya and Sudan (2013), one exotic llama breed and two local deer breeds were documented respectively. The avian population includes guinea fowls approximated at 25,000 birds, 13,000 pigeons and 20,916 turkeys. There are also reports of quails in four country reports (Burkina Faso, Kenya, Madagascar and Sudan), however, estimated population counts in FAOSTAT were not available.



Map 1: Spatial distribution of the top 5 cattle keeping countries in 2014



Map 2: Spatial Distribution of the top 5 Sheep and Goat keeping countries in 2014

Non-conventional Species

The increased pressure on the supply of animal protein has seen an increase in exploration of other sources of animal protein. These alternative protein sources can be perceived as the livestock of tomorrow and mainly comprise of mini-livestock (small indigenous vertebrates and invertebrates that are domesticated and used as a source of food and income). These animals were categorized as livestock of tomorrow but have since been embraced and can be considered as livestock of today. Most of this mini-livestock includes bush rodents, guinea-pigs, frogs, giant snails, insects amongst others (Thys et al., 2003). In the African settings, these species are popular and have continued to contribute significantly towards food and nutritional security.

The marsh Cane rat, ground hog or grasscutter (*Thryonomys swinderianus*) (Figure 5) is one of the animal species that have gained popularity especially in the West African region and a notable rise in population numbers has been observed (Rahman 2014). The rearing of grass cutter is currently a lucrative business contributing to both local and export economies (NRC, 1991) and dominates the bush meat trade industry (Ntaimo-Badu, 1998). However, this increased popularity has had some detrimental effects on the wild stock populations and thus prompted calls to promote captive breeding (Opara, 2010). Given its relatively wide distribution especially in the western African region, there is need to extensively take inventory of the existing population of this species so as to keep counts on the populations of juveniles, breeding mothers as declines to these would have dire repercussions to the populations.



Figure 5: Grass cutter in breeding units in Ghana

Guinea pigs (*Cavia porcella*) (Figure 6) is also considered an extremely important micro-livestock especially in Central and West Africa. Their meat is considered to be an excellent source of protein content (21%) reportedly higher than chicken, pork, mutton or beef (Nuwanyakpa et al. 1997). There are no records of the population estimates or actual counts reported in FAOSTAT database. The lack of population sizes of these species maybe as a result of the lack of this information even at the member states level.



Figure 6: Guinea pigs found in parts of Cameroon

The advantages of rearing of mini livestock are numerous, the ability of rearing these species on small land parcels even in urban spaces is appealing, their products (e.g. farmed bushmeat) make a significance to food and nutritional security and also contribute towards increased incomes especially to women and youth (Thys et al. 2003). The potential of mini-livestock is enormous and concerted efforts should be made towards making the venture profitable and sustainable.

Fish genetic Resources:

The Convention on Biological Diversity (CBD) defines genetic resources as “genetic material of actual or potential value” as “any material of plant, animal, microbial or other origin containing functional units of heredity”. The aquatic genetic resources comprise all water-dwelling genetic resources. Aquatic animal genetic resources include but are not limited to fish, cyclostomes, mussels and decapods as well as their spawning and larval stages. According to

FAO, Fish genetic resources (FiGR) means all finfish and aquatic invertebrate genetic material that has actual or potential value for fisheries and aquaculture, including culture-based fisheries that rely on release of hatchery-bred seed to the wild. Thus, FiGR includes but is not limited to DNA, genes, gametes, individual organisms, wild, farmed and research populations, species and organisms that have been genetically altered by selective breeding, hybridization, chromosome manipulation and gene transfer.

Pullin et al., (2001), found out that Africa possess 2 608 unique freshwater species and 842 unique marine species. Among those species about 100 fish species are cultured in aquaculture and more than 1000 species used in aquarium trade. The fisheries resources have the potential to make significant contribution towards food and nutritional security as well as livelihoods. These large resources largely remain untapped (Bene, 2011). Aquaculture is growing rapidly and projected to surpass the capture fisheries in the near future. As projected by SOFIA (2014) aquaculture production inclined by 5.8% to 70.5 million tonnes with farmed aquatic plants (seaweed) accounting 26.1 million tonnes in the year 2013. In the ongoing State of Aquatic resources report (SoWAqGR) lead by FAO, Kenya reported a total of 36 farmed fish species. In addition, Mozambique has a growing shrimp industry, with the giant tiger shrimp (*Penaeus monodon*) and Indian white shrimp (*Fenneropenaeus indicus*) as the main farmed species reared in earthen ponds. There are two industrial shrimp farms currently in operation with a total production around 600 ton in 2010, though production dropped to 1.4 MT, in 2013, due to a disease epidemic (white spot virus syndrome) (AU-IBAR, 2013)



Figure 7. Shrimps at sale in local African Markets.

Sustainable aquaculture development thus will depend largely on the effective management of genetic resources specific to farmed aquatic plants (PGR) and farmed fish (FiGR) and their ecosystems in which they thrive well. Genetics resources and technologies have a crucial role to play in the sustainable utilisation and management of aquatic animal genetic resources. However these tools not fully exploited as they are in the livestock sector.

Trends in Breed diversity- Emma lets also improve on this chapter-textwise too
Breed diversity details two main categories, these include local breeds and transboundary breeds. Local breeds cover breeds that occur only within a country while transboundary breeds encompass

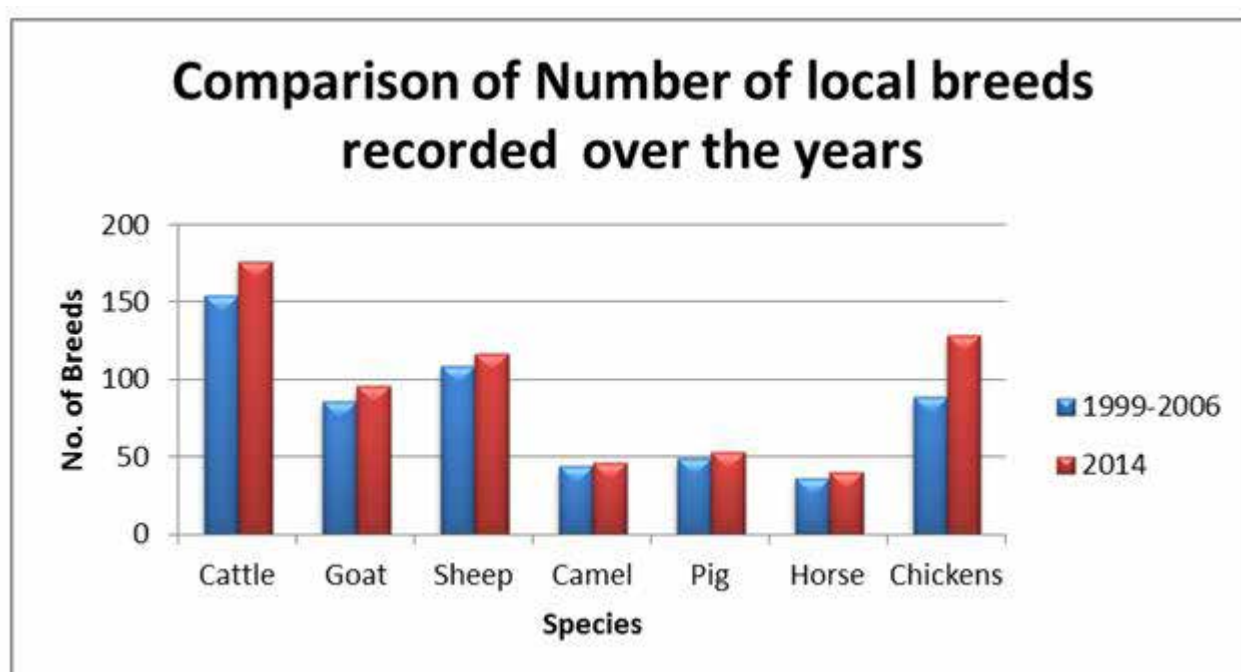
breeds that occur in more than one country, this may include regional transboundary breeds that are found in within only one of the world's regions or those breeds that occur in more than one region often referred to as the international transboundary breed (FAO, 2007).

Data sources from FAO publications of 2007 and 2015, report an increase in number of breeds recorded for some selected Mammalian and Avian species by 9% and 25% respectively, by 2014 as compared to previous years. In particular, cattle and chicken have shown the highest increase of breeds, with a record of 12% and 31% respectively. Cattle and Chicken which recorded a respectively.

–REVISE THIS AS PER THE NEW EDITION

Table 1: Number of some selected local breeds (Source: FAO 2007, FAO 2015)

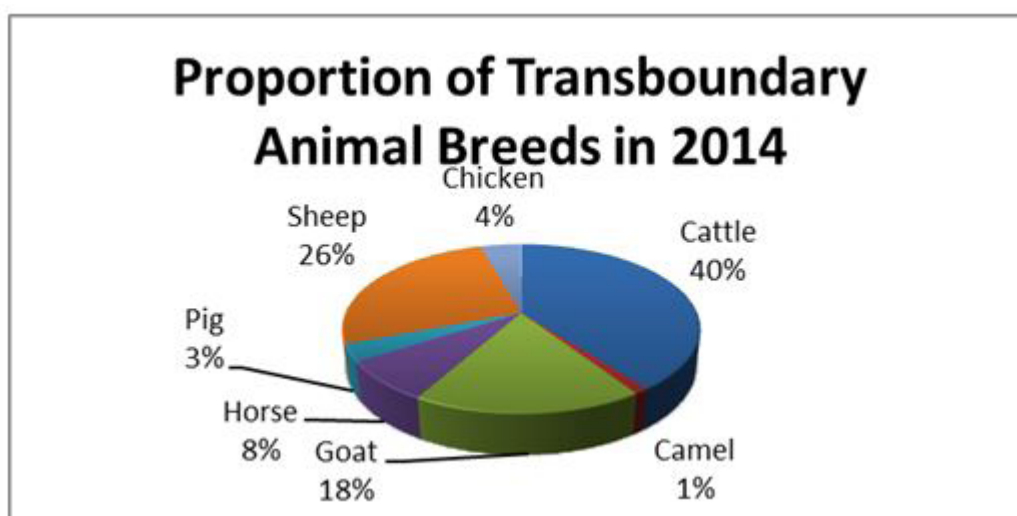
Mammalian species	Years		Avian species	Years	
	1999-2006	2014		1999-2006	2014
Cattle	154	176	Chicken	89	129
Goat	86	96	Duck	14	15
Sheep	109	117	Geese	10	10
Camel	44	46	Turkey	11	11
Pig	49	53			
Horse	36	40			
Total	478	528	Total	124	165



In Regard to regional transboundary breeds, Africa holds the second highest share of transboundary breeds only being outnumbered by Europe (FAO, 2015). As indicated in table 2, The cattle population has the highest number of these transboundary breeds.

Table 2: Number of some selected regional transboundary breeds - Data source (FAO, 2007 & FAO 2015) – REVISE THE TABLE AS PER THE FAO 2015

Species	Years	
	1999-2006	2014
Cattle	35	36
Camel	2	1
Goat	15	16
Horse	7	7
Pig	2	3
Sheep	27	24
Chicken	0	4
Total	88	91



Despite the high existence of transboundary breeds across Africa synchronized conservation action between members' states sharing this breed appears to be non-existent. There may be need to kick-start these conservation initiatives. There is also a need to establish spatial distribution maps to show the extent to which these transboundary breeds occupy various countries.

Threats to Animal Genetic Resources(AnGR)

Threats to Animal genetic resources have been a key topic of discussion within continents' and across countries. The impetus to these high level deliberations is attributed to the growing concerns to identify the imminent threats to AnGR following the continual loss of animal diversity. Knowledge of these threats is neither available nor reliable and thus the impacts of this continue to plague Africa.

Animal populations globally are at risk and there have been reports of dwindling populations especially in Africa. In Africa the current risk status of mammalian breeds is; 10 endangered breeds, 2 critically at risk breeds, 33 extinct and 571 breeds with unknown risk status. Whereas among Avian breeds 2 breeds are endangered, 2 face extinction and 210 breeds have unknown risk status. (FAO, 2015). A typical example is the Ethiopian Sheko cattle whose population size currently stands at an estimated 2400 animal (Woldu and Beyene, 2013), this is an endangered population, yet it possesses superior trypanotolerance traits that are of great importance to Africa. Knowledge of threats to Animal Genetic Resources needs to be identified and documented to avert future population reductions by putting in place effective management strategies.

Findings generated from data collated from the AU-IBAR questionnaires, indicate that lack of existing conservation strategies (75%), low awareness of indigenous AnGR value (75%), indiscriminate crossbreeding (73%), climate change effects (70%) and disease outbreaks (70%) were the highly ranked threats to AnGR in the African continent (Figure 11). It is important to note that climate change effects are recognized as a primary threat, further supporting findings documented in a special report by Intergovernmental panel on climate change - IPCC (1997) which states that Africa is the most vulnerable continent to impacts of climate change and recurrent droughts.

Threats to Aquatic genetic resources (AqGR)

Aquatic animal resources include fishes, molluscs, crustaceans, amphibians, reptiles, etc. According to IUCN (2011) assessment of the status of aquatic fresh water species in Africa, (4,289), 21% are threatened and 91% are endemic to the continent and are therefore globally threatened. The level of this threat is high in comparison to other taxonomic groups, notable 12% of birds, 19% of mammals and 26% amphibians. The majority of threatened aquatic species are along the Mediterranean and Atlantic Coasts of Morocco, Algeria and Tunisia, Upper and Lower Guinea, southern and Eastern South Africa and the Great Lakes in Eastern Africa. This distribution reflects combination of high levels of development activity, pressure on water resources relative to other parts of the continent. Major species richness, Great Lakes of Eastern Africa, rivers in coastal sub-catchments of Western Africa, sub-catchments that trace their course of major rivers through the center of the continent, primarily the River Congo. 45% of Africa's freshwater species are harvested for food. This is justification enough if conservation and the sustainable use of these resources.

16,789 freshwater fauna species are found in the tropical region alone. Major Threats to the fresh water ecosystems and these genetic resources are:

- i. Habitat loss/transformation (primarily due to dams, water abstraction, water transfer, deforestation and sedimentation).
- ii. Pollution (largely arising from eutrophication, domestic and industrial organic loads, heavy metals, oil pollution, pesticides)
- iii. Impact of fisheries
- iv. Invasive alien species
- v. Climate change.

Conclusion

In a nutshell, there is a huge gap in relation to the availability of relevant and reliable data on population status and trends of African AnGR due to the issue of using estimates, this could consequently result to misinformed decisions and poor management of AnGR within the African continent. It is therefore pertinent for national governments to take deliberate actions that will drive the inventory process. Concerning the threats identified, national governments may aim to develop and implement sustainable strategies such as formulation of market based or regulatory policies, cross-breeding policies and conservation initiatives. The continent's collective approach may be the necessary action needed to stop the loss of African animal genetic resources that is our wealth and heritage.

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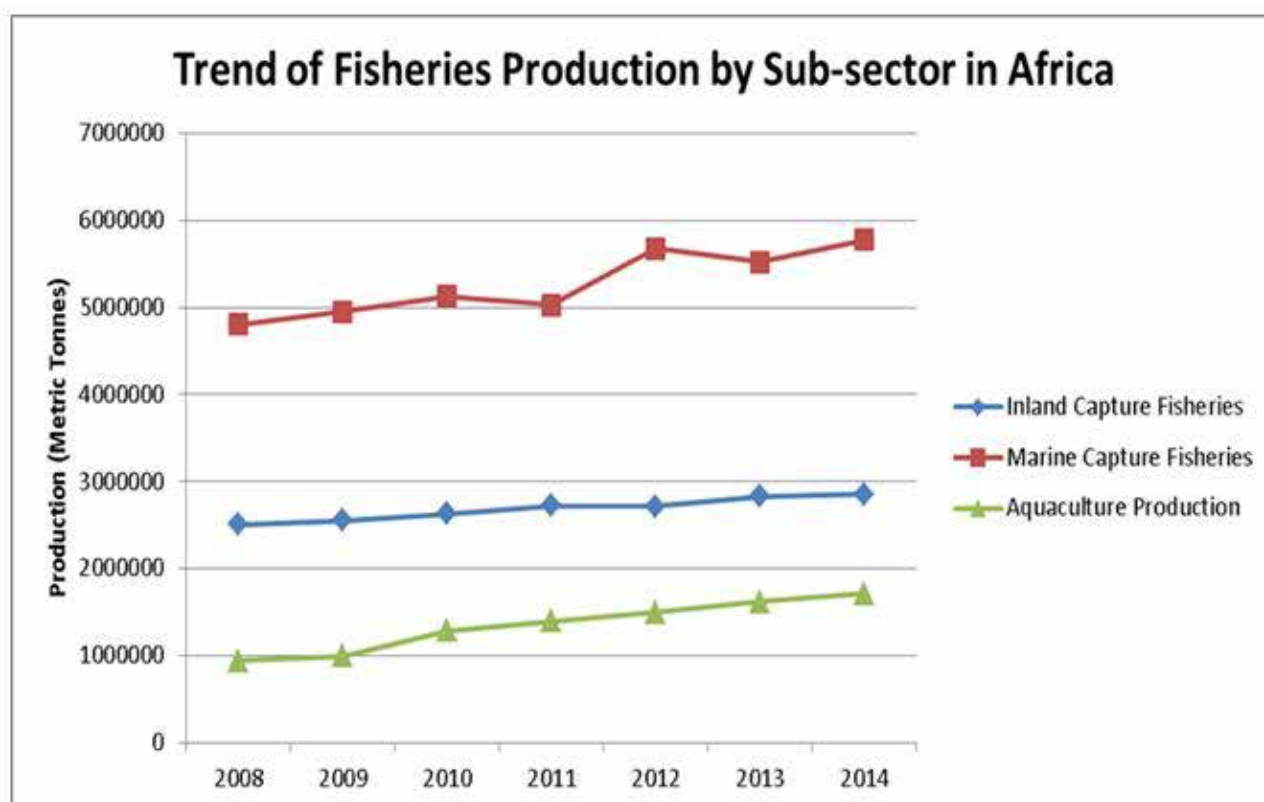
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7. AFRICAN FISHERIES AND AQUACULTURE PRODUCTION AND INTERNATIONAL TRADE IN 2015

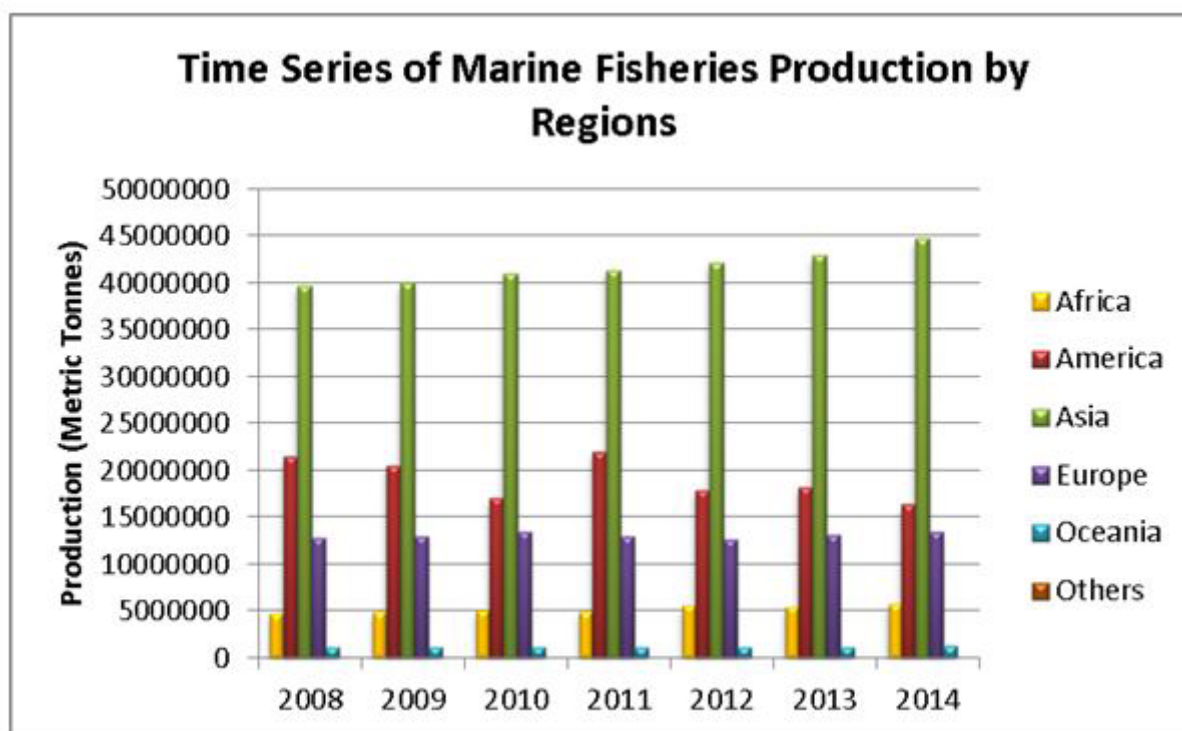
REVIEW OF CURRENT STATUS FISHERIES AND AQUACULTURE IN AFRICA WITHIN THE PERSPECTIVES OF THE 2014 MALABO DECLARATION

Fisheries Production

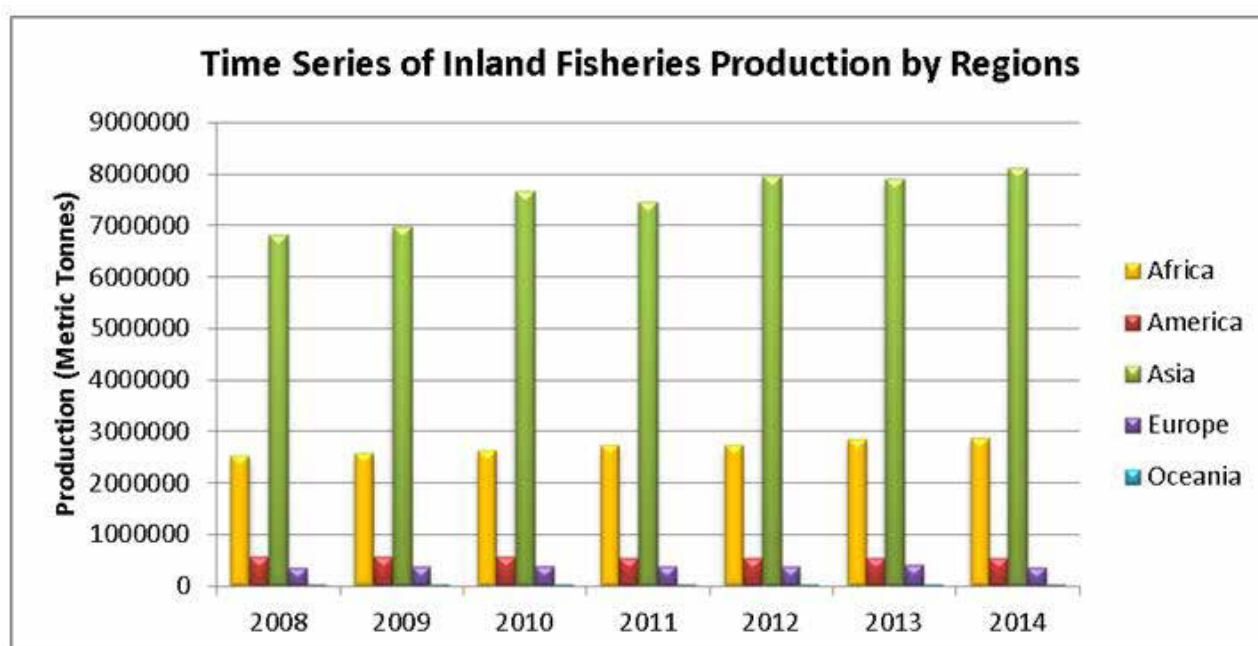
Africa produces about 10 million tonnes of fish in 2014, FAO, which constituted 6 % of the global fisheries production (about 170 million metric tonnes) from all subsectors (marine, inland and aquaculture) with the marine fisheries contributing being the largest contributor to fish production. On the whole, there is a slight increasing trend in fish production from the three subsectors between 2008 and 2014. Though marine fish production on the continent has largely stagnated at largely at about 5 million metric annually since about a decade ago albeit moderate increase (2.6 %) between 2008 and 2014.



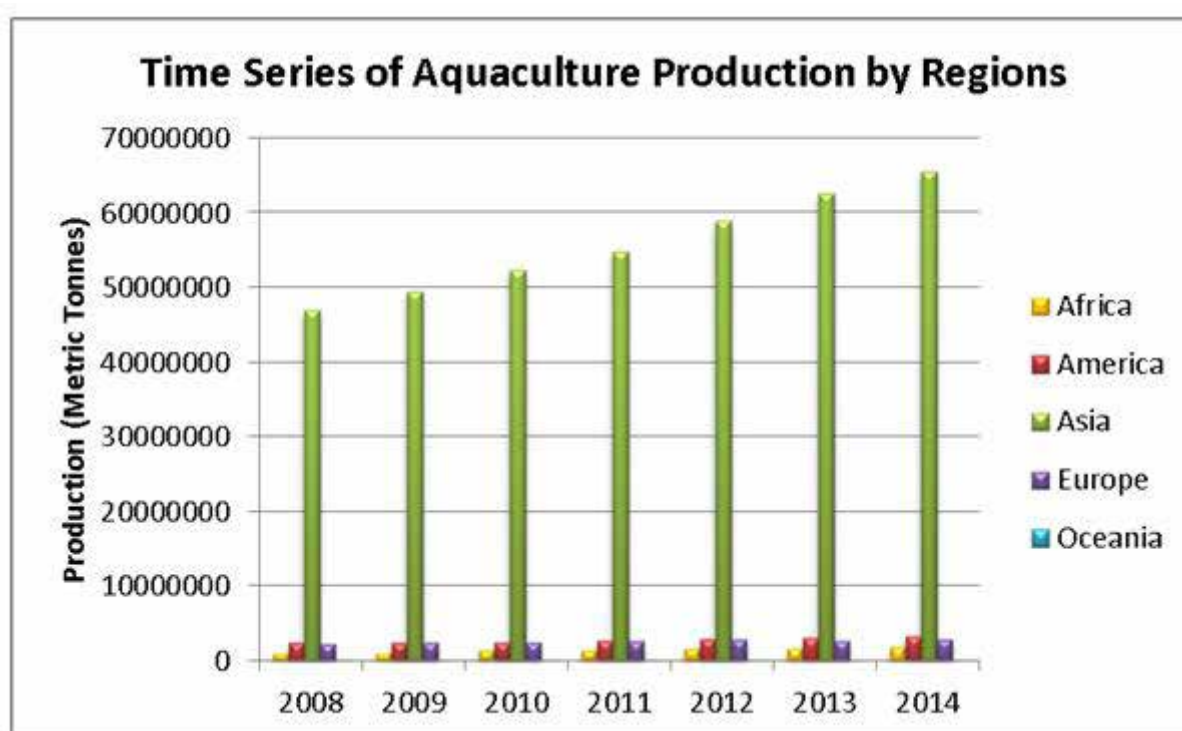
The marine fisheries production estimated at 5.8 million metric tonnes, contributes 56 % to total Africa fish production but a significant portion of that production is destined to overseas export market. Marine fishery is conducted mainly in the Africa's large marine ecosystems namely, Canary Current, Guinea current, Somali, Current, Agulhas, Benguela and the Mediterranean. In view of the highly priced fish species in these ecosystems, e.g. Tunas, shrimps, cephalopods (e.g. octopus, cuttlefish and squid), some demersal finfish species, this subsector contributes to revenue generation and hence economic growth on the continent though there is still a huge potential for increased contribution premised on coherent policies and management actions. The Policy Framework and Reform Strategy for fisheries and aquaculture in Africa made provisions, as a prime policy objective, for conservation and sustainable uses of fish resources.



The inland fisheries, conducted in Africa's great lakes such as Victoria, Tanganyika, Nyassa, Volta, Kivu, Kainji etc and rivers such as Nile, Congo, Zambezi etc, is also a massive source of food on the continent with annual production of about 2.9 million metric tonnes (FAO, 2014), constituting about 24 % of global inland fishery production. Inland fisheries is a vital source of protein and livelihoods for the vast majority of riparian communities since most of the production is landed for local consumption. There is need for improved fisheries management practices to ensure sustainability of the fisheries for longterm benefits of the member states.

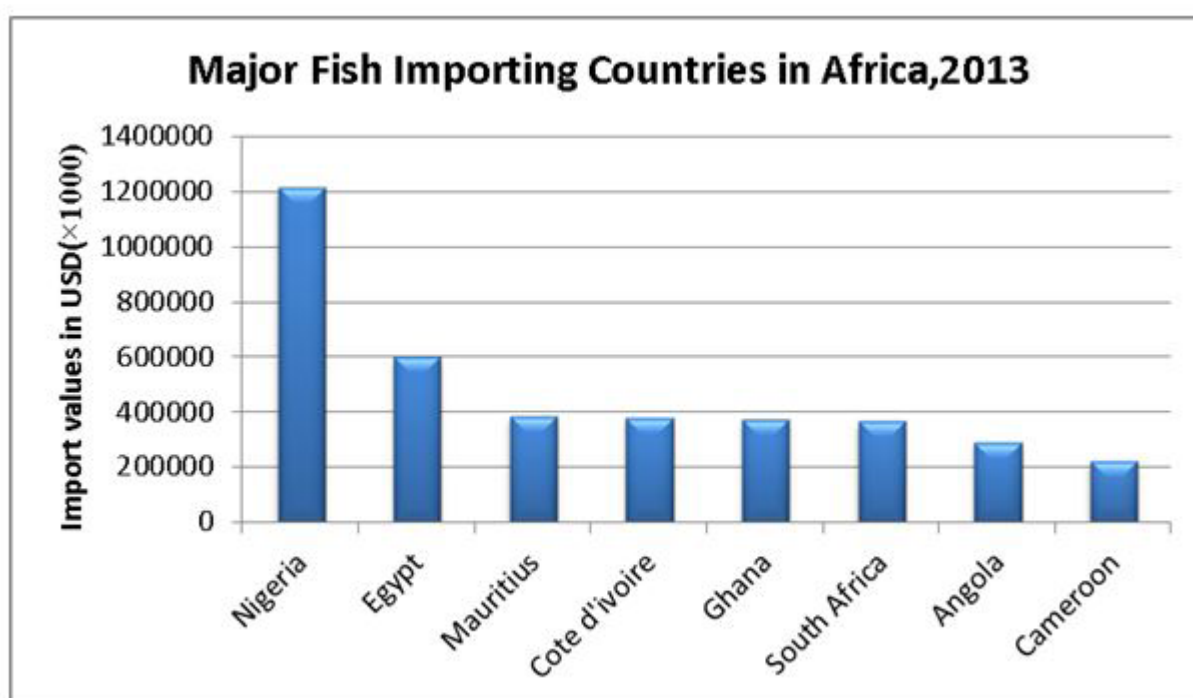
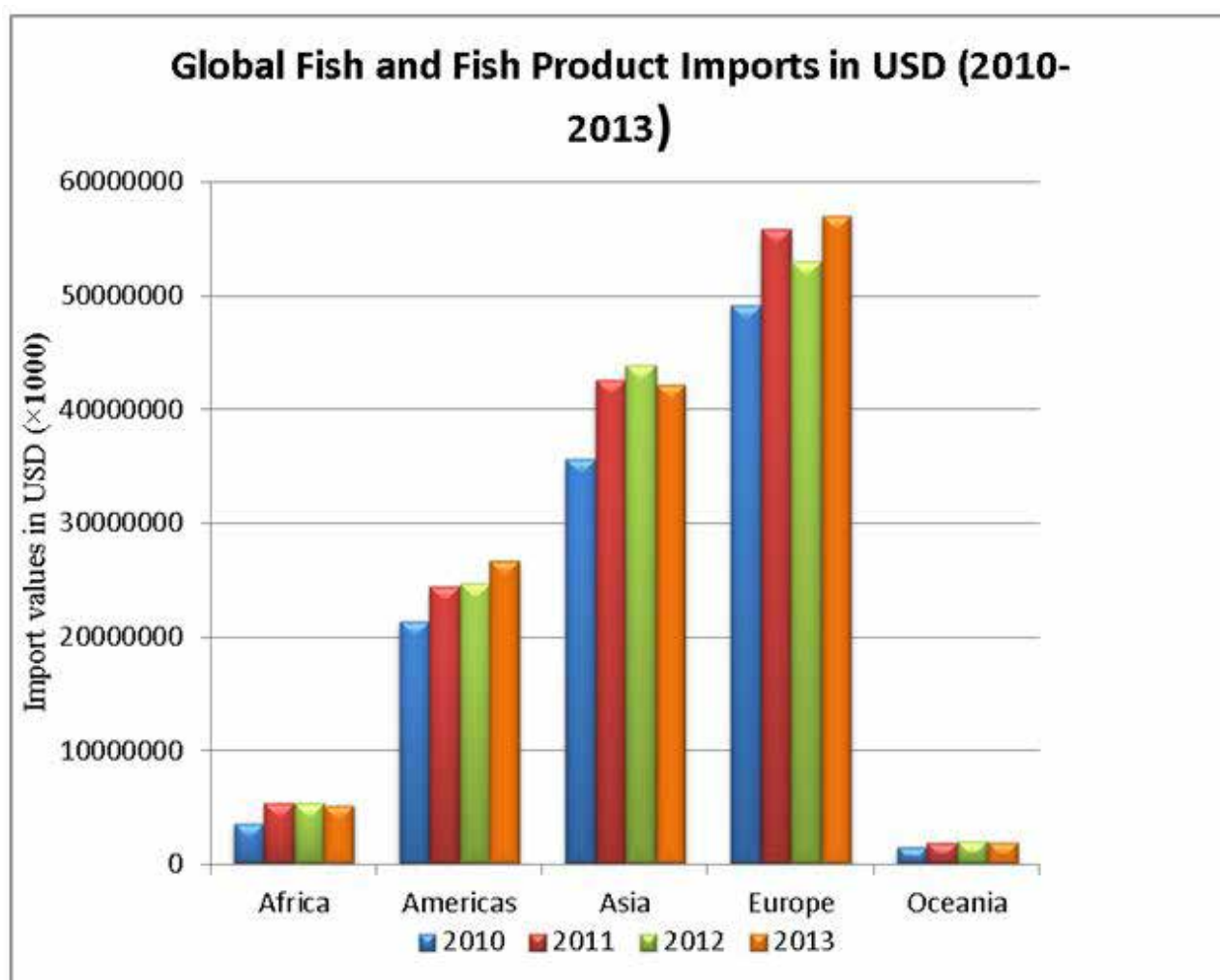


Aquaculture is the subsector with massive potential for socio-economic growth and food security but still untapped though countries few countries notably, Egypt, Nigeria, Ghana, Uganda etc have made some improvement in production practices and production. Egypt is the largest producer of Tilapia from fish farming whilst Nigeria is the largest producer of Catfish from farming. The overall contribution of aquaculture to the to the total global production is about 2.3 % as compared to Asian countries with about 90 % (FAO, 2014). The major challenge is that the majority of aquaculture farms are based on subsistence operations with limited commercial enterprises on the continent. Aquaculture is mainly practiced in earthen ponds, tanks, raceways and cage cultures on lakes or rivers. There is need to develop capacity and put in place necessary institutional arrangements for commercial aquaculture development, which is consistent and coherent with the Policy Framework and Reform Strategy for fisheries and aquaculture in Africa.

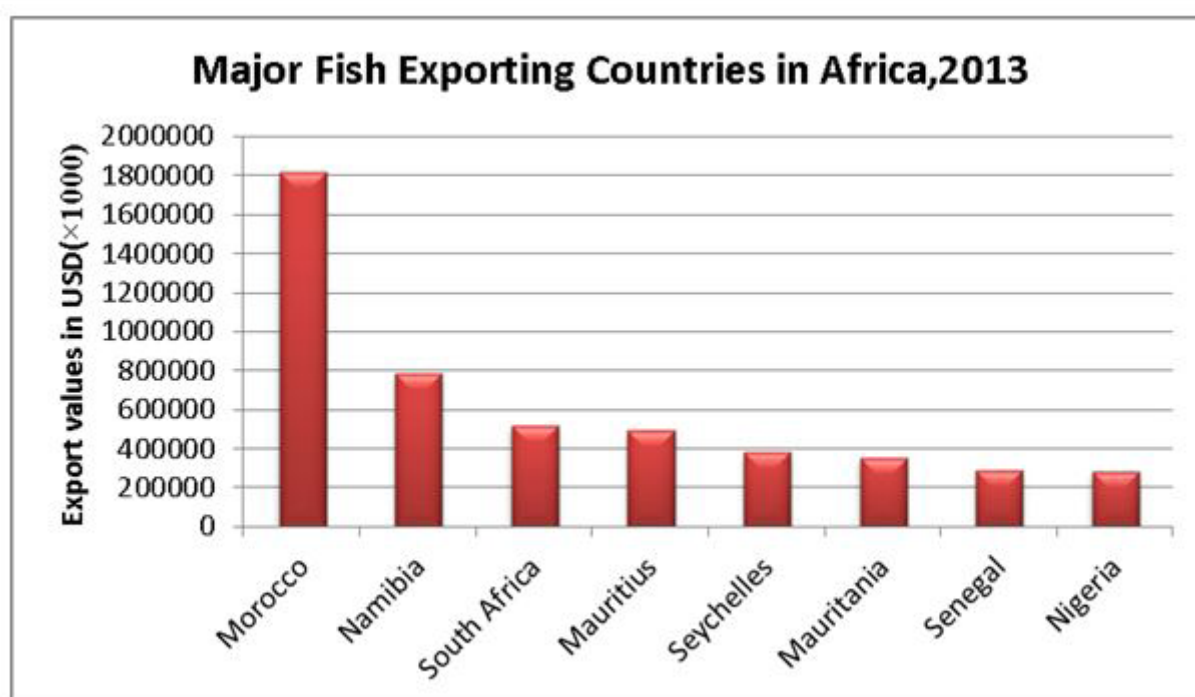
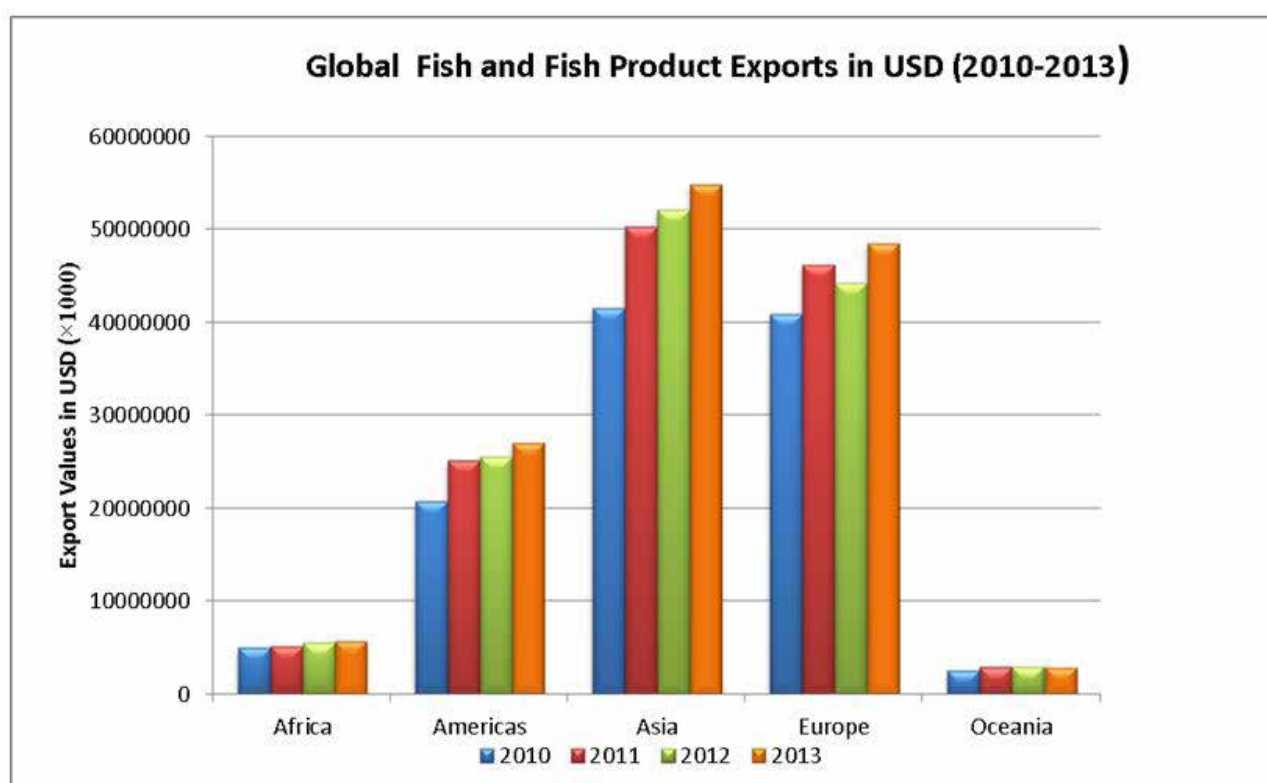


International Fish Trade

Due the diversity of high valued fish resources in its coastal waters and the adjacent high seas as well as incessant increase in population growth, Africa plays an important crucial role in international fish trade in terms of export and import. The continent contributed about 4 % (5.2 billion US Dollars) to the total value of global fish import (133.3 billion US Dollars). Nigeria and Egypt are the largest importers of fish, 1.2 Billion US Dollars and 0.6 Billion US dollars respectively (FAO, 2013). This is massive loss of foreign exchange which needs to be trade off with the food security needs of the country.

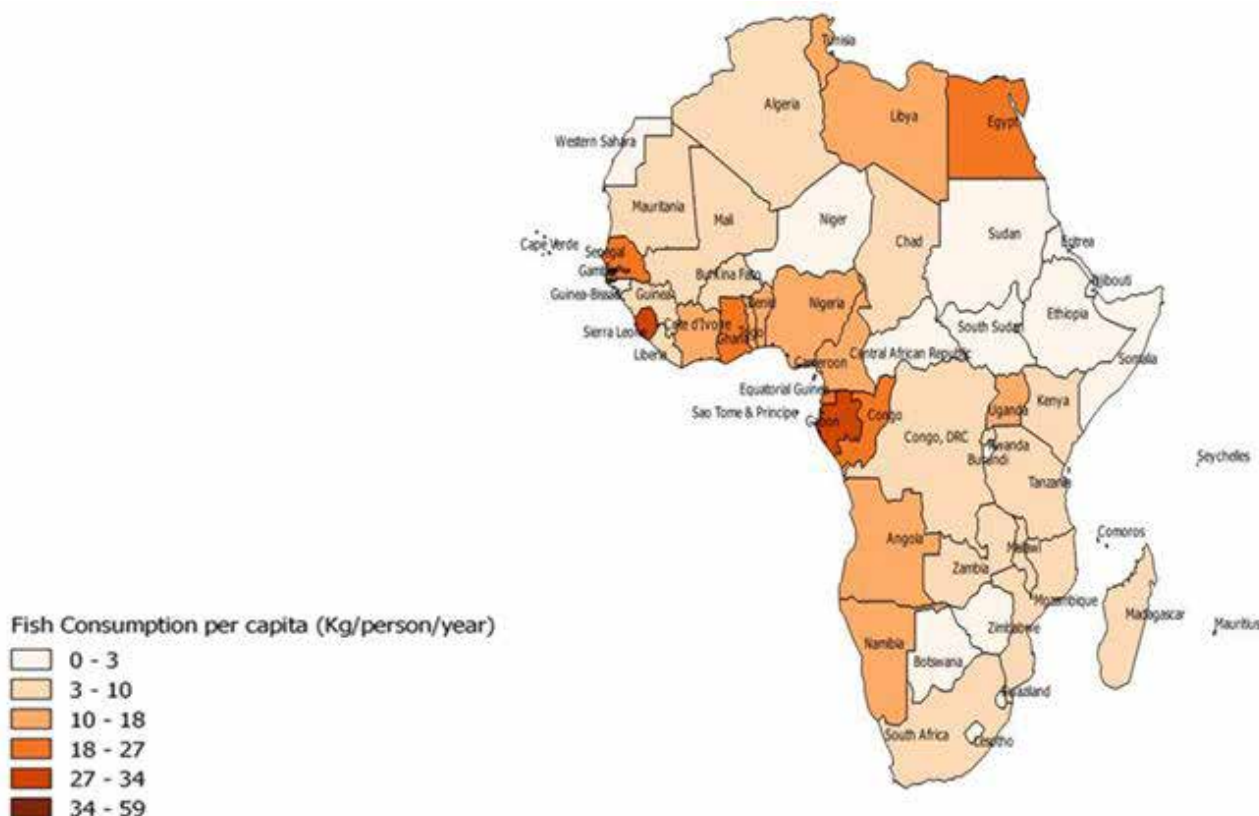


In terms of fish export, Africa is a major player in export market contributing about 4.2 % (5.8 billion US Dollars) to the global fish export trade (14.0 Billion US Dollars). Morocco and Namibia are the major fish exporting countries, with a total of 1.8 Billion US Dollars and 0.78 US Dollars respectively in 2014.

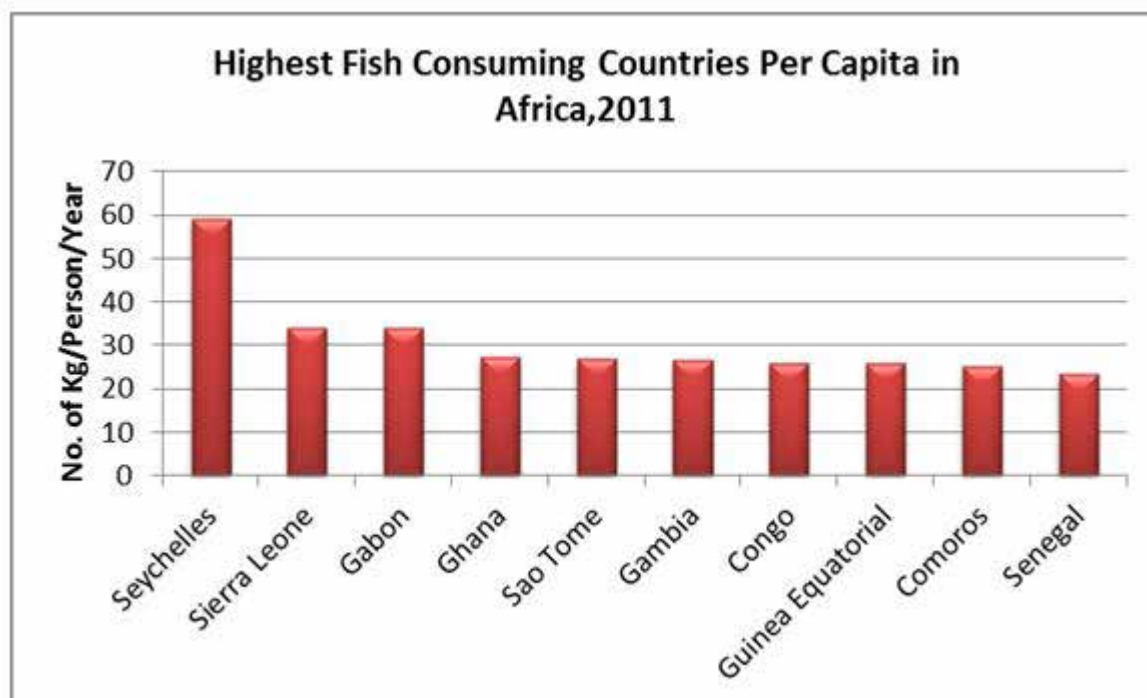


Fish consumption

The average per capita fish supply in Africa is estimated at about 12.3 kg (FAO, 2011) which is significant less than the often quoted global average of about 19 kg. There is large disparity in per capita fish supply rate between coastal and Island countries (e.g. Sierra Leone, Seychelles etc) and countries in land-locked, arid or semi-arid regions ((Niger, Ethiopia etc).



The per capita fish supply is highest mostly in countries, between 20-60 kg per capita per person, that are adjacent to large marine ecosystems.



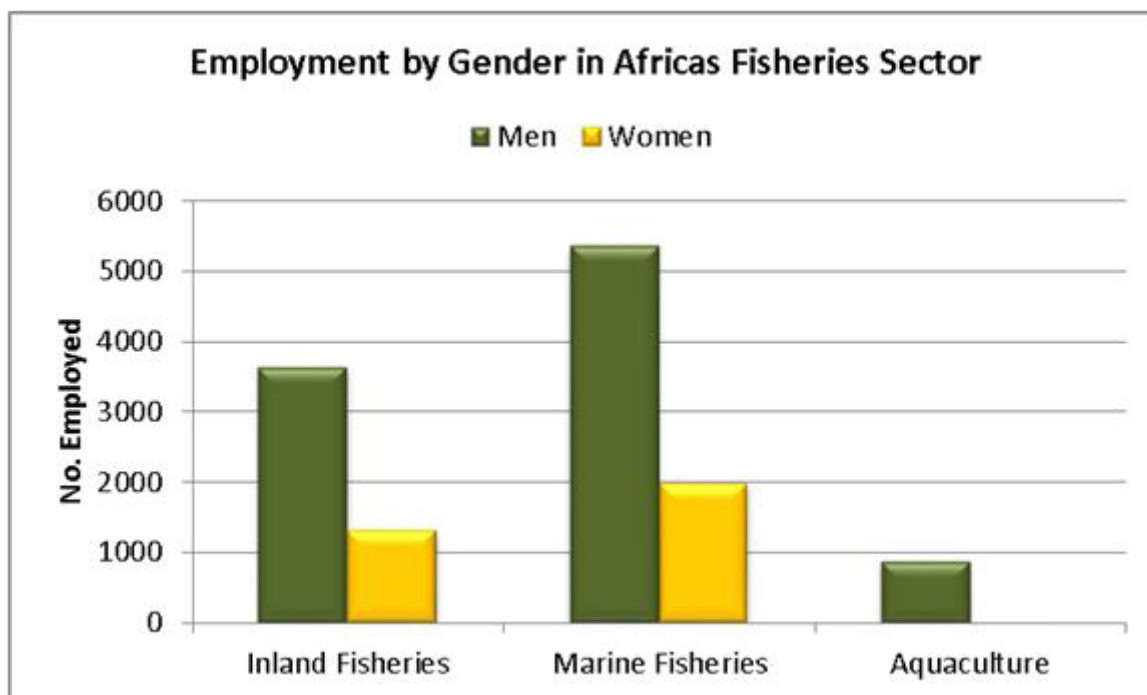
There are countries with significant amount of fish production and adjacent to highly productive marine waters but the per capita fish consumption is less than 10 kg/person. These Mauritania, South Africa, Tanzania etc. The probable explanation could be less preference for fish in the diet of these countries as compared to meat. Increasing fish consumption would require awareness raising campaigns to sensitize citizens on the nutritive value of fish. In landlocked, semi-arid and arid countries,

it is critical as part of the strategy to increase food and nutrition security, to promote commercial aquaculture development on a grand scale, explore possible of sustainable fishing practices in inland water bodies, majority of which contain fish species that are either fully exploited or overexploited due to a combination of factors.

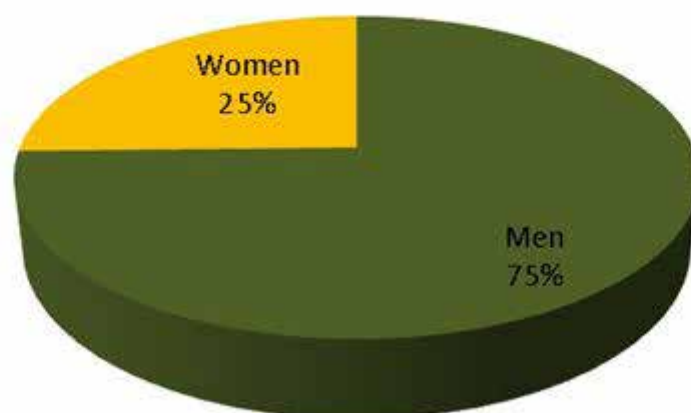
Consistent with the 2014 Malabo Declaration, strengthening intra-regional fish trade on the continent could address some of the issues affecting fish consumption rates. There are countries with huge fish resources (e.g. small pelagics) which are major components of landed fish in these countries. These species, if trade within the continent, could contribute in significant measure to enhancing fish consumption but these species are instead traded with overseas countries for fish meal factories. The Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa identified enhancing fish trade and marketing as a key policy area in this respect.

Employment in sector by Gender

The fisheries and aquaculture sector provides employment to about 27 % of women (FAO, 2013). But the share of employment is less significant in the fishing sector as compared to the post-harvest sector. Women are still marginalized and less empowered for equitable participation in the fisheries and aquaculture sector on the continent. Lack of access to financial resources or capital. Weak capacity, incoherent policies etc are some of the factors that continue to hinder women's participation in the sector. The Policy Framework and Reform Strategy for fisheries and aquaculture in Africa has an objective to strengthen the role of women and youth in the sector.



Proportion of Gender Employment in Africa's Fisheries Sector



The available information is not disaggregated which should have illustrated the importance or dominance of women in the post-harvest sector.

8. Status of Aquatic Animal Disease Control

Summary of findings from regional fish disease mapping studies

The full potential of Africa's fisheries and aquaculture sectors to generate wealth, social benefits and contribute to the development of the African economy has yet to be realised. To untap this potential, the African Heads of State endorsed the **Policy Framework and Reform Strategy for fisheries and aquaculture in Africa** that provides the blue print for addressing key bottlenecks impeding performance and transformation of the sector to meet its CAADP goals.

Increasing the contribution of the sector to food and nutrition security, livelihoods, wealth generation and economic development for Africa's growing population implies that levels of production, productivity and trade of aquatic animal products needs to be increase. The competitive advantage of the continents aquatic products into national, regional and international markets needs to be guaranteed.

One of the key challenges affecting the accomplishment of this overall goal is the control and surveillance of aquatic animal diseases. Aquatic production systems world over, not least in Africa, can be beset with issues of sustainable environment management, enhancing biosecurity governance and fish diseases control. These issues pose significant threats to the productivity of natural and artificial aquatic systems and have concomitant effects on food security, trade and income. The situation is exacerbated in Africa due to inadequate strategies, both national and regional levels, for early response systems in the event of an emergence situation, including perturbations in the ecosystems due to environmental hazards, pollution, disease outbreaks, etc. The human and institutional capacity to effectively keep at bay as well as address any threat in aquatic production systems, inland water bodies and aquaculture, is grossly insufficient on the continent. There is severe dearth of personnel both in quantity and quality in these critical areas of environmental management, biosecurity governance and diseases control.

Ensuring environmental integrity, animal welfare, food safety and economic gain from aquatic resources implies that the biosecurity of aquatic resources needs to establish. Consequently, enhance capacities for fish diseases surveillance and control by strengthening and/or developing institutional capacity and regulatory frameworks for fish disease control and surveillance and biosecurity control. The first step in developing a strategic disease control program is to establish the occurrence of diseases, the risks of their occurrence and their potential impact on aquatic productivity systems.

Safeguarding aquatic resources and ensuring biosecurity for the sustainable utilization and management of aquatic animal resources in lieu of the Continental short and long-term goals implies that systems must be put in place to ensure the:

- i. Prevention and control of aquatic biological hazards (notably pathogens, pests, toxins from algae, new species, etc.)
- ii. Increase farm production and efficiency
- iii. Access to markets (quality assurance and certification)
- iv. Economic benefits (to the producer, community and nation)
- v. Sustainable aquatic environmental management.

Biosecurity measures that include disease control and surveillance are the set management practices that prevent non-infected healthy stock from being exposed to infectious or parasitic agents. This involves the prevention of entry and control of such agents. Critical control points of concern are areas in the production and marketing process that may present or permit biological hazards, notably pathogens from being spread. Establishing what the biological hazards are along the value chain, the factors that trigger these to result into disease and loss of fish quality and well as those that facilitate their spread are, among the first steps in establishing frameworks fish disease control and biosecurity governance. Establishing fish disease control or biosecurity strategies for specific diseases or regions for that matter, would not be possible if the precise sanitary condition of national aquatic stocks (wild and farmed) remained largely unknown.

Information on the sanitary status of aquatic stock in Africa and infrastructure to control aquatic animal diseases is very poor. Fortunately, while there have been few reported serious outbreaks of fish disease, both in the wild and on farm, on the continent, over the last 10 years outbreaks of the emerging Trans-Boundary Aquatic Animal Diseases (TAADs) that have devastated segments of the industry have occurred. The outbreaks and rate of spread of the notifiable diseases *Aphanomyces invadans* (EUS), White Spot Syndrome Virus and Abalone herpes Virus have revealed the inadequacies of Aquatic Animal Health surveillance and control in Africa.

In order to address this situation and establish the institutional framework for the control, surveillance of aquatic animal diseases on the continent as well as the congruent biosecurity frameworks to support Africa's aquatic animal production and trade, AU-IBAR commissioned regional Fish Disease Mapping Studies in the five regions of the continent.

The purpose of these studies was to obtain up-dated information on:

1. The current status of aquatic animal diseases within countries.
2. Establish the production systems (fisheries and/or aquaculture) where they occur.
3. Establish disease risks determinants.
4. Establish the geographical areas where these diseases have occurred.
5. Identify options for Biosecurity Control.

The outputs from these studies augment existing information and provide baseline information to develop strategies to address the current status quo.

Summary of Key Findings from the Regional Studies

I. Status of Reporting of Aquatic Animal Disease

Systematic reporting of aquatic animal disease into the national animal disease control structure and into OIE system was poor. This was attributed to the fact the level of capacity in the national veterinary systems (personnel, laboratory facilities, practitioners) to diagnose and identify disease conditions was on the whole grossly insufficient. Even in countries with more advanced capability and in some instance countries that exported to overseas markets the level of reporting for both notifiable and endemic disease through the national systems was left wanting. In the latter case the challenge was largely associated with the lack of flow of information between the different parties, notably academic institutions, private sector and public systems.

2. Nature of Diseases

Most of the reported diseases, both from literature and reports from participants of the survey, were endemic bacterial and parasitic conditions. However, the quality of information obtained from either source was inadequate for epidemiological analysis. Most of the literature described pathogens based upon their biological characteristics and not on aspects such as their pathogenesis and pathogenicity. Hence, particularly in cases cited of bacteria and parasites found on fish from literature do not necessarily indicate status of parasitosis or bacterial disease. Except where stated specifically, what this elucidates to are the potential pathogens endemic to Africa's aquatic ecosystems (see...). Several of the endemic potential pathogens occur elsewhere in the world and most can be controlled if good management practices are promoted and implemented.

The notifiable conditions that have been reported on the continent are *Aphanomyces invadans* (EUS), White Spot Syndrome Virus, Koi Herpes Virus and Abalone herpes Virus. These have been reported in Southern. White Spot Syndrome Virus has been reported North Africa. The facilities and veterinary support to diagnose and control these have been developed in the affected regions. The occurrences of zoonotic pathogens were also reported in the studies.

3. National and Regional Capacities to Detect and undertake surveillance of notifiable and endemic diseases.

The notifiable conditions that have been reported on the continent are *Aphanomyces invadans* (EUS), White Spot Syndrome Virus, Koi Herpes Virus and Abalone herpes Virus. These have been reported in Southern. White Spot Syndrome Virus has been reported North Africa. The facilities and veterinary support to diagnose and control these have been developed in the affected regions. The other regions of the continent (ie. Eastern, Central and West Africa) do not have the regional capacity to diagnose any notifiable disease.

National and regional capacities to diagnose and control endemic conditions are on the whole weak. In countries where the capacity to diagnose aquatic animal disease occurs, this is often limited to academic or research institutions and there are no functional with the producers to provide effective service. The challenge in such instances is the number of trained personnel and networks to ensure that the necessary appropriate services reach producers and other stakeholders in the value chain beyond the central or research laboratories.

4. Occurrence and risks factors

Reports of fish disease and of potential pathogens on fish were from both wild and farmed fish. The major risk factors arise from changes in whether and environmental stressors notably pollution and seasonal changes. In aquaculture additionally, intensification, inadequate nutrition, poor management and the use of stocking material whose pathogenic status is unclear are among major risk factors. Fish trade is another major risk factor. Africa has now become a net importer of fish. Processed and unprocessed fish products as well as live fish and aquatic genetic material (e.g. fish eggs) are increasingly being imported into the continent to meet food security needs and promote aquaculture development. However, there are no clear harmonised national or regional guidelines to ensure that these are done and monitored within the framework of global standards. The latter places the continent in a very precarious situation regarding the biosecurity of its aquatic animal resources. The lack of these capabilities also implies that products from the continent cannot, unless otherwise, be certified for trade in international markets.

Summary of Recommendations from Disease Mapping Surveys.

1. Establishment and strengthening of Policy and other institutional frameworks to support disease control, disease surveillance and biosecurity control.
2. Establish well-functioning diagnostic and disease surveillance system to provide evidence-based information for implementing and monitoring aquatic animal health strategies. This would entail:
 - a. Capacity building for all stakeholders tailored to their specific needs and roles in the value chain on aquatic animal health issues.
 - b. Capacity building for an integrated disease recognition, diagnosis, investigation & surveillance laboratory network. Initially, this could be based on upon the Continents terrestrial animal laboratory system becoming more specialized as the sector progressively expands and develops.
3. Streamline and harmonise the systems and protocols for data collection and the sharing of information between the different stakeholders to national and regional competent authorities and vice-versa. The control of disease depends a lot on how information rapidly is openly and honestly shared

With these basics in place, it would become possible to monitor and control aquatic animal health and set in place multi-faceted continental biosecurity control measures that would protect the industry as well as establish rules and mechanisms of trade between countries producing or importing similar products.

Having such a system and functional facilities in place would enable Member States establish the sanitary status of their countries and thus develop appropriate national disease control strategies to support production, trade and maintain ecosystem health including emergency plans in the event of outbreaks. Producers would benefit greatly as risks of loss arising from fish disease shall be greatly reduced. Public health and quality of aquatic animal products likewise shall be better assured improving access aquatic animal products to markets.

To help mitigate against the above challenges, AU-IBAR is in the process of supporting member states build capacity of veterinarians in fish disease control and in phyto-sanitary control as well as supporting member states collectively develop regional fish disease control frameworks. The fish disease control frameworks shall augment the regional aquaculture environment management and aquatic animal genetics frameworks whose development that shall collectively provide a mechanism for comprehensive biosecurity control. The already established ARIS provides a platform for data collection and information sharing to support and as an integral part of the Continent efforts towards this.

9. Livestock trade and development situation in Africa in 2015

Trade Analysis between Africa and the rest of the world for Common Livestock Products

Abstract

The aim of this paper is to present a simple analysis of the status of African trade with the rest of the world in common livestock products. Trend analysis shows that Africa remains a net importer of most livestock commodities and this negative trade balance with the rest of the world is on the rise. This is despite the increase in the number of livestock in the continent. The import bill that Africa is paying to the rest of the world is mostly in processed livestock products which the continent can readily make. This therefore calls for setting up of policies that will strengthen livestock productivity and investment in value addition activities. Import substitution policies and promotion of inter-African trade through SPS programmes and mutual recognition frameworks can also reverse the increasing import bill. Such endeavors are all in line with the Malabo Declarations and Agenda 2063 of the African Union.

Introduction

Livestock play an important role in socio-economic development of the African continent. Africa's unique animal resources have a lot of potential in the achievement of the Sustainable Development Goals and the Agenda 2063. However, realization of this potential is faced with multiple challenges as outline in the AU-IBAR Strategic Plan of 2014-2017. These challenges include weak service delivery, poor sector governance, low productivity, poor access to markets and inadequate management of natural resources and other resources. In particular, subsistence livestock rearing and poor access to markets continue to be one of the key factors hindering livestock development in Africa. The continent continues to experience a negative trade balance in livestock and livestock products and this negative trade balance is increasing. This is couple with rapid population growth that is increasing demand for food in general. Related to the rapid population growth is the increase in urbanization and expanding Africa's middle class which demand refined livestock products. Figure I below show the population trends in Africa from year 2000 to 2015.

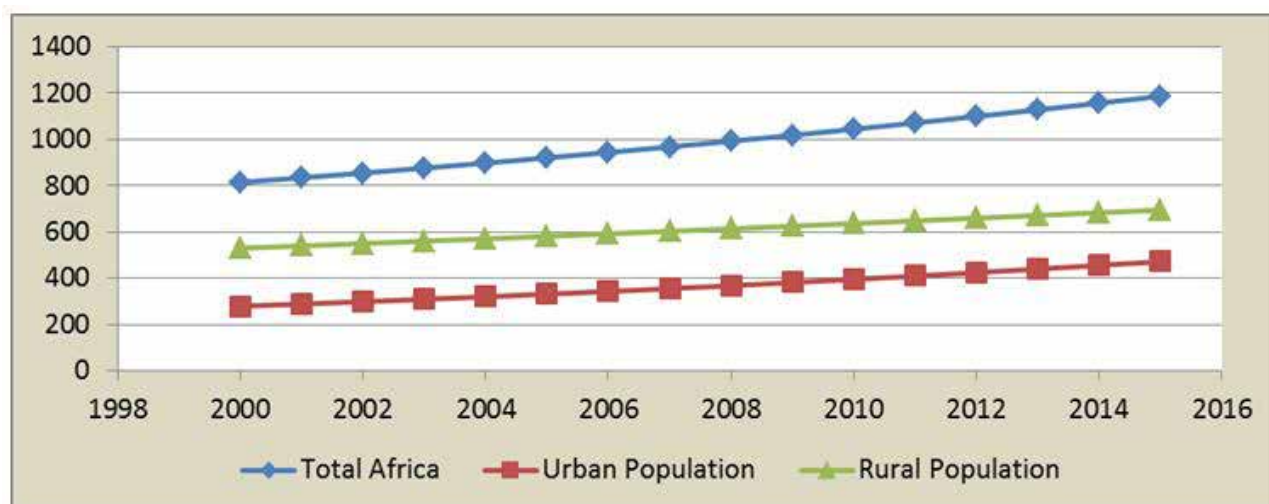


Figure I: Population Trends in Africa (106) Source of data: FAO Stat, 2016

It can be seen from Figure 1 above that population in Africa is increasing with urban population growing at a faster pace than rural populations. These trends have important implications for food and nutrition security, including demand for livestock and livestock products. Increasing urbanizing and expanding towns and cities encroach on natural pastures thus marginalizing traditional livestock rearing sectors. These challenges are complicated by climate change and its impact on sustainable development of the livestock sector in Africa. Figure 2 below shows the population trends in different regions of Africa.

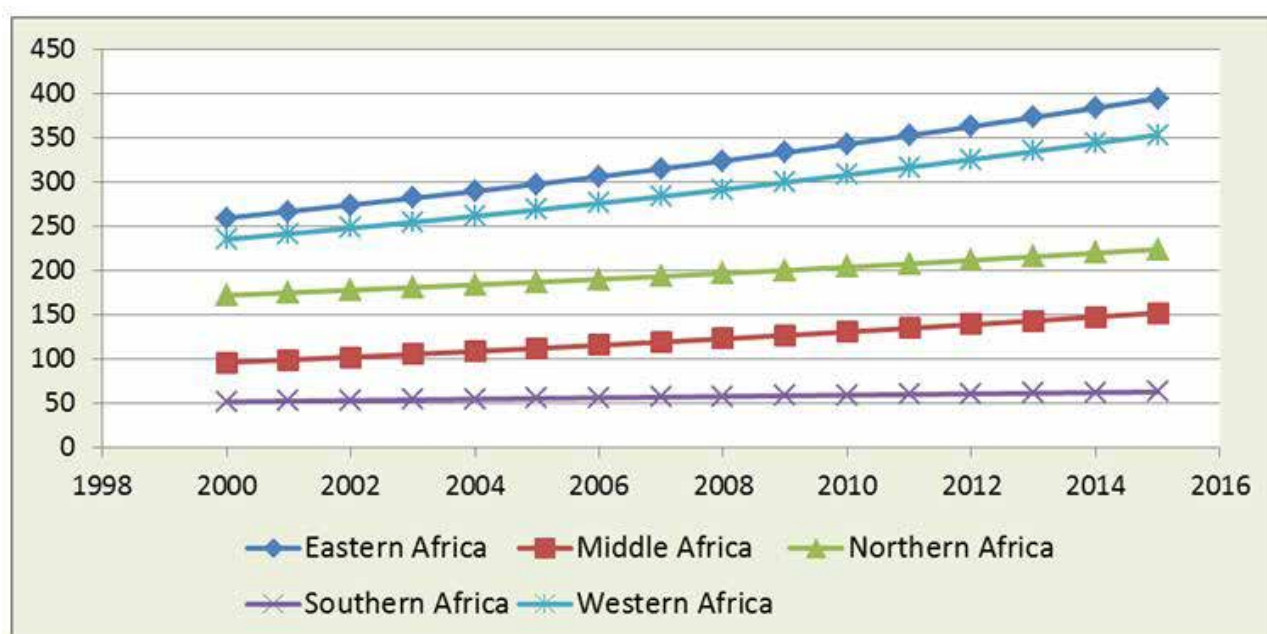


Figure 2: Population Trend Distribution in Africa (106)

It can be seen from Figure 2 that Eastern Africa has the highest number of people, with the Southern Africa having the least. Further, population is growing at a higher rate in Eastern and Western Africa compared to the other African regions. These two regions also have the highest populations compared to the rest of the African regions. With these issues in mind, this paper analyses the major trends in livestock production and trade between Africa and the rest of the world. These production and trade trends span from 2000 up to 2013. There is yet no data on these from 2014 onwards on FAOSTAT where this date is sourced. This again calls for Africa to strengthen its data collection and reporting channels.

1. Situational Analysis

2.1 Livestock Numbers

Africa's livestock numbers have been steadily increasing in the last decade and half as shown in Figure 3 for the commonly reared livestock in the continent.

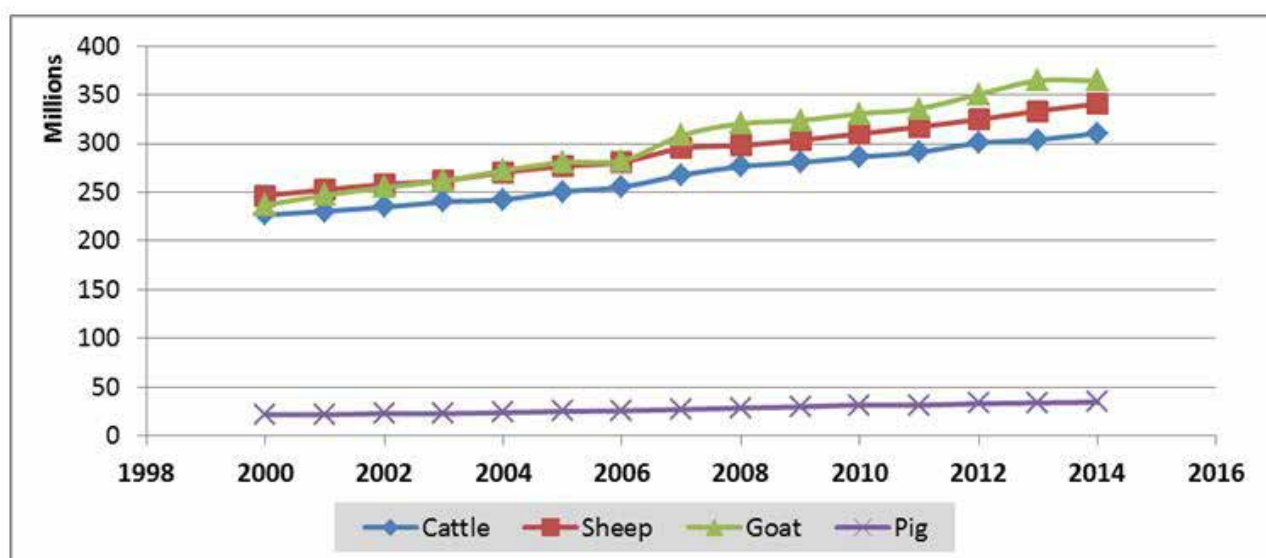


Figure 3: Livestock Numbers in Africa

Figure 3 above shows that livestock numbers have been increasing from 2000 to 2014. Cattle numbers have increased by 37% from 226.6 million in 2000 to 310.3 million in 2014; goats by 54% from 236.9 million to 364.3 million; sheep by 38% from 246.5 to 340.5 million; and pigs by 58% from 21.8 to 34.5 million.

A snapshot distribution of livestock numbers for 2014 show that these vary from region to region as shown in Figure 4 below.

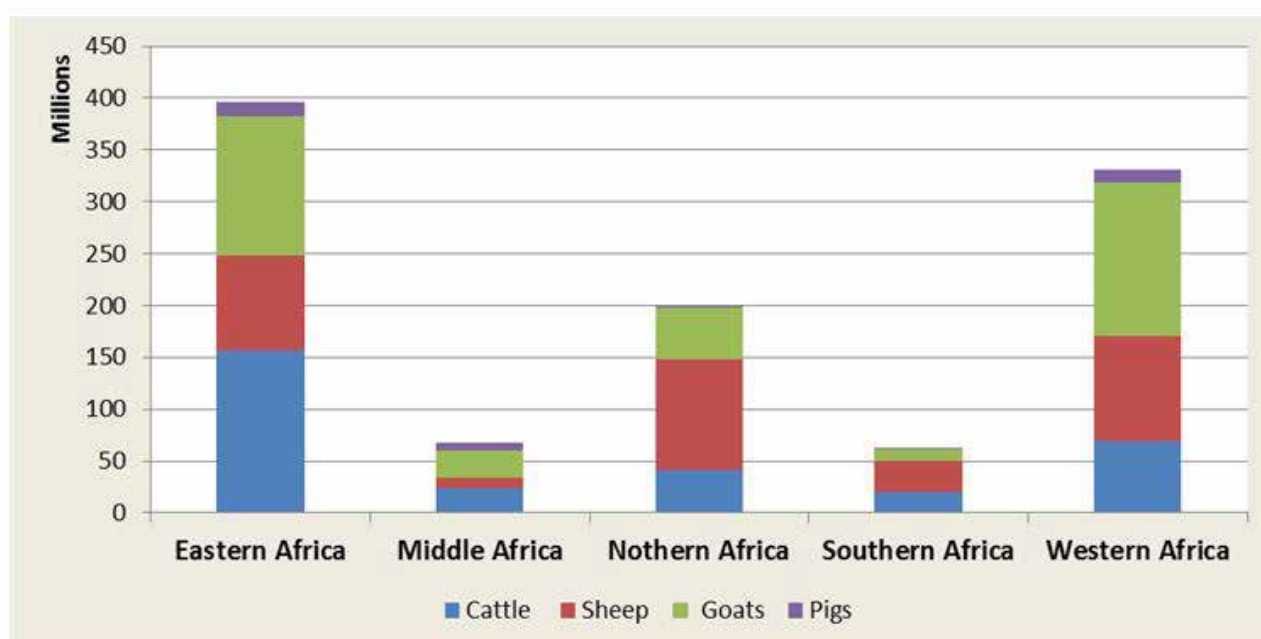


Figure 4: Livestock Numbers Distribution in 2014

It can be seen from Figure 4 above that Eastern Africa accounts for most of the livestock numbers, followed by Western Africa in almost similar distribution. North and Southern Africa have relatively lower numbers of pigs while middle Africa accounts for the lowest livestock numbers. The livestock numbers correspond with the population distribution in the different regions as shown in Figure 2 above.

2.2 Trade trends in primary livestock products

Despite the rise in livestock numbers, imports of livestock and livestock products into Africa from the rest of the world have been increasing more than exports to the rest of the world markets. This is seen by the expanding negative trade balance that Africa has persistently been experiencing. Figure 5 below shows the trade balance (Exports – Imports) in meat of common livestock in Africa.

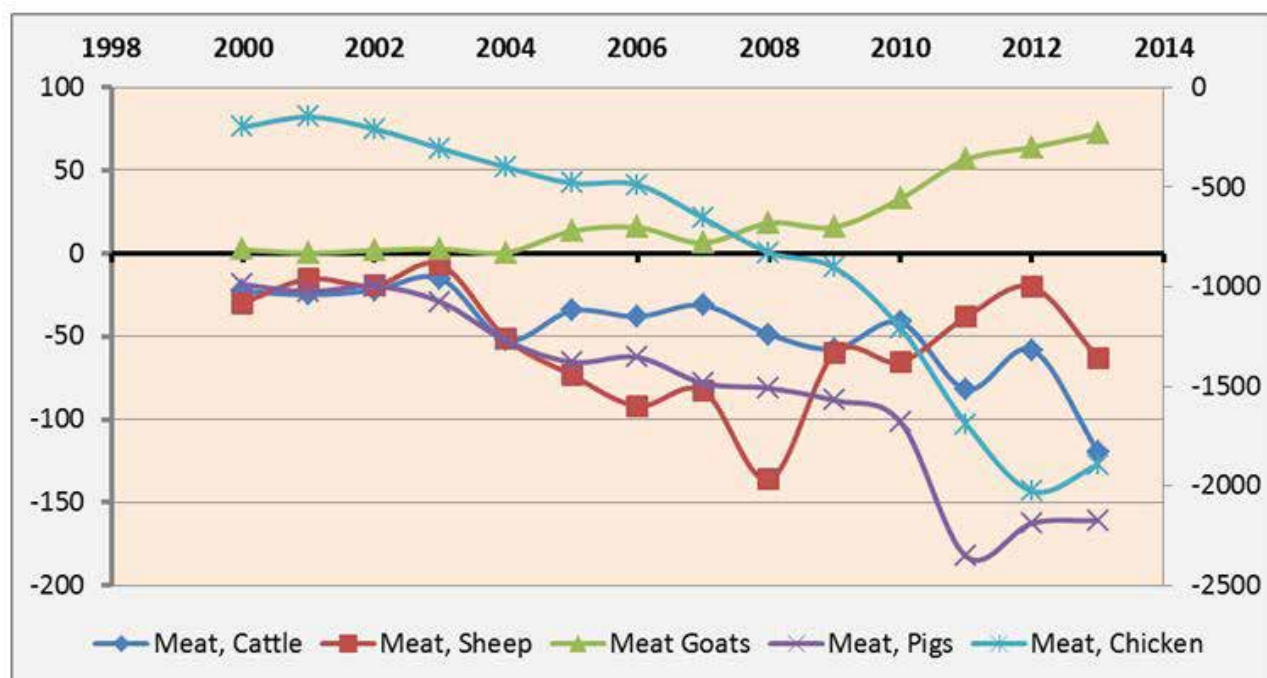


Figure 5: Trade Balance (in Million US\$) of Common Meats - Chicken Meat on 20 Axis

Figure 5 shows that with the exception of goat meat, Africa has been experiencing a negative trade balance in cattle, sheep, pig and chicken meat. For example, the negative trade balance in chicken meat increased from US\$201 million in year 2000 to about US\$1.9 Billion in 2013. This is the amount of money that Africa is exporting in chicken meat alone!

For cattle meat, the negative trade balance increased from US\$ 22.7 million in year 2000 to US\$ 119.1 million in 2013. The sheep negative trade balance has been more volatile while that of pigs and chicken and cattle is persistently increasing. These figures are clearly not acceptable given the comparative advantage that the continent has in livestock production. Only the goat sector is showing promise, where a positive trade balance with the rest of the world increased from US\$ 2.2 million in 2000 to US\$ 72.1 million in 2013.

This means that African livestock development policies should put emphasis on maintaining the positive trade trends shown by the goat sector while addressing the increasing negative trade balance especially for cattle, chicken and pig meat.

Closer analysis shows that Eastern African accounts for most of the positive trade balance in goat meat as seen in Figure 6 below using 2013 trade statistics.

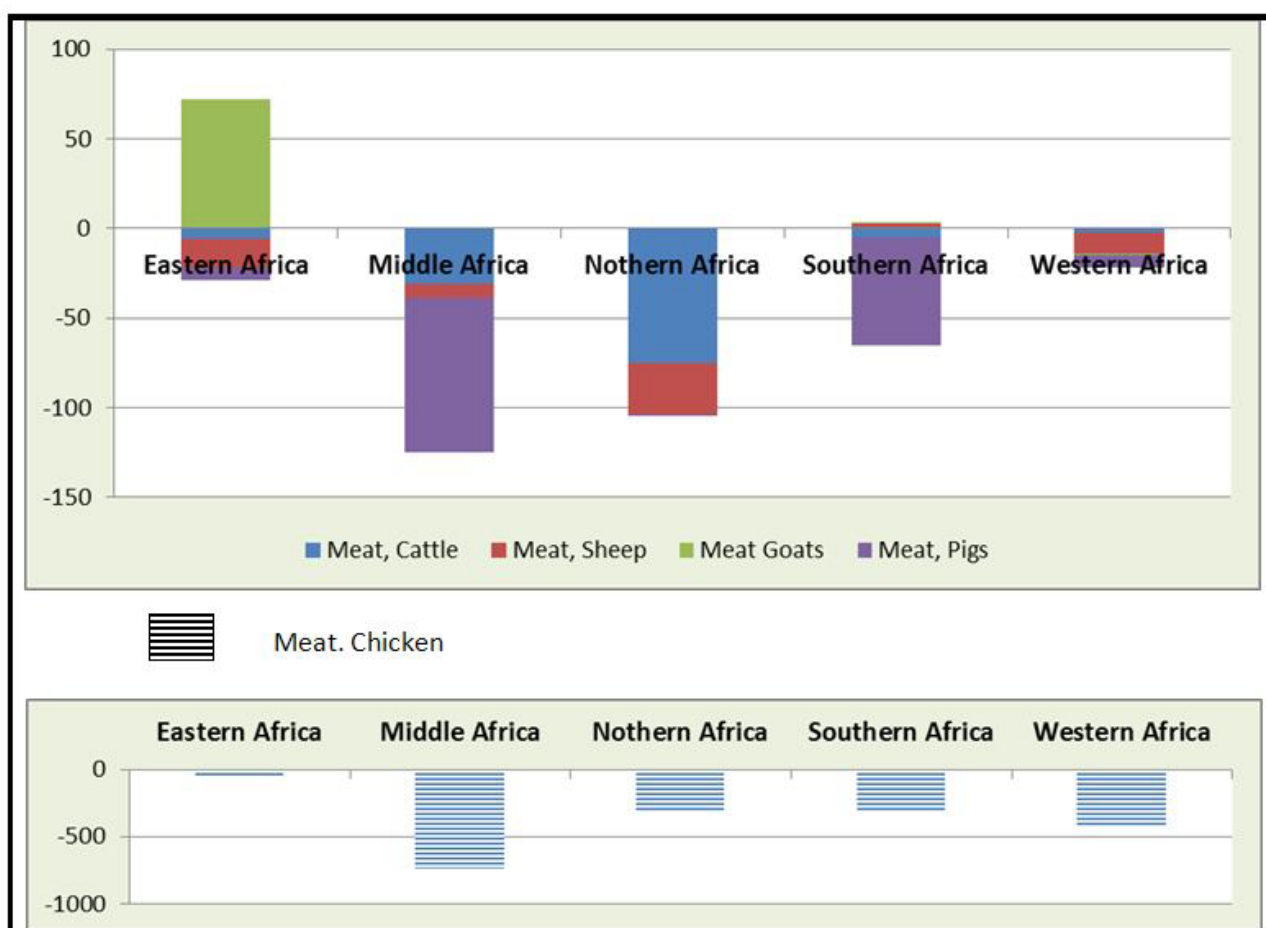


Figure 6: Trade Balance Regional Distribution across Africa (Million US\$)

Figure 6 above also shows that middle Africa accounts for most of livestock meat imports, especially pig and chicken meat. Northern Africa imports mainly cattle and sheep meat while Southern Africa imports mainly pig meat. This tally well with the lower pig numbers in Southern Africa where there is clearly a demand for pig meat. Western Africa imports mainly chicken meat with fewer imports of the other livestock meats in tandem with that regions' relatively high livestock numbers. These trends also explain cultural differences in rearing and consumption patterns of livestock and livestock products across the continent.

2.2 Trend analysis of processed and other selected livestock products

The negative trade balance shown by the meat imports in the continent is also seen in imports of processed and other selected livestock products as shown in Figures 7 and 8 below.

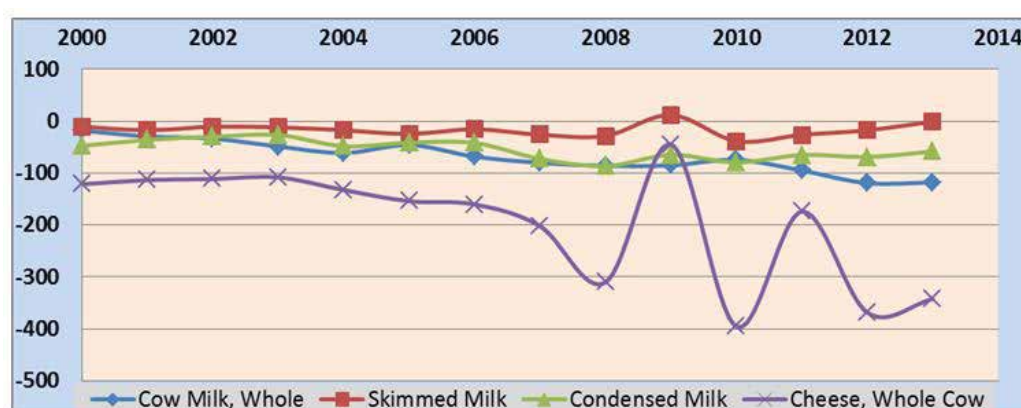


Figure 7: Trade Balance in Milk and Common Milk Products

Figure 7 above shows that the continent continues to import products like milk and other milk products such as cheese, skimmed and condensed milk. This despite the large number of cattle that the continent has. For example, the negative trade balance in cheese from cow milk increased from about US\$121 million in year 2000 to about US\$343 million in 2013 with some years showing some degree of trade volatility¹. The increasing negative trade balance is clear in most of the products. This is supported by analysis of trade in animal products like honey, yoghurt, eggs and bacon and ham where the region is showing an increasing negative trade balance as seen in Figure 8 below.

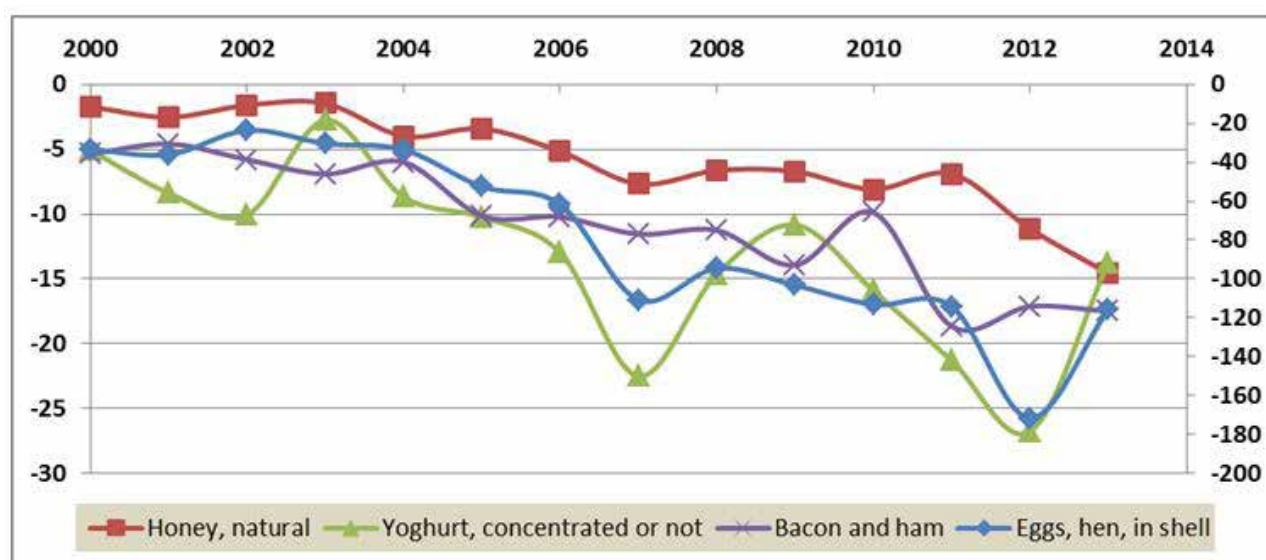


Figure 8: Trade Balance (Million US\$) of common livestock products (eggs, hen, in shell on the 20 axis)

Regional trade analysis of these products (Figure 9) shows that Southern African has well-developed egg and yoghurt industries, with Eastern African showing a positive trade balance in honey. Middle Africa is again the highest importer of these products especially eggs in shell, followed by Northern Africa.

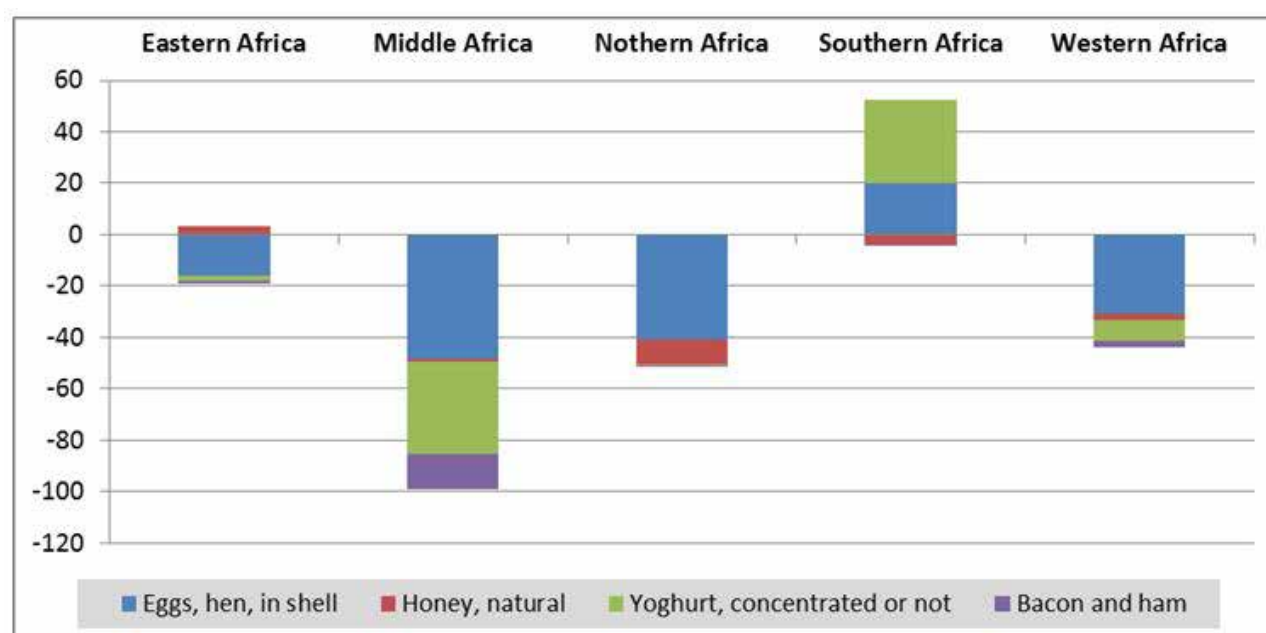


Figure 9: Regional Trade Balance Distribution in some livestock products in 2013 (Million US\$)

¹2009 data show some ambiguity

Key Policy Recommendations

From this quick analysis, there is a clear need for policies and strategies directed at the following:

- Commercialization of the livestock industry;
- Increasing productivity and value addition,
- Import substitution and promoting intra-African trade;
- Regional Economic Communities (RECs) approach in livestock development and moving away from designing one size fits all policies and strategies due to regional heterogeneity;
- Strengthening trade and marketing data and reporting mechanisms at regional and continental level.

Conclusion

Africa needs to put in place policies that will increase livestock productivity, targeting import substitution strategies, based on regional comparative advantages. In this regard, the use of RECs in livestock development endeavors is credible given the heterogeneity in livestock production and trade patterns across the continent. The heterogenous livestock rearing and trade patterns are a combination of regional comparative advantages, cultures and practices. Policies to increase investments in value addition also need to be strengthened while addressing factors that will increase intra-African trade. The markets for livestock and livestock products in Africa are huge and are increasing. Only exporters from outside the continent are benefiting from them.

9. Synthesis of Livestock Policy Landscape in Africa

Regional Level Livestock Policy Landscape

Many of the RECs have developed guiding agriculture sector wide policy frameworks and corresponding strategies or action plans. However, the same has not been extended to the livestock sub-sector. Consequently, few of the RECs have fully developed livestock policies and/or Strategies. This implies that many national livestock policies and strategies are not streamlined and require harmonization.

National level Livestock Development and Animal health/Veterinary Policies and Strategies

The livestock policy landscape at the national level shows a wide variation in view of policies and strategies. There are countries that have fully developed and functional livestock policies and strategies, there are those that are in the process of developing them and there are those that are yet to begin the process. This status hampers the process of harmonization at the regional level and requires significant attention.

Animal health/Veterinary Legislation

Many countries in the continent have elaborate animal health/veterinary legislations to the extent that it is considered critical that some form of consolidation is conducted. It is also clear that the many pieces of animal health/veterinary legislation are either obsolete or require some form of review to be consistent with the current requirements.

Policy Directions

The predominant policy livestock directions include:

- Poverty reduction / Wealth creation
- Food and nutrition security
- Public sector role
- Public Private Partnerships
- Investment in livestock as a means to wealth creation
- Equity
- Climate change and Resilience

Bridging the Gaps in Livestock Policies and Legislation in Africa

To bridge the livestock policy gaps and divergences, it is critical that concerted efforts are made in developing the capacity of stakeholders in policy formulation and implementation. This includes developing institutions such as Livestock Policy Hubs right from the national level, regional and continental levels as well as improving the technical capacity of key players.

Conclusions

The current rise in human population with attendant urbanisation, increasing consumers income and rising standard of living, cum changing consumers' taste and preferences have spurred trade (domestic and international) in high-value livestock commodities in the last decade. Similarly, advances in production, transportation, information and communication technologies; and growth of integrated international supply chains have provided opportunities for African livestock producers to target particular market segments for their commodities.

Unfortunately however, and except for a few, many African countries have not been able to exploit the advantages inherent in these opportunities. Africa has therefore remained a net importer of livestock commodities mainly because its inability to increase production and productivity and ensure

efficiency of stakeholders in the livestock industry.

A significant amount of literature exists on the reasons why Africa remains a net importer of livestock commodities, in spite of the market opportunities and abundant animal resources available on the continent. The reasons are many and complex but can be summarized to include the following:- low productivity of African livestock production systems; inability of smallholder producers to address a host of technical, physical and financial constraints that impinge on productivity; high incidence of trans-boundary animal diseases (TADs) and inability to effectively control/eradicate them; inability to fully meet international market standards, notably the sanitary and phyto-sanitary (SPS) requirements; lack of competitiveness of African livestock production systems due to high costs of production, limited value addition and stiff competition from imported livestock products.

Other identified constraints include high levels of domestic and export subsidies provided by developed countries to their domestic livestock producers who then dump products in African markets at low prices; elimination of tariff and quantitative restrictions under GATT and the opening up of African markets without reciprocal opening up of markets in developed countries; high marketing costs due to poor transport and market infrastructure, poor processing and storage facilities and inadequate market information; consumer tastes and preferences for imported meat and dairy products.

However, the most pressing constraint contributing to many African countries' inability to exploit the opportunities presented by the growing demand for livestock and livestock products and one that is often overlooked is the dearth of appropriate policies, strategies and legislations. This review has shown that many countries in Africa have either downplayed the significance of the livestock sector in their policies and strategies or have completely omitted them with the resultant effect that the sector's contribution to the economy has remained minimal or even declined. It is further disconcerting that the country phenomenon has also been reflected at the regional and continental levels where it has taken concerted efforts to effect corrective measures to shore up the livestock components in many regional and continental initiatives. While efforts have been made to develop and formulate new policies, it is clear that many countries suffer the burden of old and obsolete policies, strategies and legislations as revealed by this review. It is however reassuring to note that there has been a reawakening at the continental in view of livestock policy related initiatives that is expected to rekindle interest and consequently action in not only developing relevant livestock policies but also assuring effective implantation that positively impact livestock producers' welfare and the African economies.

It is certain that African countries need to adhere to the Continental initiatives that provide the frameworks along which livestock country and regional level policies, strategies and legislations can be formulated or revised to change the fortunes of the Livestock in the continent.

8. AU-IBAR INTERVENTIONS ON ANIMAL RESOURCES IN 2015

8.1 *Animal Resources Information System* (ARIS)

The goal of AU-IBAR through the development of the Animal Resources Information System (ARIS) is to enhance animal resources data management and help position AU-IBAR, the Regional Economic Communities (RECs) and AU member states as the core and reliable sources of comprehensive animal resources information in Africa. ARIS is therefore aimed at enabling and supporting the collection and analysis of reliable animal resources data and information from Africa in a timely manner to support planning and decision making.

During the year 2014, AU-IBAR concentrated mainly on the improvement of the hosting environment and system features, and continuous roll out of the Animal Resources Information system (ARIS-2) to AU MSs and the RECs. This process involved overhauling the system operational platform and development of additional features based on experiences gathered so far. Specifically the new features being developed and/or enhanced included:

- Creating interoperability between ARIS-2 and other information systems especially the OIE/ World Animal Health Information System (WAHIS);
- Integrating Mobile data upload
- Publicly published content to enable public access to selected reports
- Publicly accessible forum

The roll out process involved training of various stakeholders including head users at AU-IBAR headquarters, regional and national system administrators as well as regular data submitters at the national level. Fourteen (14) countries were trained in 2014, bringing the total number of MSs and RECs where ARIS has been rolled out to 41 MSs and 8 RECs as at end of the year 2014.

8.2 *Reinforcing Veterinary Governance in Africa Programme VET-GOV*

The VET-GOV Programme is a 5 year partnership programme funded by the European Commission (EC) to the tune of 30,000,000.00 EUROS, with a contribution of the African Union Commission (AUC) amounting to 1,200,000.00 EUROS. The Programme is executed by AU-IBAR in collaboration with the World Organisation for Animal Health (OIE), the Food and Agriculture Organization of the United Nations (FAO) and the Regional Economic Communities (RECs). The financing agreement was signed between the EC and the ACP Secretariat and entered into force on 9th February 2011. The implementation of the Programme started in January 2012 and is expected to be completed in August 2017.

The VET-GOV Programme contributes to the overall strategic objective of AU-IBAR, which is: “To improve the contribution of livestock to food security and safety, economic growth and wealth creation in Africa”.

The specific objective of the programme is “To improve the institutional environment at national and regional levels to provide effective and efficient animal health services in Africa”.

The expected results are as follows:

Result 1: Knowledge and awareness for institutional strengthening enhanced;

Result 2: Institutional capacity for livestock policy formulation, animal health strategies and legislation enhanced;

Result 3: Institutional capacity for the implementation of policies and enforcement of regulations enhanced.

AU-IBAR is in charge of the overall coordination of the Programme and will implement most activities, either directly or through the RECs, in line with the mandate of the AUC to build RECs' capacity, taking into consideration the implementation capacities of the RECs.

RECs on the one hand provide an important part of the support to individual countries, and on the other hand ensure their coordination and harmonization missions in this sector.

FAO is essentially sustaining the regional animal health networks that are playing a key role in the harmonization of national approaches and regional integration and its expertise will be widely mobilized in relation to policy analysis, taking advantage of the experience gained through the Pro Poor Livestock Policy (PPLP) initiatives and IGAD Livestock Policy Initiative (LPI) projects.

OIE is mainly responsible for implementing activities related to Performance of Veterinary Services (PVS) and gap analysis, enhancing the capacity of countries to assess compliance with OIE standards, building capacity in veterinary legislation and ensuring interoperability between AU-IBAR and OIE information systems (Animal Resources Information System [ARIS] and the World Animal Health Information System [WAHIS]).

The major activities conducted during 2015 were:

a) *Post midterm evaluation planning*

Following the midterm evaluation of the VET-GOV Programme and as per a recommendation of the 5th steering committee meeting, a planning retreat took place on the 15-16 January 2015 in Naivasha, Kenya. The retreat brought together implementing partners (AU-IBAR, FAO, and OIE) and the EC to reach a consensus on the implementation of the VET-GOV MTE recommendations and the process and content of a rider to the financing agreement..

The objectives of the retreat were:

- to discuss the programme re-focus as per the recommendations of the midterm evaluation
- to discuss riders to the 3 contribution agreements
- to finalize the 2015 calendar of events

The Meeting Results and Outcomes:

The outcomes of the meeting on the VET-GOV Programme re-focus were the greater understanding of the post MTE programme implementation

b) *Supporting pilot activities in selected countries or RECs:*

This activity started with a call for expression of interest launched by AU-IBAR based on guidelines which were developed looking at the provisions of the EU PRAG and draft AUC guidelines. In addition to the advert on the AU-IBAR website, AU-IBAR sent to all ministers responsible for livestock requesting them to submit expression of interest for possible funding.

Following the 2nd call for expression of interest, 43 proposals were submitted, the following were the 8 proposals selected for funding during 2015

1. SADC: The establishment of a CBPP scientific network
2. EAC: The status of policies, laws, regulations and procedures for veterinary medicinal products and biologicals in the east African community
3. Benin: Projet d'appui à la mise en œuvre du mandat sanitaire
4. Botswana: Strengthening the capacity of the veterinary surgeon council to improve governance of the veterinary profession
5. IGAD: Regional animal welfare action plan
6. Kenya: Improving veterinary laboratory policy in Kenya
7. Nigeria: Inventory of livestock data sources and harmonization of collection, analysis and dissemination methods for enhanced evidence-based policy formulation and analysis
8. Sudan: Strengthening PPP in the delivery of veterinary services in Sudan

c) *Harmonization of veterinary Legislation*

As part of the implementation of the VET-GOV Program, AU-IBAR in collaboration with OIE organized two regional Seminars on harmonization of veterinary Legislation in the UMA and SADC region during the 8th to 12th June, 2015, Tunis, Tunisia and the 6th to 10th July 2015, Maseru, Lesotho respectively

The objectives of the two regional seminars were to:

- identify an area of the veterinary domain for which SADC member countries have a shared interest in harmonizing their regional legislation;
- review the international standards for veterinary legislation relative to the selected area of the veterinary domain;
- review existing representative legislation from within or outside the region which embodies the international standards relative to that area of the veterinary domain;
- provide veterinarians and lawyers from SADC member countries with the opportunity to review the principles of quality legislative drafting;
- apply those principles to the critical evaluation of their existing legislation in the chosen area of the veterinary domain;
- identify gaps, overlaps and conflicts between the relevant laws of the SADC member states; and,
- Initiate the group process among SADC member states of drafting regional legislation for the chosen area of the veterinary domain.

The two regional seminars achieved its objectives and has provided a solid foundation for pursuing further efforts in regional harmonisation of legislation for animal disease control among the UMA and SADC member states

d) *Review of National Livestock Development Policy, Regulations and Veterinary Legislation*

In collaboration with AU-IBAR and the Ministry of Agriculture and Livestock, Republic of Zambia, COMESA VET-GOV program facilitated a three days Ad-hock Group Meeting on the Support for the review of livestock development policy, regulations and veterinary legislation which was held at Protea Hotel in Livingstone from 8 to 10th April 2015. The Ad-hock Group Meeting was attended by stakeholder representatives from the Ministry of Agriculture and Livestock, Civil Society, Academia, Community Based Organizations, Development partners and Private sector. The list of participants is annexed

The overall objective of the meeting was to review policy and legislation to enhance the contribution of livestock sector to sustainable food security, nutritional wellbeing and economic growth in Zambia. The Specific Objectives are to:

- Discuss and review the draft Livestock Development Policy, draft livestock development regulations and Veterinary Legislations documents.
- Develop and agree on finalization road map of the reviewed livestock development policies, regulations and veterinary legislation.

The meeting outputs were

- Well reviewed and improved Livestock Development Policy, regulations and veterinary legislation.
- Well-developed finalization road map of the identified livestock development policy, regulations and veterinary legislation.

e) *Training of MS Finance Officers in AU-IBAR accounting, procurement and reporting procedures within the framework of sub-delegation*

Considering that the VET-GOV programme is currently implementing 16 pilot projects and there are plans to send funds to MS for the implementation of national action plans, two training sessions to build the capacities of national accountants in order to assure compliance with AUC rules were conducted. The target participants were the REC Coordinators, Pilot Project Coordinators and the accountants, the two training sessions were conducted in Naivasha, Kenya, 18 – 22 May 2015 and 29th June to 3rd July.

f) *Organizing Livestock institutions and Experts in Support of CAADP Implementation*

AU-IBAR in collaboration with NEPAD Agency organized an orientation workshop to define mechanisms for collaboration in support of livestock mainstreaming in CAADP implementation at country and regional level from 13th to 15th July 2015 in Belle Cote Hotel, Abidjan, Côte d'Ivoire. This orientation workshop with experts from the livestock community of practice aimed towards operationalization of an African owned- livestock experts pool in support of CAAP implementation as recommended by the 9th conference of ministers responsible for animal resources in Africa in 2013.

The workshop was attended by representatives of livestock institutions and independent experts from Benin, Burkina Faso, Cameroun, Côte d'Ivoire, Ethiopia, Ghana, Chad, Kenya, Lesotho, Niger, Nigeria, Rwanda, South Sudan, Sudan, Mauritania, Tanzania, Tunisia, Uganda, Zambia and Zimbabwe and participants from AU-IBAR, NEPAD Agency. The Government of Côte d'Ivoire took all the necessary administrative arrangements to facilitate the workshop organization in the best conditions.

The workshop result and outcome:

- Participants discussed and explored the modalities and principles for relationship building amongst professional livestock institutions, individual livestock specialists and networks to CAADP implementation.
- Existing continental, regional and national livestock institutions, networks and alliances were critically mapped with regards to the engagement with the current CAADP country process
- The required strategic adjustments in advancing livestock mainstreaming into CAADP were adequately addressed
- Guiding principles to the functioning of the networks and expert pools and the relationship with various other stakeholders were clearly identified

g) *Programme Management*

The sixth VET-GOV Programme Steering Committee (PSC) Meeting was held at the SOFITEL Mauritius Imperial Resort in Port Louis, Mauritius, on 22nd and 23rd July 2015. It was attended by the Steering Committee Members and other participants from AU-IBAR, OIE, FAO, EISMV, EAFF, Midzi agricultural Development Services Pty Ltd, BRENTec VACCINES, RECs (COMESA, EAC, ECCAS, IGAD and SADC) and representatives from countries such as Botswana, Ghana, Kenya, Mauritius, and Zambia

h) *Development of Policy, Investment, Communication and Advocacy (PICA) Curriculum*

The need for increased investment in the agriculture sector has been recognised at the highest levels of governments in Africa as evidenced by various initiatives that include:

1. the Maputo/Sirte Declaration of 2003/2004 which was supposed to be the corner stone for CAADP and consequently other regional and national policy frameworks.
2. The Malabo Declaration has renewed the African Union's vision of "Inclusive Accelerated Africa Agriculture Growth and Transformation" as stated in Agenda 2063.
3. The "Livestock Development Strategy for Africa (LiDeSA)", which is believed to be instrumental to transforming the livestock sector by harnessing its underutilised potential. The strategy has been developed as response to this new initiative.

Nonetheless, the political will observed in the past few decades has not been fully translated into appropriate policies, legislations and investments to ensure a comprehensive livestock development and a number of factors have contributed to this and include amongst others:

- Inadequate capacity of Member States, Regional Economic Communities and other potential stakeholders to:
 - analyse, formulate and implement livestock policies and legislations;
 - Justify for increased investment in the livestock sector
 - Advocate and communicate effectively the need for investment and better policies.

Additional challenges emanate from the need to meet the expected increase in demand for livestock and livestock products. The expected supply responses requires policies that ensure sustainable intensification while at the same time addressing negative externalities and misperceptions regarding impacts on public health.

In response to these challenges, a training course development and packaging Policy, Advocacy, Lobbying and Communication (PALC), was conducted during the period 26-30 October 2015, Dakar,

Senegal. The training modules aimed at developing capacities in livestock policy formulation and analysis, investment skills, and advocacy among Member States and Regional Economic Communities.

i) *Engaging the Parliamentarians*

AU-IBAR recently led multi-stakeholder efforts to formulate the livestock Development Strategy for Africa (LiDeSA) and the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa (PFRS). These two key continental frameworks will be instrumental in guiding and rationalizing efforts and resources toward the development of animal resources on the continent.

Considering the paramount role of legislators in the process of policies formulation and approval, and in the enactment of legislation related to animal resources, AU-IBAR, through the VET-GOV programme seeks to foster partnership with the Pan African Parliamentarians, by providing them with information on policies and legislation development process related to animal resources and progress at national, regional and continental levels in order to solicit and secure their full support in this area.

In this regard a high level seminar was held in Nairobi at AU-IBAR premises from 5th -6th November 2015 for engagement and creation of awareness amongst the members of Pan African Parliamentarians on the LiDeSA, PFRS, VET GOV Programme and its activities and SPS Activities and to establish a plan of action and roadmap for the members of PAP at national, regional and continental levels on the LiDeSA, PFRS, VET-GOV and SPS.

The attendees of the seminar were the Chairperson, Vice Chairperson, Rapporteur and 16 Members of the Committee on Agriculture of the Pan African Parliamentarians and representatives from the Committees on, Finance, Trade, Health, Education, Cooperation, Rules and Privileges representatives of the Northern, Eastern, Western and Southern Regional Caucuses, CAADP Senior Programme Officer, in addition to PAP staff. In attendance also were representatives from AUC, AU-IBAR, FAO, and the OIE.

The seminar whose broader agenda was to foster partnership with the Pan African Parliamentarians, was presided over by Professor Ahmed Elsalwaly the Director of AU-IBAR, the Commissioner Department of Rural Economy and Agriculture (DREA), Her Excellency Madam Rhoda Peace Tumusiime, the Chairperson of PAP's Committee on Agriculture, Hon. Jacqueline Amongin, and officially opened by the Representative of the Speaker of the Senate of Kenya Hon Dr Wilfred Mwangi. They commended the cooperation received from Member States in implementing the AU-IBAR projects on animal resources development. They hailed the support from the European Union (EU) and the Bill and Melinda Gates Foundation in providing financial support to the development of the Livestock Development Strategy for Africa (LiDeSA).

j) *Policy engagement and governance of farmers Organizations harmonization*

As part of the implementation of the VET-GOV Program, AU-IBAR organized a seminar on policy engagement and governance of farmers Organizations harmonization from 9th to 11th November 2015, in AU-IBAR premises, Nairobi, Kenya. The broad objectives of the seminar was to engage the regional farmers organizations to better respond to the needs of their membership thereby enhancing their capacities to contribute meaningfully to policy development processes, improving their leadership and organizational management capacities and sustaining good governance. The

seminar was attended by representatives from APESS, COFENABVI – AO, EAFF, NEALCO, PROPAC, RBM, SACAU, UMAOC, UMAGRI and participants from AU-IBAR, OIE, and FAO.

The specific objectives of the seminar were:

1. To equip Regional Farmers Organizations with tools for enhanced participation in policy processes
2. To discuss and build consensus on the principles of good governance, leadership and organisational management.
3. To develop a support strategy and engagement mechanism for stakeholders organisation

k) *Policy and legislation engagement with PSs and advocacy with PS Finance*

Policy and legislation engagement with PSs and advocacy with PS Finance, to foster policy reforms and an increased profile of livestock in the national planning and budgetary documents amongst the Permanent Secretaries responsible for livestock development and national planning and budget allocations

The need for increased investment in the livestock sector has been recognised at the highest levels of governments in Africa through the Maputo/Sirte Declaration of 2003/2004. This has been further strengthened through the Malabo Declaration, which was tendered to realize African Union's vision of "Accelerated Africa Agriculture Growth and Transformation" as stated in Agenda 2063.

Following these milestones, AU-IBAR developed the "Livestock Development Strategy for Africa (LiDeSA)", which is believed to be instrumental to transform the livestock sector by harnessing its underutilized potential.

In this regards the VET-GOV Programme attaches a significant importance to evidence-based advocacy by ascribing it as one of the key areas of focus. According to VET-GOV technical document, the purpose of the advocacy work is to facilitate the core tasks through catalyzing dialogues on the significance of progressive policy frameworks, and sustainable and adequate investment for the sector.

The VET-GOV Programme developed a Communication and Advocacy Strategy, for the delivery of a series of forums, which allows regional and national policy makers discuss about and forge consensus on livestock policy reforms and investment issues.

In this regard a high level forum was held in Nairobi at AU-IBAR premises from 17th to 20th November 2015 for engagement and creation of awareness on the need for policy reforms and an increased profile of livestock in the national planning and budgetary documents amongst the Permanent Secretaries of Ministries responsible for livestock development and the Ministries responsible for national planning and budget allocations.

The attendees of the forum were the Permanent Secretaries of Ministries responsible for livestock development and the Ministries responsible for national planning and budget allocations from Benin, Botswana, Burkina Faso, Burundi, Central African Republic, Congo, Côte d'Ivoire, Democratic Republic of Congo, Djibouti, Equatorial Guinea, Gabon, Gambia, Guinea Bissau, Lesotho, Madagascar, Mali, Mauritius, Malawi, Sao Tome and Principe, Senegal, Sierra Leone, South Sudan, Swaziland, Zambia

and Zimbabwe. In attendance also were representatives from AUC, AU-IBAR, FAO, and the OIE. (List attached).

The forum whose broader agenda was to foster policy reforms and an increased profile of livestock in the national planning and budgetary documents amongst the Permanent Secretaries responsible for livestock development and national planning and budget allocations, was presided over by Professor Ahmed Elsayalhy the Director of AU-IBAR and officially opened by the professor Fred Segor the principal secretary/ State Department of Livestock, Ministry of Agriculture, Livestock and fisheries, Republic of Kenya, representing the HE the Minister

8.3 Improving Animal Disease Surveillance in Support of Trade in IGAD Member States (Surveillance of Trade-Sensitive Diseases – STSD) Project

In an effort to reduce the impacts of animal diseases on trade performance of the livestock sector in the IGAD region, AU-IBAR in partnership with IGAD Secretariat are implementing an EU funded project: **Improving Animal Disease Surveillance in Support of Trade in IGAD Member States**, in short “**Surveillance of Trade Sensitive Diseases – STSD**”.

The project benefits all the eight Member States of the IGAD region and is implemented jointly by AU-IBAR and IGAD Secretariat. The STSD was officially launched on February 18, 2014 in Djibouti and will end in June 2017.

The overall objective of the STSD is “**to improve the contribution of livestock to food security and safety, economic growth and poverty reduction in IGAD region**”.

The specific objective of the project is “to reduce the impact of TADs and zoonoses on trade in livestock and livestock products in the IGAD region”. The project has two expected results:

- i. Result 1: Animal Identification, Traceability and Health Certification Systems Improved; and
- ii. Result 2: Surveillance Systems and Disease Control Strategies Improved at national and regional levels.

Achievements in 2015

- 5,000 copies of the IGAD Regional Livestock identification and Traceability Systems (LITS) and Animal Health Certification (AHC) guidelines were printed and distributed to stakeholders.
- Development of the IGAD regional LITS policy framework initiated.
- Five different LITS Awareness Materials (booklets, brochures, banners, posters in English, and posters in Local languages in IGAD Member States) were developed, validated and 10,758 copies distributed to stakeholders.
- Radio messages on LITS awareness were developed, validated and translated into 13 local languages
- One regional and seven national awareness workshops were held to raise awareness of the main stakeholders involved in the implementation of LITS
- Stakeholders from seven IGAD Member States were trained in various aspects of LITS
- Experience sharing tour organized on LITS in Namibia with 24 participants from IGAD Member States.
- Skills of 24 laboratory personnel improved on diagnosis of four regional priority diseases through training at the Animal Health Research Institute in Cairo, Egypt.

- Training sessions were held in eight countries to improve the capacity of 174 national animal health personnel on epidemiological data collection, analysis and reporting using ARIS (7 countries) and mobile phone applications (1 country)
- Awareness raising undertaken on the importance of disease reporting (DR) through various interventions
- A meeting of the Eastern Africa Regional Animal Health Network (RAHN) was convened to share experiences and information on priority animal diseases in the region.
- National Surveillance Coordination Meetings were organized in eight countries to bring together surveillance stakeholders and improve coordination of national surveillance programs
- Training was provided on cross-sectional survey protocol for 179 members of the national survey teams in seven countries as part of the preparation to undertake survey activities in the IGAD countries
- Database developed for storage and analysis of cross-sectional survey data as part of the preparation to undertake the survey activities in the IGAD countries.
- Active surveys for CBPP, FMD, PPR and RVF initiated in Djibouti, Eritrea, Ethiopia and Sudan with the collection of blood samples and data as part the IGAD regional survey.
- Three IGAD Member States (Djibouti, South Sudan and Uganda) were technically supported to review and/or develop national strategies for the control and eradication of PPR and other small ruminant diseases in line with the IGAD regional framework developed in 2014.

Challenges:

- Delays in initiating priority livestock disease cross-sectional in 5 IGAD Member States due to the slow procurement of inputs (reagents and sampling materials) for disease surveillance and control.
- Slow response of suppliers of LITS materials delayed the implementation of LITS pilot activities in Ethiopia and Sudan.

8.4 Standard Methods and Procedures in Animal Health (SMP-AH) Project **SMP-AH project builds regional Sanitary and Phytosanitary (SPS) capacity to promote regional and international livestock trade**

Livestock from the arid and semi-arid lands in the Greater Horn of Africa (GHOA) are normally traded on hoof a practice that presents huge SPS compliance challenges for livestock trade due to wide occurrence of transboundary animal diseases (TADs). The compliance challenges faced by exporting countries in the GHOA often give rise to livestock trade restrictions by importing countries. Previous livestock trade bans by Gulf importing countries was provoked by Rift Valley fever (RVF) that costed the region an estimated amount of US\$109 million from February 1998 to May 1999 and US\$326 million from September 2000 to December 2002.

The United States Agency for International Development (USAID) supports AU-IBAR to implement the Standard Methods and Procedures in Animal Health (SMP-AH) project in 7 countries; Djibouti, Ethiopia, Kenya, Somalia, South Sudan, Uganda and Tanzania. It is implemented by three key partners namely, African Union-Interafrican Bureau for Animal Resources (AU-IBAR) the IGAD Centre for Pastoral Areas and Livestock Development (ICPALD) and the International Livestock Research Institute (ILRI). The project aims to build regional capacity in these countries for cooperative efforts in the management of TADs among the public and private sector partners. This is based on the

realization that the livestock diseases limiting livestock trade in the region are a regional problem requiring a regional approach. Through the project, countries in the GHoA are working towards attainment of higher and uniform SPS standards in order to promote livestock movement across countries for trade. The approach being used to realize regional disease prevention and control is the application of Standard Methods and Procedures (SMPs) program (guidelines), which defines minimum methods, procedures and tools for management and prevention of each of the priority TAD. Secondly, these regionally agreed disease management programs also act as collaborative and harmonization mechanisms (umbrella programmes) among the participating countries. Thirdly, the programs are used within each country on its respective devolved administrative units to manage animal diseases. Therefore, disease management for the priority TADs at national and the respective devolved administrative units are altogether aligned to the regional SPS standards, based on the SMPs, for prevention and control of TADs.

During 2015, the project built various SPS capacities, to promote the use of 11 SMPs for regional management of the specific TADs. As basis for regional prevention and control of the specific TADs, Chief Veterinary Officers (CVOs) in the region agreed to use them within the country and across the borders as collaborative programs among these participating countries. The implementation of the SMPs programs ensure that SPS measures applied across countries and within the countries to address the risks posed by transboundary animal diseases are benchmarked and harmonized to international standards. Consequently, country's and their respective devolved administrative units are working towards equivalent livestock health status that allow livestock to gain and maintain access to regional and international markets. Some of the results from the above are cross border agreements (MoU's) to guide collaborative efforts for the management of TADs and cross border vaccinations carried along the Kenya-Tanzania Border and Uganda-Tanzania Border. The project also built capacity by providing laboratory inputs to support the application of SPS measures such as diagnosis, testing and certification in order to promote health, productivity and livestock trade. In addition, the project supported the development and implementation of the Laboratory Standard Operating Procedures (SOPs) as guides to ensure tests and procedures carried out in the various laboratories in the region are harmonized, such that test results are acceptable among and between countries in the region.

The GHoA region exports about 10 million heads of livestock annually to Middle East and Northern Africa. To support this huge trade the project built capacity for quarantine stations (holding site for livestock) to implement SPS measures for livestock destined for export. Areas of capacity development were in animal welfare, quarantine procedures, testing, treatments and certification for export.

The project also built sanitary and phytosanitary (SPS) capacity for veterinary personnel from the GHoA to promote livestock health, productivity and trade through short courses on surveillance and management of veterinary services running for 13 and 17 weeks, respectively.

Given the success of the approach in the GHoA, demands of the same have been received from other regions in Central, Southern and West Africa. Plans are underway to develop similar programs for these regions whose ultimate goal is to coordinate and harmonize disease prevention and control in support of intra and inter regional livestock trade in Africa

8.5 The Enhancing Somali Livestock Trade (ESOLT) Project

The Enhancing Somali Livestock Trade (ESOLT) Project – **FED/2014/339-986** – worth 3 million Euro project is a joint initiative of the African Union Interafrican Bureau for Animal Resources (AU-IBAR) and the European Union (EU). The project is implemented by AU-IBAR in partnership with Food and Agriculture Organisation (FAO) of the United Nations for the benefit of the people of Somalia. The project is designed to consolidate the achievements and impacts of previous EU funded support to livestock trade and marketing in Somalia e.g. Improvement and Diversification of Somali Livestock Trade and Marketing (Terra Nuova 2005 – 2008), the Somali Livestock Certification project (SOLICEP) project (AU-IBAR 2008 - 2011) and the Livestock Emergency Interventions to Mitigate the Food Crisis in Somalia (LEISOM) project (AU-IBAR 2009 – 2011).

ESOLT seeks to sustainably promote trade in the export of Somali livestock and livestock products, whilst also ensuring exports of better quality and variety, to reach various regional and international markets in a reliable and consistent way and building their competitiveness. The growth and regulation of livestock trade is also expected to contribute to the resilience of livestock dependent households. The project is expected to achieve three results, namely:-

R1. Competitiveness of Somali livestock in international markets enhanced;

R2. Compliance to market requirements for trade in livestock commodities improved;

R3. Governance of Somali livestock value chains improved.

Key achievements in 2015

In 2015, the project supported the participation of 17 Somali representatives at the inter-regional conference to promote safe & stable livestock trade between the Horn of Africa & the Middle East in Dubai, United Arab Emirates between November 22nd and 24th November, 2015. Participants from Countries in the Greater Horn of Africa (GHOA), undertaking measures to enhance prevention and control of animal diseases.

The project supported the participation of **20** key Somali federal government officials and producers (20 in total) in the Milan Expo 2015. In addition, the project supported implementation of activities

8.6 Reinforcing the Participation of African Nations in the Standard Setting Process – (PAN-SPSO) Consolidation Phase

PAN-SPSO phase II (PAN-SPSO II) lays out an overall objective of contribution to poverty reduction through promoting international trade of agricultural products (including livestock and fisheries) in Africa; and 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.

Total Budget (in €): 2,500,000

Implementation period: 1/1/2012 to 31/12/2015.

Extensions: Approved rider on the agreement to extend the project for 12 months with an additional funding of Euro 500,000

Result areas, activities and achievements:

Result area 1: Relevant information related to animal health, plant health and food safety standards enhanced and made available to key stakeholders in African countries.

- A total number of 430 experts is in the ARIS database (experts in the field of animal health, plant health, food safety, experts in SPS matters and other fields of expertise as of year 2015. The list will be updated on a continuous basis. The access to the list is granted to ARIS 2 registered users.
- It will also be availed through electronic mail to MS to stimulate the need to engage experts on the list for relevant SPS work in the various countries. This is in consideration of limited access/availability of reliable internet connectivity at MS level.
- An online registration of experts has been uploaded at AU-IBAR website but not be used so far although tested by staff of AU-IBAR
- A number of SPS information was provided to MS by email and through an online SPS bulletin.
- These indicators will be difficult to track as presently ARIS 2 cannot provide the information on the visits/consultations of the platform.
- There is need to disseminate the information to MS and RECs on the availability of the database of experts.
- One brief produced and disseminated to MSs
- Four handbooks that provide guidelines for participation in the standard setting process of OIE, Codex, IPPC and in the meetings of the SPS Committee of WTO are online at the AU-IBAR website and printed for large dissemination. They exist both in English and in French languages.
- The Secretariat informed the Chief Veterinary Officers through four information emails on sanitary standards on the positions advised by the technical group of animal health experts on proposed changes of the OIE Terrestrial and Aquatic Codes and also on the common positions reached on the animal health standards of the OIE in preparation for the 83rd General Session of the OIE in Paris, France. The Secretariat also informed the Codex contact points through 11 information emails on the positions advised by African food safety experts on Codex standards proposed for adoption during the Codex committees' sessions and the session of the Codex Alimentarius Commission.

Result Area 2: Consultation and coordination mechanisms established for building common positions on sanitary and phytosanitary standards at national, regional and continental levels.

The three international standard-setting organizations (ISSOs) recognized by the SPS agreement of WTO are OIE (for sanitary standards), IPPC (for phytosanitary standards) and Codex (for food safety standards). These ISSOs convene annual general sessions during which Member Countries' delegates discuss and adopt proposed standards. Prior to these meetings, the African Union organizes continental meetings of OIE Delegates, Directors of Plant Health Services and National Codex Contact Points to prepare and agree on common positions on the proposed draft standards for adoption. The common positions are based on the advice of African experts who meet in advance in order to prepare an analysis on the proposed standards and then propose technical comments with a scientific background.

In 2015 the African OIE Delegates adopted 25 common positions on OIE standards that were presented during the 83rd General session of the World Assembly of OIE Delegates. This exercise is now well mastered by the OIE Delegates and is being improved every year.

During the 83rd session were held the general elections. African delegates built coalition with EU and elected South Africa to the Presidency of the Council, Uganda as member of the Council, South Africa as president of the scientific commission and DRC as member, Cote d'Ivoire and Tunisia as members of the Terrestrial Code, Morocco as member of the Biological Standards, and Zimbabwe as a member of the Aquatic Code.

For Plant health, no meeting has been organized under the project in 2015 as the donor has decided no longer to support the plant health component.

Effective participation in the General session of the Codex Alimentarius Commission (CAC) necessitates good preparations and attendance to the Thematic Codex Committees. Since 2009 the African Union has sponsored experts meetings on 9 Thematic Codex Committees to prepare technical comments on proposed Codex papers. The decisions on the advancement of the standards in the Codex Committees will be made during the meeting of the Codex Alimentarius Commission.

Since 2009 AU-IBAR and the Coordinator of the Codex Coordinating Committee for Africa (CCAfrICA) have organized annual continental meetings of Codex Contact Points to prepare position papers on specific items of the agenda of the CAC. The preparatory meeting held in Ouagadougou, Burkina Faso in June 2015 led to an agreement by MS on common positions on Codex standards for the 38th Session of CAC.

During the 38th session of the CAC, the performance of African delegates in presenting the common positions has been very good and very professional. Eighty eight (88) common positions on the agenda items of the 38th session of the CAC were presented by the African delegates.

The Continental meetings of African delegates on common positions follow the annual meetings of the three ISSOs. The meetings are held at least one month prior to the global meetings.

Two continental coordination meetings on animal health and food safety were organized in May 2015 and June 2015 respectively. The common positions were successfully presented during the general sessions.

No regional meeting on common positions was organized in 2015.

The project has organized in March and October 2015 two workshops on "Improving effective participation of Africa in the WTO SPS Committee" for AU MS SPS delegates in Geneva, Switzerland. The workshops aimed at preparing the delegates to coordinate their positions on the agenda items of the SPS Committee sessions for effective participation in the discussions.

On issues related to specific trade concerns, many African countries submitted their cases to their trading partners and bilateral discussions were successfully conducted and solutions were found to regain market access.

Three technical meetings of animal health experts were organized in April, July and December 2015.

African Experts on Codex technical committees met in nine Codex meetings organized by AU-IBAR in the scope of the project PANSPSO.

The technical meetings of experts aim at providing relevant scientific advice for national, regional and continental common position building and for decision making by the Delegates.

No additional observer. Only EAC is yet to submit requests to WTO, and the three ISSOs

Result Area 3: Technical capacity of African countries to develop standards and science-based arguments strengthened

One workshop on the transparency principle and participation in the activities of the WTO SPS committee was organized in August 2015 for African SPS delegates in Nairobi, Kenya. Forty participants from 16 countries attended the workshop.

The project organized a workshop on capacity building in Agriculture Trade issues in Nairobi, Kenya. Participants at the workshop were officials of ministries in charge of trade, national notification authorities, national information points, and actors performing important functions relating to sanitary and phytosanitary issues in their country or region and who participated in the workshops and trainings organized by the AU-IBAR and the WTO.

The total number of participants was 35 from 22 African countries and from WTO, AU Office in Geneva and AU-IBAR. His Excellency Phil Hogan, EU Commissioner for Agriculture and Rural Development addressed the workshop participants and officially opened it.

One training of trainers was done for Ethiopia in Addis Ababa and the national SPS Committee was formed.

Result Area 4: Participation of relevant public and private stakeholders in standard setting processes strengthened through establishment or reinforcement of intersectoral coordination mechanisms (SPS committees)

At this period of reporting the national SPS Committee of Burundi is functioning. The members meet regularly under the funding of the government.

The national SPS committee of Ethiopia was created in December 2015 in Addis Ababa.

The national SPS Committee of Comoros was created in 2015.

Among the 43 national SPS committees created, only Guinea, Burkina Faso, Gambia, Burundi, Senegal and Togo have a legal act creating them.

AU-IBAR conceptualized an exit strategy for national SPS committees and it has been rolled out in Cote d'Ivoire, Ethiopia, Comoros, and Madagascar in 2015.

Result Area 5: Decision makers get sensitized on the necessity of adequate involvement and investment of countries in the Standard Setting Process through strong advocacy mechanism

In August 2015, the Project Coordinator participated in sensitization session of Panafrican parliamentarians in the margins of the annual opening of the Panafrican Parliament in Midrand, South Africa.

Members of the Panafrican Parliament and Permanent Secretaries of national governments sensitized on the importance and necessity of investing in SPS area during a workshop held in Nairobi
No policy paper produced in 2015

Conclusions:

a) *Major milestones achieved at the end of the project:*

Number of common positions developed

- Animal Health (AH): 25
- Food Safety (FS): 88 on Codex standards at the Codex Alimentarius Commission (CAC)

Number of common positions adopted

- AH – 22
- FS – 78 adopted at the CAC

The Exit strategy rolled out in five (5) countries is expected to engage the governments in addressing the more effective participation of national SPS experts and delegates in ISSOs and SPS Committee meetings and in promoting compliance to adopted standards.

Increased market access of African agricultural produces is a result of improved SPS compliance which is a result of effective participation in standard setting processes. Reinforcement of SPS compliance in MS has been achieved through emerging AU projects with focus on national SPS compliance particularly of trade sensitive TADs. E.g. STSD, RAHS, ESOLT (ENHANCING SOMALI LIVESTOCK TRADE)

In term of capacity building, the second phase of the project has built on the results of the first phase in organizing training of trainers in 2012 at the level of regional economic communities (RECs) and in expanding the training to new participants. The trainings include the standard setting processes of the three international standard setting organizations (ISSOs), the provisions of the SPS Agreement of the World Trade Organization (WTO), the negotiation principle, the dispute settlement, etc. At national level, the same training topics are conducted whenever there is a meeting of the national SPS committees. This activity of capacity building is likely to be sustained in case the government ensures the functioning of the national SPS committee. At regional level, the Secretariats of the RECs include the capacity building in their SPS frameworks to ensure sustainability. AU-DREA is in the process of establishing a continental SPS Committee with the RECs in order to mainstream the SPS agenda on the continent.

In 2015, the training focused on the provisions of the SPS Agreement at the continental level, on one TOT at the continental level (at AU-IBAR) and on training during the meetings of national SPS committees (5 countries).

With regard to the SPS information, the national SPS committee is given the responsibility to collect the information and to disseminate to the members as this activity is transferrable to MS and it is in activities of the exit strategy.

Standard setting processes of the World Organization for Animal Health (OIE), of Codex Alimentarius, International Plant Protection Convention (IPPC phytosanitary) are accessible to stakeholders through the four handbooks developed and posted at AU-IBAR website. The same for the participation in the activities of the World Trade Organization SPS Committee.

b) Likelihood of achieving project objectives and results:

The implementation of the endorsed mechanisms on coordination of positions is going on and is improving in the three sub-sectors. The project has now embarked since November 2013 on the workshop for national notification authorities and national enquiry points on the improvement of the participation of African delegates in the meetings of the SPS Committees of WTO. The issue of sustainability at the continental level will be assured by AUC but at the country level the governments should fully support the national SPS committees. The rolling out by AU-IBAR of the exit strategy on national SPS committees has shown an engagement of the governments that should be transformed in effective allocation of national budget for their functioning. In bringing into reality these engagements at continental, regional and national levels, the project is likely to achieve the expected results in terms of effective and sustained participation in standards setting processes and in SPS activities.

At the regional level (RECs), the sustainability of the PANSPSO activities within the region by the Secretariats of RECs will vary from REC to REC. This will depend mainly on the SPS expertise available at the Secretariat and the priority given to SPS activities by the decision makers. Most of the RECs have based their integration through the trade agenda and free movement of goods and people and therefore investments are likely to address issues that are hampering free-trade and specifically SPS and cross-border issues.

The project PANSPSO is the first project to implement activities with the RECs and therefore the experience was very challenging during the first and the second phase. The Secretariats of RECs were represented at the project steering committee (PSC) as members.

In most of the continental meetings organized by the project, few RECs attended. The ownership of the project by the RECs is weak while it is very strong at MS level. This has brought the project coordination unit (PCU), to work with MS but bringing on board the RECs, the reason being that the participation in the meetings of the three ISSOs and in the SPS Committee is mainly for countries which are the contracting parties and have the right to make decisions on the basis of one member one voice. The African Union and the RECs are observers and can make only suggestions.

AU-IBAR will still continue to bring on board the RECs during the implementation of the exit strategy at national level in order to open a window for countries to call RECs to take up the activities at the end of the project.

c) Selection of beneficiaries

The beneficiaries in this project are African Member States, regional economic communities, agricultural producers, processors and exporters, private sector, civil society, researchers and scientific experts.

The consultation and the interaction among these stakeholders will enhance awareness and bring on board the decision-makers.

d) *Impact on poverty reduction*

Adequate knowledge and practice of sanitary and phytosanitary standards help African nations to promote international trade in agricultural products, which eventually improve the livelihoods of farmers and income of governments and thus impact significantly on wealth creation

e) *Impact on gender*

The improvement of the application of the sanitary and phytosanitary measures will impact positively on the health of all segments of the population with the availability of safe and quality food. The value chain actors including women, youth and the disabled will benefit from the distribution of safe food. Women have a significant presence in the market systems in Africa. The participation of women in standard setting meetings is increasing especially in the food safety (street food distribution) and plant health areas.

f) *Impact on environment*

Implementation of SPS measures in combination with good production practices and good implementation of value chain system will contribute to the protection of the environment.

g) *Impact on institutional capacity*

The contribution of African countries in the adoption of standards will stimulate legislative changes to facilitate investments in the infrastructure required to comply with SPS measures and consequently reorganize/restructure the SPS offices for adaptation and suitability.

Recommendations:

Advocacy and communication should raise more awareness on the role of Member States for the sustainability of the effective participation of African delegates in standards setting organisations. RECs should play their role in supporting and mobilizing the Member States and be more active in coordinating SPS matters with their member countries. AU-IBAR and AU-IAPSC should increasingly secure funds under their respective budgets to sustain their mechanisms for building common positions at continental level while RECs should ensure regional views are taken on board in a harmonized perspective. AU-DREA, through the CAADP, should also ensure that the SPS agenda of the African Union is well implemented in supporting both sustained and effective participation of African nations in standard setting organizations and SPS Committee of WTO and increased compliance with adopted standards through Panafrikan programmes.

The final aim to active participation in standard setting processes of oie, codex and ippc is to own the adopted standards in order to meet the trade requirements of partners and to implement the sps agreement of wto. The African Union Commission and Member States are strongly recommended to set mechanisms to sustain the participation in standard setting activities and to take measures for compliance to sps standards. Therefore this project should be followed by a project specific to compliance to food standards of animal and plant origin.

The project is on track but should put more emphasis on the sustainability aspect after the conclusion of the project.

8.7 Reinforcing Animal Health Services in Somalia (RAHS) Project

Livestock is the mainstay of the Somali economy and about 70% of the population in Somalia are dependent on livestock for their livelihoods. It provides food, employment and incomes and contributes 40% of the GDP and 80% of the foreign currency earnings excluding cash remittances from Somalis in the diaspora. The export of live animals, hides, skins and chilled carcasses generates the foreign currencies for importation of food items and thus contributes significantly to ensuring food security in Somalia as the country depends on commercial food imports and food relief programmes for more than half of its cereal requirements to feed its population. Livestock marketing and trade also generate revenues for local administrations, through taxation of livestock destined for trade. In 2015 Somalia exported 4,946,602 sheep and goats, 294,987 cattle, 70,420 camels and 2,200,203 hides and skins through the ports of Berbera and Bossaso. However, the livestock export trade is constrained by the chronic and persistent shocks afflicting Somalia including political instability, conflict, civilian displacement, cyclic droughts, floods and outbreaks of transboundary animal diseases within Somalia and in the neighbouring countries.

The Somali line Ministries responsible for Livestock development and the privately operated Livestock Professional Associations do not have sufficient capacity to respond to these challenges in a timely and effective manner without external support.

The project for Reinforcing animal Health services in Somalia (RAHS) aims to improve the quality, access and sustainability of animal health services in Somalia in order to better assist livestock dependent communities to safeguard their most productive assets against animal diseases and to assure continuity of the vital livestock export trade. Safeguarding livestock health and sustained household incomes from the sale of livestock and livestock products are key ingredients for enhancing the resilience of these communities in coping with crises.

The Overall Objective of RAHS is: To improve the livelihoods and resilience to natural disasters and shocks of livestock dependent households in Somalia. The Specific objective is to enhance the quality, access and sustainability of animal health services in Somalia

The project has three expected Results:

Result 1: Capacity of Public institutions to deliver and regulate animal health services strengthened

Result 2: Public, private and community partnerships in animal health services delivery strengthened

Result 3: Surveillance and control systems for trade sensitive diseases strengthened

Achievements in 2015

Support was provided to the Ministry of Livestock, Forestry and Range of the Federal Government of Somalia and the Ministries responsible for Livestock in the Puntland and Somaliland States to review and update the existing respective livestock policy and legislative documents as well as contingency plans for some priority diseases. The following documents were reviewed by Policy Hub task-forces appointed by the respective Ministries:

Somali Federal Government:

1. The Federal Government of Somalia Livestock Policy
2. The National Veterinary Code
3. Livestock Disease Contingency Plans for CCPP, CBPP, RVF, PPR, FMD and HPAI

Somaliland:

1. The Somaliland livestock policy
2. The Somaliland Veterinary Code
3. The Somaliland Dairy act

Puntland:

1. The Puntland Livestock policy
2. The Puntland Livestock strategic plan
3. The Puntland Diseases emergency Preparedness plan
4. The Puntland Veterinary Code
5. The Puntland Animal Welfare Act
6. The Puntland Meat Inspection and Control Act

To enhance the regulation of animal health services delivery, the project provided support to the Ministry of Livestock, Forestry and Range (MLFR) of the Federal Government of Somalia to convene a workshop in Mogadishu to sensitize parliamentarians to support the enactment of a draft Veterinary Code. This code was subsequently submitted to the Parliament of the Federal Republic of Somalia for debate and enactment.

The performance of veterinary regulatory functions was improved in the Puntland and Somaliland states, through the training of 17 members of established Veterinary Boards on the performance of regulatory functions and financial and logistical support for the Boards to undertake activities to enforce the rules including the screening of the technical competence of new graduates, the registration of animal health service providers, inspection of veterinary drug outlets, inspection of quarantine facilities and assessment of the standards of veterinary training institutions and livestock export quarantine stations. The Boards also enhanced public awareness on the functions of the Boards and the rules governing improved animal health services delivery by disseminating messages through radio broadcasts and billboards.

During 2015, a total of 19 community dialogue sessions were convened for targeted pastoral communities to discuss the animal health service delivery constraints affecting their communities and articulate their needs for improved animal health services delivery. Subsequently, joint fora were convened between the communities and animal health service providers in the areas to propose solutions for enhancing collaboration between the communities and the public and private sectors in improving animal health services delivery. The project subsequently supported the training of 24 Community animal health workers to enhance community access to animal health services.

Two Livestock Professional associations (the Somaliland Veterinary Association (SoVA) and the South West Livestock Professional association (SOWELPA)) undertook needs assessments and conducted workshops to identify the most appropriate interventions for improving their capacity for animal health services delivery with support from the project.

Disease surveillance and reporting in Somalia improved following the activation of four disease surveillance teams and the resumption of operations of the Epidemiology and Data Management Units (EDMUs) in Mogadishu, Hargeisa and Garowe. Data capture equipment was provided for the three EDMUs to enhance their capacity for compilation, analysis and reporting of livestock diseases. The EDMUs compiled and provided monthly livestock disease reports to the Somalia OIE Delegate who in turn reports to AU-IBAR through the Animal resources Information system (ARIS). The disease surveillance teams were operational and investigated reported disease outbreaks with technical, financial and material support from the project. The surveillance for Rift Valley fever (RVF) in the Nugaal Valley in Puntland and the Shabelle flood plains in Central Somalia to facilitate the early detection of possible exposure to RVF virus activity was strengthened through the routine sampling of selected sentinel flocks undertaken by specific surveillance teams supported by the project. The field visits showed that the flocks had not been affected by the disease despite the occurrence of heavy rains in the areas. A total of 403 samples were collected from sheep and goats for serological testing.

The established Central Veterinary laboratories in Hargeisa and Galkaiyo were supported financially and logistically to undertake sample processing and testing. Refresher training sessions were conducted for laboratory technicians at the two laboratories by senior laboratory staff who had previously undergone intensive training organized by another AU-IBAR project (SMP-AH). The rehabilitation of the Galkaiyo Central Veterinary Laboratory (GCVL) was undertaken by the Puntland Ministry of Livestock and Animal Husbandry with support from the RAHS project. The rehabilitated laboratory stocked with laboratory kits, reagents and chemicals was officially opened on 8th May 2015 by the Puntland Vice President and the Governor of Mudug region. Arrangements were initiated with the Federal Government Ministry of Livestock, Forestry and Range and the Ministries in the Puntland and Somaliland States for the rehabilitation or construction of a total of four Satellite veterinary laboratories in different locations to enhance access to laboratory services

The disease surveillance and laboratory diagnostic activities contributed to the strengthening of the capacities of the line Ministries to undertake disease surveillance and outbreak investigations.

A review of the animal disease surveillance and control systems in different areas of Somalia was undertaken with recommendations made for their improvement. The review reports by the Consultant were shared with the stakeholders. Validation convened in Mogadishu, Hargeisa and Garowe provided inputs and validated the findings of the Consultants in the respective areas. Task-forces of Somali livestock professionals further refined the reports to reflect their inputs during the validation workshops.

A total of 37 Veterinary Inspection staff identified in consultation with the federal and State ministries of Livestock were supported to undertake the routine inspection of trade animals at key inspection points along the marketing chains. The inspectors submitted monthly livestock inspection reports to their respective line Ministries.

The project provided support to the Minister of Livestock, Forestry and Range of the Federal Government of Somalia and the OIE delegate for Somalia to attend and participate in the international conference organized by FAO and OIE to launch the Global strategy for the Control and Eradication of peste des petits ruminants (PPR). The conference was held in Abidjan Cote d'Ivoire from 31st March

to 2nd April 2015. All the Member States participating in the Global conference (including Somalia) pledged to support the implementation of the Global PPR strategy through the implementation of national strategies that are aligned to both the Global and appropriate regional strategies for combatting PPR.

Financial support was provided for the Somalia OIE Delegate to participate in the 83rd General Session of the OIE from 24th to 30th May 2015 that were held in Paris, France to set animal health standards for trade in animals and animal products. The project updated payments for Somalia's contribution to OIE for 2013, 2014 and 2015.

Challenges:

Insecurity over large parts of central and Southern Somalia prevented ready access to field locations for implementation of activities.

Difficulties in the repair and maintenance of laboratory equipment in Somalia due to the absence of appropriately trained maintenance technicians.

8.8 African Reference Laboratory with Satellite Stations for the Management of Pollinator Bee Diseases and Pests for Food Security (Bee Health Project)

Introduction

The decline in honeybee colonies in Europe and the USA commonly referred to as the colony collapse disorder (CCD), has alarmed governments, conservationists and the private sector. The possibility and effects of a similar decline in Africa would seriously harm the livelihoods of millions of rural resource-poor farmers, as well as commercial farmers. It is against this background that the African Union-Interafrican Bureau for Animal Resources (AU-IBAR) on behalf of the African Union Commission (AUC) signed with the European Commission (EC) an agreement for the implementation of a project title "African reference laboratory (with satellite stations) for the management of pollinator bee diseases and pests for food security" project. This project is implemented by AU-IBAR and icipe, and the AU-IBAR's components (results 3 and 4) are implemented within the strategic programme 2 on Animal Resource Production System and Ecosystem Management of the institutions 2014-2017 strategic plan.

Project Objectives

The overall objective of the proposed action is "To enhance the contribution of bees and other pollinators to food security and improved livelihoods in Africa".

The purpose of the action is "To improve bee products and pollination services through reduced incidence of bee diseases and pests, enhanced markets access, and bee health institutional environment".

Within the framework of the Comprehensive African Agriculture Development Program (CAADP), AU-IBAR and icipe are implementing a project aiming at improving honeybee production and pollination services through reduced incidence of bee diseases and pests, enhanced markets access, and bee health institutional environment. This initiative by AU-IBAR and icipe for research, development, advocacy, capacity building and strategic networking for honeybee diseases and pests in Africa proposes a coordinated action along the bee health service chain. The project will on the

one hand established four regional satellite laboratories in west, central and East Africa and a central reference laboratory at icipe Kenya, to generate new knowledge on bee diseases and pests and their control measures for the Farmers' Federations and beekeepers at large.

The project overall strategy is focusing on developing linkages between participatory bee health management (PBHM) and beekeeping technology, pollination services, market access and bee health policy and legislation at both national, regional and continental levels has four expected results and main activities (two for icipe our implementing partner and two for AU-IBAR).

Achievements 2015

Key result area: Sustainable utilisation, management and conservation of animal resources and their ecosystems enhanced.

Result 3: Enhanced awareness on the honeybee health and conducive environment for enhanced bee disease control, access to markets, and consumer safety created.

Activity 3.1: Organize effective multi-stakeholder partnerships and mechanisms for the development of policy, institutional and market options for bee health and pollination services for food security

The **African Apiculture Platform (AAP)** had in Harare his 2nd General Assembly composed of AU member states, others organs organized around five constituencies or clusters: Public sector; Private sector; Civil society; Beekeeping Associations and Research/Training/ and Academia. The Meeting was attended by 140 participants from 49 member states with 5 states namely the Republic of South Africa, Ethiopia, Sao Tome, Mozambique and Mauritania not represented. MS at this function validated many documents (regional policy framework on honey production, bee health & pollination services for East, central and West Africa, follow by discussion on key policy issues from the 5 regions of Africa; report on the Impact of environmental stressors on honey production, pollination services and bee health, discussion on the common regulation and legislation for pesticides management in Africa). MS unanimously decided to increase to number of the EC member from 19 to 27 and to have one facilitator by region with role to animate the platform at regional level and requested MS to fast track the launching of the National Apiculture platform (NAP) and Regional Apiculture Platform (RAP).

New Executive Committee (EC) Composition

The EC is composed of 27 members who were elected by the 2nd General Assembly in Harare. This includes:

- Public sector (5) seats;
- Private sector (5) seats;
- National beekeeper associations (5) seats;
- Regional association (2) seats;
- National civil society (2) seats;
- Regional civil society (2) seats
- Research (2) seats;
- Training and academia (2) seats;
- Observers (2) seats;
- Regional facilitators (each region nominated between his member one facilitator).
- The Working Groups (WGs)

Working group held his inaugural meeting in Yaoundé, Cameroon and the overall objective of the meeting was to establish the status of the knowledge on Honey Production, Bee Health and Pollination Services in Africa by clearly state: what do we know? What we don't know and who can address that and we are convince that will not only improve policy and institutional environment, enhance coordination, and advocacy for honeybee health and other pollinators but also boost the honey production on the continent. The four specific objectives of the workshop were to: validate the rules and procedures of the WGs; develop a roadmap and action for the implementations of priority activities in 2016; propose the ToRs for the formulation of the project exit strategy and review the draft proposal prepare by icipe and AU-IBAR for the next phase of the bee health project. Other achievement for this meeting was census of ideas of priority issues for beekeeping in Africa:

The Support Team

AU-IBAR coordinates the support functions to the **African Apiculture Platform (AAP)**. This is a preferred model for a conventional Secretariat that would require substantial human resources and funding to establish, run and maintain itself. A Support Team would allow the AAP to utilise energies and resources among members and to build sustainability beyond the AU-IBAR bee funded project.

Activity 3.2: Develop policy and regulatory frameworks for sustainable bee health, apiculture and pollination services at national, regional and continental levels in tight connection with OIE and RECs

The stock taking exercise and the assessments of policies and regulatory frameworks have been completed in 33/54 AU MS: 4/9 for Central Africa (Central Africa Republic, Cameroon, Burundi & Chad); 9/14 for East Africa (Djibouti, Eritrea, Kenya, Madagascar, Maurice, Rwanda, Seychelles, South Sudan & Uganda); 4/5 for Northern Africa (Algeria, Libya, Mauritania & Tunisia); 5/10 for Southern Africa (Botswana, Lesotho, Malawi, Swaziland & Zimbabwe); and lastly 11/15 for West Africa (Benin, Cap Verde, Cote d'Ivoire, Gambia, Guinee, Niger, Nigeria, Senegal, Sierra Leone & Togo).

Results show that, only 6 (six) AU-MS: Tanzania, Rwanda, Kenya, Ethiopia, South Africa and Zimbabwe has policies and regulatory frameworks on apiculture or bees, while some only have draft policies and draft regulatory frameworks that are at diverse stages of discussion with various stakeholders and many others are still on thinking stage.

Three (03) regional policy framework (Central Africa, East Africa and West Africa) have been developed and validated during this period, gaps and priority policy intervention entry points/options to enhance honey bee production, trade of honey and bee hives products, and pollination services were identify with key issues to be considered in a regional policy framework, policy options and strategy; best practices and lessons learnt discuss for all the regions.

Activity 3.3: Carry out environmental impact study on bees and pollination services.

As achievement of this activity, the document on the impact of environmental threats and stressors on honeybee, beehive products, bee health and pollination services in Africa that discussed the adaptability of bees on the continent, changes in the ecosystem arising from deforestation, climate change, use of fertilizers and pesticides and their effects on disease incidences and the biological cycle was discuss and validated. Fifteen (15) policy briefs on all those issues are ready to be printed.

Activity 3.4: Enhance capacities for timely collection, analysis and sharing of accurate sanitary information; this activity will consist of strengthening the capacity of National veterinary services for early detection, timely notification/reporting, prevention and control of bee diseases

The 1st Continental Symposium on honey production, bee health and pollination services in Africa was held in Cairo in September 2016. This symposium provided an opportunity for highlighting recent developments, exchanging knowledge and new ideas between MS representatives of the relevant ministries, CVOs, beekeepers, representatives of national beekeepers associations, scientific research community, legal experts on honeybee production, bee health and pollination services. This was a good opportunity for: knowledge enhancing and awareness creation in AU-MS on honey bee breeding, genetics & physiology, honey bee disease and pests current state of knowledge and future research priorities; impacts of environmental stressors on bees, conservation, ecosystems services, and bee policy. Another achievement from this 1st symposium is 28 papers show cases innovation with African base solutions were published in the special bulletin of Animal Production and health in Africa: <http://www.au-ibar.org/bulletin-of-animal-health-and-production-in-africa>.

The last achievement for this activity is the e-Training modules (Bee diseases and pests control, Bee health, Honey production & safe handling of beehive products, Pollination services and Honey bee technology) that was done and are on the website: <http://www.au-ibar.org/bee-resources/bee-trainings>:

Activity 3.5: Strengthen Africa's participation in standard setting organizations (OIE and Codex Alimentarius) on standards setting process for bees and bee products.

Work in the current reporting period has focused on identification of three groups of experts (Bee products residue, Bee health, Pesticides) and the production of a strategic concept paper for the common position to ISSOs to strengthen Africa's participation in standard setting organizations (OIE and Codex Alimentarius) on standards setting process for bees and bee products was developed.

Activity 3.6: Identify market constraints and opportunities for honey and hive products and investment opportunities of bee products and pollination services

Discussion on key market constraints and opportunities for honey and others beehive products, and investment opportunities for bee products and pollination services in Africa was also conducted and the value chains have been pre-assessed in Ethiopia, Madagascar, Tanzania, Algeria, Cameroon, Zambia, Sudan and Egypt. From the assessment of the honey value chain, market constraints faced by producer groups often include problems arising caused by the remoteness of producers from suppliers, traders and technical advisers, the often-small volumes of products, and difficulties of obtaining pre-finance for honey purchase, packaging and marketing. It was also observed in many regions that the marketing system of honey faces various constraints. Most of the local markets are far from the beekeepers and are presenting difficulties in accessibilities. Another constraint includes the need for candidate exporting countries to provide Honey Residue Monitoring Plan who can only be done by an International Accredited Laboratory at prohibited costs.

Result 4: Capacity of beekeepers/farmers' federations, RECs and NARS on bee health management systems and policy options strengthened

Activity 4.1: Establish or strengthen producer organizations for input supply management and cooperative marketing.

As achievement for this activity, criteria to support producer organization was developed and agree with various stakeholders and 11 over 28 proposals from 23 AU-MS were selected for funding to strengthen beekeepers producer organizations for input supply management and cooperative marketing. All those support aims:- (i) Enhance provision of pollination services, (ii) Increase the production of Honey, (iii) Increase income from beekeeping activities, (iv) Protect the environment by reducing deforestation and regeneration of forests/vegetation, (v) Enhance access to education by the children, (vi) Promote a culture of economic empowerment through productive assets especially for the youth (vii) Promote technology transfer and skill development, (viii) Create jobs for the youth and (ix) Promote environmental education and generation of knowledge on the local floral calendar.

Activity 4.2: Enhance the capacity of beekeepers associations to acquire information and utilize improved bee health technologies/innovations.

Five (05) regional training on beekeeping technology, honey production & post-harvest handling of beehive products. During those training 128 ToTs representatives for national beekeepers associations were trained and their repartition by region is as follow: East Africa: 19 (8 Women & 11 Men); Central Africa: 45 (14 Women & 31 Men); Northern Africa: 18 (7 Women & 11 Men); Southern Africa: 22 (8 Women & 14 Men) and Western Africa: 24 (9 Women & 15 Men). All those training had fifth thematic areas namely: Beekeeping technology, improved beekeeping techniques, Beekeeping-crops innovative techniques, Popularization of Bee data base and Field practicals.

Activity 4.3: Develop a database on pollination services and bee health research and development outputs;

Work in the current reporting period has focused on data and information needs assessment that was done and the creation of three (03) Bee modules that developed in ARIS2. The three modules are: Bee Health, Production, Marketing Technologies and Pollination Services & biodiversity conservation. Also a references database on bee health and pollination services is now accessible on ARIS 2. Some improvement on bee diseases reporting has been observed from MS.

Activity 4.4: Strengthen the capacities of NARS and RECs to analyze the value chain of pollination services and priority beehive products.

Five (05) regional training on beekeeping technology, honey production & post-harvest handling of beehive products. During those training 74 Extension Workers & NARS ToTs were trained and their repartition by region is as follow: East Africa: 11 (4 Women & 7 Men), Central Africa: 26 (6 Women & 20 Men), Northern Africa: 10 (3 Women & 7 Men), Southern Africa: 12 (3 Women & 9 Men) and Western Africa: 15 (6 Women & 9 Men).

Activity 4.5: Develop and promote bee health knowledge management systems through bee health value chain analysis

Creation of African Bees-d-group named “Bee-Net Africa” and the ongoing work on the production of a document on the Status of Apiculture in Africa. This d-group will support information sharing and dissemination, stakeholder’s consultations. Bee project website is <http://www.au-ibar.org/bee-project> was regularly up-dated during this period with the AU-IBAR social network Bee Net Africa <http://www.au-ibar.org/net/> and many discussions are ongoing on the d-group on honey production, bee health & pollination services.

8.9 Strengthening institutional capacity to enhance governance of the fisheries sector in Africa - FISHERIES GOVERNANCE PROJECT

Result area 1: Institutional capacity and regulatory frameworks for sustainable fisheries management improved

I.1. Enhance coordination in the fisheries sector for expeditious development of the sector

An African Platform for Regional Institutions in Fisheries, Aquaculture and Aquatic Systems (APRIFAAS) was established. This platform provides a mechanism for synergies and coordination of programmes amongst regional institutions for interventions in the sector mainly at regional levels.

Technical cooperation between Economic Community of Central African States (ECCAS) and Fisheries Committee for Central Gulf of Guinea (COREP) was formalized. This agreement recognized COREP as the specialized technical agency of ECCAS in fisheries and aquaculture matters for Central African region.

The project has facilitated dialogue between Economic Community of West African States (ECOWAS) and the two regional institutions (Sub-Regional Fisheries Commission (SRFC) and Fisheries Committee for West Central Gulf of Guinea (FCWC)) in West Africa towards establishing linkages between these regional institutions.

a. Adoption of the African Fisheries Reform Mechanism (AFRM)

AFRM, an AU-IBAR led initiative, is adopted as a mechanism to deliver the reforms in African fisheries and aquaculture during the inaugural meeting of the AU Specialized Technical Committee (STC) on agriculture, rural development, water resources and environment.

The AFRM is constituted of three main organs: Executive Committee, Advisory, CAMFA Secretariat and Working Groups.

b. Operationalization of the Governance organs of the AFRM

- The terms of reference and criteria for membership composition of the Executive Committee and Advisory Council of the AFRM was adopted by Stakeholders
- Members of the AFRM WGs supported the formulation of Guide for the implementation of the PFRS

1.2 Strengthen institutional capacity and systems for effective MCS to combating IUU

The project carried out assessment of national MCS systems and regional MCS centres and initiatives in West Africa, Central Africa, Indian Ocean Region that identified short, medium and long terms requirements for their strengthening, establishment or operationalization. The project also conducted assessment at national levels, including the Gambia, Cote D'Ivoire, Ghana, Gabon, Cameroon, Madagascar, Mauritius etc. The assessment identified status of MCS and gaps.

The framework for regional cooperation on MCS in the West African region was validated by stakeholders. The manual for fisheries observers developed and template for regional vessel register were validated by stakeholders in West Africa.

1.3 Support effective participation of African Countries in RFMOs for sustainable high sea fisheries management

1.4 Promote coherence and harmonization in fisheries policies and regulatory frameworks

The project developed a guide for implementation of the policy framework and reform strategy as strategic pathway to ensuring fisheries and aquaculture policy coherence for member states and regional economic communities that would enable securing of increased food security, livelihoods, economic growth and wealth creation.

1.5. Ratification/Adoption/Application of International Instruments for Sustainable Fisheries Management

1.6 Strengthen capacities for stock assessment, ecosystem based surveys and fisheries statistical data collection

1.7 Enhance capacities for fisheries diseases surveillance and control, timely collection, analysis and sharing of accurate sanitary information and biosecurity

1.8 Strengthen capacities and promote regional arrangements for improved negotiation of fisheries access arrangements

The project carried out review of past and ongoing Fisheries Access Agreement (FAA) in West and Central Africa and packaged and lessons learnt and best practices in the negotiation and implementation of fair and equitable FAA were formulated. A framework for regional negotiation of access agreement for shared stocks has been developed.

1.9 Strengthen Capacities for Access to Market

The development of African positions on aquatic animal health codes of World Organization for Animal Health (OIE) and the Codex committee report on fish and fishery products in Codex meeting were supported and facilitated for presentation in the relevant global forums.

The capacity of member states on fisheries improvements programmes towards MSC (Marine Stewardship Council) certification and resource sustainability as well as on African Eco-labelling mechanism was strengthened

Result area 2: Sustainable fisheries management in small-scale fisheries including inland water bodies enhanced

2.1 Strengthen policies and development strategies for inland water bodies

The fisheries management and development issues for policy formulation and management plans were identified and proposal developed for improving policies and strategies for three water bodies in West and Central Africa (Lake Chad, Niger River and Senegalese river).

2.2 Develop fisheries management plans for capture inland water fisheries

Gaps in existing fisheries management plans have been identified and essential guideline for strengthening and developing regional fisheries management plan developed for the three inland water bodies (Lake Chad, Senegal and Niger rivers).

2.3 Strengthen stakeholder organization, participation and promotion of community-based management of small-scale fisheries

Towards enhancing their effectiveness and participation in fisheries management decision-making, the project supported the formulation of a framework for establishing continental platform for Non State Actors (NSAs). Also action plans for establishing regional NSA networks. These initiatives would enhance coordination of NSAs and their effective participation in fisheries management and aquaculture development.

2.4 Strengthen capacity for improved management practices, including Turfs, Co-management

The project carried out a scoping mission which review the status of establishment of establishment and governance frameworks for Marine Protected Areas (MPAs) Benin and Gabon and identified their needs.

2.5 Support capacity development for sustainable development of ornamental fisheries and trade

Result 3: Institutional capacity and regulatory framework for aquaculture development strengthened

3.1 Strengthen institutional capacity and regulatory framework for aquaculture development

The Government of Cameroon has been supported in the development of its aquaculture strategy as part of the country emergency strategy.

3.2 Strengthen capacities and policy frameworks for environmental monitoring, habitat and ecosystems preservation in aquaculture practices

The project carried out training in EIA, SEA and EAA for East, Central and West Africa.

The Drafts regional aquaculture environmental management frameworks have been developed that incorporated components for transboundary environmental management for sustainable aquaculture development for Eastern Africa.

3.3 Strengthening aquaculture network and information sharing

Consultations conducted with existing regional networks and continental association (e.g. in Kenya) and issues identified for establishing self-sustainable regional aquaculture networks and

association: dialogue with stakeholders in Central Africa and consensus reached on mechanisms for establishing a network in a region.

Assessment of the capacities of fish trade portal INFOPECHE and also Kenya electronic monitoring market system was carried that identified strengths and weaknesses

3.4 Develop appropriate extension and service delivery strategy for fisheries and aquaculture development was developed

A framework for formulating a guide on enhancing PPPs in fisheries and aquaculture was developed.

Result 4: Evidence based decision making improved

4.1 Strengthen capacity for evidence based advocacy

A framework for the establishment of a fisheries policy research network in Africa has been developed, shared with stakeholders with and reviewed by stakeholders.

Lesson learnt and best practices have been packaged and disseminated on enhancing governance of the large marine ecosystems (LMEs) in Africa with respect to sustaining biodiversity, enhancing regional cooperation and governance frameworks.

Facilitated exchange of experiences and organized the following study tours:

- Study tour facilitated by United Nations University- Fisheries Training Programme (UNU-FTP) to Icelandic fisheries on good governance in fisheries
- International training in Fisheries Governance for food security, Wageningen University, the Netherlands supported

4.2 Support Advocacy Forums for fisheries reforms

AU-IBAR participated in the inaugural meeting of the Ministerial conference of specialized technical committee on agriculture, rural development and water resources and environment which adopted the Guide for the implementation of PFRS.

AU-IBAR participated in the Global Conference of Inland fisheries development in Rome, Italy and contributed to formulation of priority actions for sector development

4.3 Strengthen capacity and support MS to develop fisheries and aquaculture investment plan and mainstream fisheries in CAADP

Support was given to Madagascar, Guinea and Seychelles on the formulation of the fisheries component in their national agricultural investment plan (NAIPs).

PROJECT MANAGEMENT

Partner collaboration:

Within the framework of institutional collaboration, areas of collaboration with partner institutions were identified and modality for implementation agreed upon with partners;. Specifically, agreement was reached on the with respect to the following:

- Consensus reached on harmonization of projects' activities with GOWAMAR project and joint organization of steering committee meetings.
- Collaboration with SADC Secretariat on fisheries and aquaculture activities Implementation PFRS in the SADC Region through policy alignment and development efforts in fisheries and aquaculture;
- Support towards the establishment of the SADC Fisheries Monitoring, Control and Surveillance Centre to be based in Maputo, Mozambique;
- Support to the SADC region for development and implementation of programmes in fisheries and aquaculture in shared water bodies, in particular Zambezi River Basin;

CHALLENGES

Under the period under the review the implementation of the project activities operationally have been smooth. The most notable challenge was the three month delay in replenishment of funds. This delay warranted cancellation of meetings to the chagrin of stakeholders which further caused a dwindling of level of participation in some rescheduled activities and timely delivery of planned activities.

Project implementation was affected by low or poor response from member states and other stakeholders to requests for information especially questionnaire.

A serious concern in fostering reform is the coordination of the partner's intervention in the fisheries and aquaculture sector in Africa. There are existing different projects working on issues of governance, policies, trade etc. which call for a platform for coordinating these interventions.

The major foreseen challenge is ensuring sustainability and effectiveness of some of the landmark achievements of the project. Paramount among these is the new established platform APRIFAAS. The foreseen challenge is ensuring the effectiveness of this platform.

There is a need for strong collaboration and cooperation by AU MS for effective implementation of regional frameworks being developed by the project (e.g. FAA, MCS, Aquaculture environment, Fish diseases control and trade, etc.).

The Guide to the implementation of the PFRS has been developed primarily to facilitate policy alignment at regional and regional levels with the PFRS. The challenge would be member states commitment to this process.

LESSONS

The lessons learnt during the two years of implementation that include the following:

- a. There should be clear political statement of intent or declaration before interventions at regional levels.
- b. Building institutional linkages at regional and continental levels would require patience, innumerable consultations at various hierarchical levels of the institutions.
- c. Empowerment and capacity development of stakeholders should be preceded by building linkages and fostering coordination between inter and intra-regional NSAs as well as at member state levels to ensure their effectiveness and advocacy in fisheries management decisions making.

- d. Fisheries and aquaculture managers should be positioned for informed decision-making and there has to be a clear distinction in capacity building approach for information or data generation and implementation of rationale decision in the sector.
- e. Effective utilization of expert's pools and AFRM working group members in the execution of key projects activities.

CONCLUSION

The project continued to implement activities through the adoption of the strategic approach of consultations and participation mindful of the critical importance of this method to ensure ownership and sustainability of actions initiated by the project. Underpinning this approach is also taking heed of the recommendations of the stakeholders and last steering committee to endeavour to retune and strategize the implementation by focusing at regional levels. The project would remain faithful to these recommendations.

One of the innovative approaches that have proved promising is the identification of Regional Economic Communities as strategic entry points or conduit to foster regional actions on issues such as cooperation on curbing IUU fishing menace, negotiating access arrangements for shared stocks, regional environmental frameworks for aquaculture development etc. Their institutional mandates as regional policy organs for regional integration have been leveraged in this sense for ownership and sustainability of outcomes as indicated as mitigation measures in the project risk assessment.

The non-linear and flexibility approach in the implementation of the project has allowed participation and inclusiveness of broad range of stakeholders in key project initiatives. This approach is working immensely in the case of building linkages and networks amongst NSAs in the fisheries and aquaculture sector. The effective and empowerment of these NSAs are crucially important as pressure groups or watch dogs on the public institutions to ensure transparency in the conduct of their activities, ensuring critical issues of employment of local nationals, availability of local fish supplies in local markets etc. are central to any access or fishing arrangements.

The impacts of these actions and interventions on food security, poverty alleviation and increased contribution to Gross Domestic Product (GDP), fish consumption and status of exploited stocks would eventually be the yard sticks to measure the success of the project.

Based on the ongoing initiated activities by the project, it is safe to state that the project has set the stage for major landmarks in the governance of the fisheries and aquaculture sector on the continent.

8.12 LIVESTOCK DEVELOPMENT STRATEGY FOR AFRICA (LiDeSA)

A strategy for the transformation of livestock in Africa in 20 years

VISION:

A competitive and sustainable livestock sector that significantly contributes to a prosperous Africa.

GOAL:

To transform the African livestock sector for enhanced contribution to socio-economic development and equitable growth.

STRATEGIC APPROACH

- Transformation of the subsistence sector to commercial sector
- Attracting public and private investments
- Optimum utilization of technology and promoting skills development
- Value chain approach and change of mindset

OBJECTIVES

- To attract public and private investments along the different livestock value chains
- To enhance animal health and increase production, productivity and resilience of livestock production systems
- To enhance innovation, generation and utilization of technologies, capacities and entrepreneurship skills of livestock value chain actors
- To enhance access to markets, services and value addition

STAKEHOLDERS

All players at national, regional and international levels including public sector, private sector and other non-state actors.

IMPLEMENTATION PERIOD

20 Years (From 2015 to 2035).

IMPLEMENTING PARTNERS

All Member States (MSs) of the African Union and the Regional Economic Communities (RECs).

8.13 SUSTAINABLE DEVELOPMENT FOR LIVESTOCK FOR LIVELIHOODS FOR AFRICA (Live2Africa)

Implemented under the LiDeSA, Live2Africa is designed to support AU-IBAR deliver the continental component of LiDeSA with an emphasis on strategic approaches in line with the AU-IBAR Strategic Plan 2014-2017 that support the capacity of RECs and MS and create working partnerships and consensus for the implementation of designated programme activities.

Overall objective (Impact)

To transform the African livestock sector for enhanced contribution to socio-economic development and equitable growth

Specific Objective (Outcome)

To strengthen the systemic capacity of continental, regional and national Livestock Sector stakeholders for the transformation of the livestock sector

Indicative Budget

Euro 20m (EU support-Euro 19m, AU Contribution-Euro 1m)

Implementation Period

4 years (Starting mid 2016)

Results (Outputs) and Activities

Result 1: Investment in livestock value chains increased.

R1.1: Priority and promising new VC showcased

R1.2: Policies, regulatory frameworks and strategies to enhance LVC performance publicized

Result 2: Animal Health Delivery Services Improved

R2.1: PVS competencies strengthened

R2.2: Capacity for coordination and implementation of integrated and quality animal health services strengthened

Result 3: Animal production, productivity and ecosystem management enhanced

R3.1 Genetic potential and performance of animals improved and breeding strategies supported

R3.2 Sustainable best practice natural resource management (NRM) adopted

R3.3 Access to quality feed and water enhanced

Result 4: Resilience of Livestock Production Systems strengthened

R4.1 Livestock Early Warning Systems (LEWS) strengthened

R4.2 Disaster Risk Management (DRM) enhanced

Result 5: Technology Adoption in the LVCs increased

R5.1 Adoption of modern technology to enhance production, productivity, value addition and competitiveness publicized

R5.2 Animal resources knowledge enhanced;

Result 6: Access to inputs, services, markets and value addition increased

R6.1 Harmonized livestock marketing information systems showcased

R6.2 Post harvest losses reduced;

R6.3 Access to quality affordable inputs and services expanded.



Result 7: AU-IBAR capacities are strengthened

9. ANNEXURES

ANNEX 1: STATUS OF MONTHLY DISEASE REPORTING BY COUNTRIES IN 2015

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

	Country	J	F	M	A	M	J	J	A	S	O	N	D
44.	Somalia												
45.	South Africa												
46.	Sudan												
47.	South Sudan												
48.	Swaziland												
49.	Tanzania												
50.	Togo												
51.	Tunisia												
52.	Uganda												
53.	Zambia												
54.	Zimbabwe												

 Full Reports
  Zero Reports
  No Reports

ANNEX 2: LIST OF DISEASES REPORTED IN AU-IBAR MEMBER STATES IN 2015 AND RELATED QUANTITATIVE DATA

	Disease	Countries	Outbreaks	Susceptible	Cases	Slaughtered	Deaths	Destroyed
1	Anaplasmosis	14	1292	721874	7813	2	1093	5
2	Erysipelas	3	13	3872	135	0	30	0
3	Actinomycosis	1	1	16	1		0	0
4	African Horse Sickness	5	120	112474	1204	0	169	2
5	African Swine Fever	16	286	138768	23228	841	12375	1238
6	Anthrax	19	239	559799	1218	32	608	39
7	Avian infectious bronchitis	2	7	3586	394	0	124	0
8	Avian mycoplasmosis	2	6	11	6	0	1	
9	Babesiosis	12	646	381296	4022	0	486	1
10	Blackleg	17	583	515707	9397	122	1259	41
11	Bluetongue	1	47	13423	468		119	1
12	Botulism	5	60	44645	616	0	407	0
13	Bovine Ephemeral Fever	1	1	1	1		1	
14	Bovine Genital Campylobacteriosis	2	33	310	72	0	0	0
15	Bovine Viral Diarrhoea	1	1	1	1		1	0
16	Brucellosis	18	466	76904	7075	2402	100	714
17	Camelpox	2	29	1678	66	0	25	
18	Canine Distemper	6	54	7340	327	0	115	39
19	Coccidiosis	8	334	98493	7812	11	2135	16
20	Contagious Bovine Pleuropneumonia	17	352	431990	107048	736	29531	0
21	Contagious Caprine Pleuropneumonia	5	61	116153	1571	26	242	15
22	Contagious Ecthyma	10	183	64587	1144	0	77	0
23	Contagious Ophthalmia	3	467	288293	1864	0	122	0
24	Cysticercosis	3	27	19401	53	45	0	42
25	Dermatophilosis	10	657	571538	2797	2	93	0
26	Distomatosis	4	56	12260	3479	4390	24	0
27	Echinococcosis/Hydatidosis	1	7	290	37	290	0	
28	Ectoparasitosis	2	99	940	317	0	8	0
29	Enterotoxaemia	5	33	9652	158	0	68	0
30	Enzootic Bovine Leukosis	1	1	4	4		0	0
31	Epizootic Lymphangitis	2	4	242	10	0	1	0
32	Foot and Mouth Disease	23	886	1003984	29170	1187	887	0
33	Foot Rot	6	314	157823	1174	0	57	1475
34	Fowl cholera	3	4	2896	1338	0	1313	0
35	Fowl Pox	10	412	282787	10979	9	2876	9
36	Fowl Typhoid	3	4	1968	1673	0	1600	0
37	Heartwater	15	840	392436	4158	2	1040	7
38	Helminthosis	4	163	5267	574	36	43	0
39	Highly pathogenic avian influenza	4	263	947664	324407	43112	270521	472315
40	Haemorrhagic Septicaemia	11	211	427663	3834	50	942	0
41	Infectious Bursal Disease	7	372	702964	35122	1	13869	0
42	Infectious Coryza	5	222	92586	3013	0	1008	7
43	Leptospirosis	2	12	32	10	0	1	0
44	Low Pathogenic Avian Influenza	1	2	2145	996		0	0
45	Lumpy Skin Disease	19	1664	2774240	14133	44	669	3
46	Malignant Catarrhal Fever	2	17	917	26	0	19	1
47	Mange	8	402	101334	5275	62	172	6
48	Marek's disease	2	4	23708	21508	0	11500	9000
49	Mastitis	6	610	235365	4288	0	153	0
50	Nairobi Sheep Disease	1	3	360	290		0	
51	Newcastle Disease	26	795	1471273	205022	644	128232	236
52	Nosemosis	1	1	7	7	0	0	7
53	Old World Screwworm	2	48	9356	169	0	12	0
54	Other Clostridial Infections	2	14	2116	36	0	24	3
55	Other Pasteurellosis	6	361	14078	2105	0	547	0
56	Papillomatosis	1	3	4	4		0	
57	Paratuberculosis	3	14	13083	35	3	6	93

58	Parvoviral Disease	1	1	60	6	0	2	0
59	Peste des Petits Ruminants	23	834	953912	78699	460	31598	215
60	Porcine reproductive and respiratory syndrome	1	2	235	94		83	0
61	Psittacosis and Ornithosis	1	2	54	4		4	0
62	Q Fever	1	1	6	6		0	
63	Rabies	28	3078	868228	6187	96	2352	1209
64	Rift Valley Fever	4	25	3103	131	0	17	0
65	Ring worm	1	1	80	17	0	0	0
66	Salmonellosis	9	39	723665	59475	10850	252176	244650
67	Schistosomiasis	1	1	100	7	0	4	0
68	Sheep and Goat Pox	10	337	654714	5197	54	755	6
69	Small hive beetle infestation (<i>Aethina tumida</i>)	1	7	280	50	0	11	0
70	Strangles	1	1	1	1			
71	Theileriosis	10	365	144573	11864	21	1217	6
72	Toxoplasmosis	1	1	500	15	0	4	0
73	Trichomonosis	2	24	182	47	0	0	0
74	Trypanosomosis	15	252	91855	7515	42	172	5
75	Tuberculosis	9	241	46835	3156	24646	24	71
76	Varroosis	1	29	685	620	0	0	616
	Total		19047	16350672	1024775	90218	773124	732093

ANNEX 3: LIVESTOCK POPULATION IN AFRICA IN 2015

Country	Cattle	Sheep	Goats	Shoats	Birds	Swine	Equine	Camels	Dogs	Cats	Buffaloes	Hare/Rabbits	Bees
Algeria	2149549	7811773	5013950		269948893	2875289	185385	362765				2043496	1366914
Angola	3550302	1102600	6540590	7643190	13985500	448000	1600					75000	
Benin	2780000	896000	1795000		18198000	4442	166421	605	114469	19039			
Botswana	2563441	171102	664859										
Burkina Faso	10715528	9460794	14307179		4158713	3101602	1036582	16987					
Burundi	444087	214647	1571380		1637712	286782			3688			296294	172691
Cameroon	58005297	2952624	6298059		77758691	3112973							
CAR	4390000	420000	6122000	5930000	6769000	1104000							
Cape Verde	22306	10400	148094		343120	77316	11302						
Chad	24800000	26500000	30800000		50000000	1700000	1100000	6400000					
Djibouti	40000	400000	600000				6800	50000					
DR Congo	1233710	1310601	4767856		74514170	1001259	1577						
Ethiopia	56706389	29332382	29112963			900	9861481	2164106					
Egypt	7799574	7328141	1108185		649273000		988149	66233			3152974	1894583	
Ghana	1734000	4522000	269000		71594000		14114						
Guinea Conakry	4704299	1616747	2174820		521006	96344	4916					2100	183045
Guinea Bissau	1325413	304745	649083		1482641	343680	4355		30000				
Lesotho	840356	3620491	1454517		4160546	133836	323570		259875	32500		3365	
Madagascar	10280300			2961520	36350302	1625200							
Mali	10622620	15143415	21087150		38587450	82425	538500	1008540					
Mauritius	6041	2722	26558		7000000	18256	693					3100	
Morocco	3238330	19230460	6146870				1539350	197550					419090
Namibia	2555897	1878612	1671323	77588	3337704	80343	185113	52	127209	27880		352	71
Nigeria	19712604	42359948	74278367		194976539	7349580	1077490	279118	4998267	3306619		4489337	886779
Senegal	3530748	6514485	5569658		59846479	413490	1019660	4881					
Sierra Leone	688127	945017	1538557		13591260	122925							
South Africa	13694000	23938000	5871000		50792724	1527000							
Sudan	30191000	39846000	31029000		46652000		8344314	4792000					
Swaziland	622100	17367	358333		2348186	36013	10037		98350		30		
Togo	441763	1324382	3384929		19829035	1002818							
Tunisia	680369	6490111	1162288		124948915	2000	187805	56610	553706		65	96133	256000
Uganda	14031336	4197965	15311510		46051225	4256766							
TOTALS	288079486	275163561	280333078	16612298	1871006211	30798239	26601159	15398947	6185564	3386038	3153069	8903760	3284540

ANNEX 4: 2014 AU MS fishery production in MT				
	AU member states	Capture fishers production (mt)	Aquaculture (mt)	Total fishery and aquaculture production (mt)
1	ALGERIA	5730	2424	8154
2	ANGOLA	442074	305	442379
3	BENIN	47572	1425	48997
4	BOTSWANA	1168	0	1168
5	BURKINA FASO	20700	200	20900
6	BURUNDI	16054	165	16219
7	CAMEROON	225000	840	225840
8	CAPE VERDE	35680	0	35680
9	CHAD	120020	3	120023
10	COMOROS	9255	0	9255
11	CONGO	73438	134	73572
12	DRC	223800	2870	226670
13	COTE D'IVOIRE	74900	3760	78660
14	DJIBOUTI	2298	0	2298
15	EGYPT	344791	1139091	1483882
16	ERITREA	4000	0	4000
17	ETHIOPIA	50119	86	50205
18	GABON	36855	45	36900
19	GAMBIA	51500	35	51535
20	GHANA	292989	38545	331534
21	GUINEA	129000	250	129250
22	GUINEA BISSAU	6700	0	6700
23	GUINEA EQUATORIAL	7600	15	7615
24	KENYA	168191	24098	192289
25	LESOTHO	52	901	953
26	LIBERIA	9500	30	9530
27	LIBYA	25000	10	25010
28	MADAGASCAR	94979	8470	103449
29	MALAWI	116129	4742	120871
30	MALI	80000	1953	81953
31	MAURITANIE	378339	0	378339
32	MAURITIUS	13642	757	14399
33	MOZAMBIQUE	258760	1189	259949
34	NAMIBIA	443958	760	444718
35	NIGER	47000	329	47329
37	NIGERIA	759828	313231	1073059
38	RCA	29000	140	29140
38	RWANDA	25159	1584	26743
39	SAO TOME	5678	0	5678
40	SENEGAL	458713	1009	459722
41	SEYCHELLES	75148	0	75148
42	SIERRA LEONE	208477	75	208552
43	SOMALIA	30000	0	30000
44	SOUTH AFRICA	596302	4160	600462
45	SOUTH SUDAN	37000	20	37020
46	SUDAN	34000	1980	35980
47	SWAZILAND	68	100	168
48	TANZANIA	341847	3612	345459
49	TOGO	19862	25	19887
50	TUNISIA	112016	11279	123295
51	UGANDA	461196	111023	572219
52	ZAMBIA	80826	19281	100107
53	ZIMBABWE	10500	10600	21100
54	SAHRAWI			
Source: FAO 2014				

ANNEX 5: Contact addresses of Directors of Veterinary Services, Animal Production Services and Fisheries

NO	COUNTRY	DIRECTOR OF VETERINARY SERVICES	DIRECTOR OF ANIMAL PRODUCTION	DIRECTOR OF FISHERIES
1.	ALGERIA	Dr. Ahmed Chawki Karim Boughalem Directeur des Services Vétérinaires et délégué auprès de l'OIE Ministère de l'Agriculture et du Développement Rural 12, Boulevard Colonel, Amirouche 16000 Alger, ALGERIE Tel: (213-21) 743 434 Fax: (213-21) 745 611 Email: dsval@wissal.dz boughalemk@yahoo.fr	Dr Ichou Sabrina SOUS DIRECTRICE DU DEVELOPPEMENT DES FILIERES ANIMALES brinaichou@yahoo.fr	Mr Hamid Benderradjibenderradji@gmail.com
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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	SOME Ansanèkoun Désiré Directeur Général des Productions Animales adesiresome@yahoo.fr	Dr. COULIBALY Nessim Désiré dnessim@yahoo.fr Tel : +226-70739899

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8.	CAPE VERDE	Dr Afonso Maria Semedo de Ligório Director dos Serviços 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	Mr. Joao de Deus da Fonseca Director dos Serviços da Pecuaria Direção Geral da Agricultura e Desenvolvimento Rural Ministério do Desenvolvimento Rural DGADR-MDR B.P 50 PRAIA, CAP-VERT Tél : (238) 3337782/5160099 Email: joao.fonseca@mdr.gov.cv	Mr. Juvino Vieira juvinovieira@gmail.com
9.	CHAD	Dr. MAHAMAT GUINDE Directeur des Services de Vétérinaires Ministère de l'Elevage, et de l'Hydraulique BP 750 N'DJAMENA, TCHAD Tel: (235) 66294768 Email: mht.guinde@yahoo.fr ; mht.guind@gmail.com	Mr Dokdai Hounly Marc Directeur du Développement des Filières Animales Ministère de l'Elevage, et de l'Hydraulique BP 750 N'DJAMENA, TCHAD Tel: (235) 66298492 dokdaimarc@gmail.com	BECHIR ALI MEDELLAYE Directeur de Pêche Ministère de l'Elevage, et de l'Hydraulique BP 750 N'DJAMENA, TCHAD Tel: + 235 66 21 53 57 b.medellaye@gmail.com
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NO	COUNTRY	DIRECTOR OF VETERINARY SERVICES	DIRECTOR OF ANIMAL PRODUCTION	DIRECTOR OF FISHERIES
11.	CONGO	Dr Léon Tati Vétérinaire Inspecteur en Chef Conseiller à l'Elevage du Ministre Direction Générale de l'Elevage Ministère de l'Agriculture et de l'élevage B.P. 2453 - 2105, Rue Voula, Plateaux de 15 ans 242 Brazzaville CONGO (REP. OF THE) Tel: 242 05 551 02 40 Fax: 242 81 19 29 detatiade@gmail.com; taleon@netcourrier.com	BITEMO née LOCKO Claudie Anasthasie Directrice de la Productions Animale Tel : +242 055232821 Email: lockoclaudie@yahoo.fr	Apollinaire NGOUEMBE ngouembe@yahoo.fr Cell.: 00(242) 558 08 22
12.	Democratic Republic of Congo	Dr. Honoré Robert N'Lemba Mabela Directeur Chef des Services de la Production et la Santé Animales DPSA Ministère de l'Agriculture, la pêche et l'Elevage KINSHASA/GOMBE, CONGO (REP. DEM.DU) Tel: +243 815 126 564/999902 967 Fax: 176 322 62145 Email: hrnlemba@gmail.com or dr_alemba@yahoo.fr	Jean Louis BEDENGA TELINDE Chef de Division Production Animale jplbedenga2008@yahoo.fr	Gayo Lemba François gayowadur@yahoo.fr Tel.: 243 99 12 450
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