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Performance Audit Report

Of the Auditor-General

On Preparedness and Response of Veterinary Services Directorate to Animal Diseases Outbreaks in Ghana
This report has been prepared in compliance with Article 187(2) of the 1992 Constitution of Ghana and Section 13(e) of the Audit Service Act, 2000 (Act 584)

Daniel Yaw Domelevo
Auditor-General
Ghana Audit Service
16 October 2019

The study team comprised: Kplorm Dovlo, Charles Christian Ansong and Lawrence Ayaribil under the Supervision of Lawrence Ndaago Ayagiba, Assistant Auditor-General and Benjamin G. Codjoe, Deputy Auditor-General in charge of Performance and Special Audits

This report can be found on the Ghana Audit Service website: www.ghaudit.org

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I have the honour to submit to you a performance audit report on the Preparedness and Response of Veterinary Services Department to Animal Diseases Outbreaks in Ghana in accordance with my mandate under Article 187(2) of the 1992 Constitution of Ghana and Section 13 of the Audit Service Act, 2000 (Act 584) which require me to carry out performance audits.

2. The Veterinary Services Department (VSD) is responsible for the implementation of government policies on preparing and responding to animal disease outbreaks in the country. In 2006, the government placed a ban on the importation of poultry and poultry products from HPAI H5N1 affected countries and enforced several Bio security measures throughout the country. Despite these measures, the first outbreak of H5N1 was reported in 2007 in the Greater Accra Region and outbreaks of Avian Influenza (AI) strain were also reported in Brong Ahafo and Volta Regions in the same year.

3. The purpose of the audit was to determine whether VSD has mechanisms in place to respond appropriately to animal diseases outbreaks. The audit focused on preparation for animal diseases outbreaks, preventing animal diseases outbreaks, responding to animal diseases outbreaks and recovering from animal diseases outbreaks by VSD.
4. The audit disclosed that the Directorate did not conduct training for staff on its Emergency Preparedness Plan and also noted lapses in animal movement control. The audit also noted that VSD did not make any provision for sensitization of farmers in their annual programme of work and also observed some delays in compensating farmers after disease outbreaks.

5. I accordingly recommended that VSD should use funds earmarked for training and workshops for staff to organise local training on the Preparedness Plan for Human and Avian Influenza. I also recommended that management of VSD should plan for sensitization and liaise with media houses to give them access to their media outlets for sensitization programmes as part of their corporate social responsibility and document sensitization activities.

6. I further urged management of the Directorate to work through the Ministry of Food and Agriculture to get the Ministry of Finance to timely release funds for compensation of farmers affected by animal disease outbreaks.

7. I trust that this report will meet the approval of Parliament.

Yours faithfully,

[Signature]

DANIEL YAW DOMELEVO
AUDITOR-GENERAL

THE RIGHT HON. SPEAKER
OFFICE OF PARLIAMENT
PARLIAMENT HOUSE
ACCRA
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<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAPs</td>
<td>Annual Action Plans</td>
</tr>
<tr>
<td>BRM</td>
<td>Biological Risk Management</td>
</tr>
<tr>
<td>DVOs</td>
<td>District Veterinary Officers</td>
</tr>
<tr>
<td>EAD</td>
<td>Emergency Animal Diseases</td>
</tr>
<tr>
<td>FAO</td>
<td>Food and Agricultural Organisation</td>
</tr>
<tr>
<td>GHS</td>
<td>Ghana Health Service</td>
</tr>
<tr>
<td>GNA</td>
<td>Ghana News Agency</td>
</tr>
<tr>
<td>GNFS</td>
<td>Ghana National Fire Service</td>
</tr>
<tr>
<td>GOG</td>
<td>Government of Ghana</td>
</tr>
<tr>
<td>GPS</td>
<td>Ghana Police Service</td>
</tr>
<tr>
<td>H5N1</td>
<td>Influenza A Virus</td>
</tr>
<tr>
<td>HPAI</td>
<td>Highly Pathogenic Avian Influenza</td>
</tr>
<tr>
<td>ICS</td>
<td>Incident Command Structure</td>
</tr>
<tr>
<td>IGF3</td>
<td>Internally Generated Fund</td>
</tr>
<tr>
<td>MMDAs</td>
<td>Metropolitan, Municipal and District Assemblies</td>
</tr>
<tr>
<td>MoFA</td>
<td>Ministry of Food and Agriculture</td>
</tr>
<tr>
<td>MOH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>NADMO</td>
<td>National Disaster Management Organisation</td>
</tr>
<tr>
<td>NCC</td>
<td>National Coordinating Committee</td>
</tr>
<tr>
<td>NDPP</td>
<td>National Disease Preparedness Plans</td>
</tr>
<tr>
<td>NIMS</td>
<td>National Incident Management System</td>
</tr>
<tr>
<td>OIE</td>
<td>World Organisation for Animal Health</td>
</tr>
<tr>
<td>PVS</td>
<td>Performance of Veterinary Services</td>
</tr>
<tr>
<td>RVOs</td>
<td>Regional Veterinary Officers</td>
</tr>
<tr>
<td>SINAP-AHI</td>
<td>Support Programme for Integration of National Action Plan on Avian and Human Influenza</td>
</tr>
<tr>
<td>VACNADA</td>
<td>Vaccine Against Neglected Animal Diseases</td>
</tr>
<tr>
<td>VSD</td>
<td>Veterinary Services Directorate</td>
</tr>
<tr>
<td>WAAP</td>
<td>World Association of Animal Production</td>
</tr>
</tbody>
</table>
EXECUTIVE SUMMARY

Veterinary services in Ghana commenced in 1909 when the first Veterinarian arrived in the Gold Coast at the request of the colonial government. This was in response to the unexplained deaths of several livestock. Veterinary services was then a unit under the Medical Department (currently Ghana Health Service) until 1920 when it was transformed into a Directorate with headquarters in Pong-Tamale. Since independence in March 1957, the Veterinary Services Directorate (VSD) has operated under the Ministry of Food and Agriculture (MoFA). The headquarters of VSD is in Accra and it implements government policies on preparing and responding to animal disease outbreaks.

2. In 2006, government placed a ban on the importation of poultry and poultry products from HPAI H5N1 affected countries and enforced several Bio security measures throughout the country. Despite these measures, the first outbreak of H5N1 was reported in 2007 on a farm at Kakasunaka near Michel Camp in Tema. Subsequently, outbreaks of Avian Influenza (AI) strain were reported in Sunyani in Brong Ahafo Region and Aflao in the Volta Region in the same year. The reasons for the emergence and spread of the disease in the country are unknown.

3. VSD annual reports from 2010 to 2017 recorded 8,564 cases of notifiable livestock diseases outbreak in Ghana, resulting in the loss of 475,628 livestock. From 2013 to 2017, VSD recorded a total of GH¢25,062,154.50 as income lost to affected farmers due to the death of 422,087 animals from notifiable diseases in Ghana.

4. The purpose of the audit was to determine whether VSD has mechanisms in place, which when activated would respond appropriately to animal diseases outbreaks.

5. We reviewed documents, interviewed Personnel, conducted inspection and noted the following under these activities:
Preparing for animal diseases outbreaks
6. VSD has assessed animal disease risks and developed an Emergency Preparedness Plan for Human and Avian pandemic influenza based on the risks identified in 2006. However, the Directorate did not conduct training for staff on the Emergency preparedness plan. It did not also review the preparedness plan which was last reviewed in 2007.

Recommendation
7. We recommended that VSD should use funds earmarked for training and workshops for staff to organise local training on the Preparedness Plan for Human and Avian Influenza as a matter of priority.

Preventing animal diseases outbreaks
8. VSD conducts routine vaccination in preventing animal disease outbreaks but the audit team noted that there were delays in submitting passive surveillance\(^1\) reports. The audit also noted lapses in animal movement control. In addition, VSD did not make provision for sensitization in their annual programme of work.

Recommendation
9. We recommended to management of VSD to:
   - liaise with banks to find alternative means of making payment without physically going to the banks, e.g. mobile money;
   - plan for sensitization and liaise with media houses to give them access to their media outlets for sensitization programmes as part of their corporate social responsibility and
   - document sensitization activities.

\(^1\) Passive surveillance involves the routine examination of livestock animals in the field for disease prevalence and incidents.
Responding to animal diseases outbreaks
10. We reviewed the outbreak reports on two sampled livestock diseases and found that the Directorate followed all the procedures outlined in the preparedness plan to curb the outbreak. Attached as Appendix 9 are the two reports on outbreak of livestock diseases.

Recovering from animal diseases outbreaks
11. Section 13(1) of the Diseases of Animals Act, 1961 (Act 83) mandates VSD to compensate farmers either by providing them with healthy animals after responding to livestock disease outbreaks or by giving them money to restock. In some instances, there were delays in compensating the farmers.

Recommendation
12. We recommended to management of VSD to work through the Ministry of Food and Agriculture to get the Ministry of Finance to timely release funds for compensation of farmers affected by animal disease outbreaks.
CHAPTER ONE

Introduction

The Veterinary Services Directorate (VSD) is responsible for protecting the health and promoting the development of animals. Veterinary Services was a Unit under the Medical Department (currently Ghana Health Service) until 1920 when it was transformed into a Directorate with headquarters in Pong-Tamale. VSD was then responsible for preventing and treating animal diseases.

2. When the headquarters was established in Pong-Tamale, two sections were created in 1931. The Veterinary Section, which is responsible for disease control, and the Livestock Section which dealt with improvement of indigenous livestock breeds. After independence in March 1957, VSD moved its headquarters to Accra and has since been operating as a Directorate under Ministry of Food and Agriculture (MoFA). VSD implements government policies on preparing and responding to animal diseases outbreaks.

1.1 Reasons for the audit

3. In 2006, Government placed a ban on the importation of poultry and poultry products from HPAI H5N1 affected countries. Following the ban, several Bio security measures were enforced through VSD and other MMDAs throughout the country. Despite these measures, the first outbreak of H5N1 was reported in 2007 on a farm at Kakasunaka near Michel Camp in Tema.

4. Subsequently, outbreaks of Avian Influenza (AI) strain were reported in Sunyani in Brong Ahafo Region and Aflao in the Volta Region in the same year\(^2\). The reasons for the emergence and spread of the disease in the country are unknown.

\(^2\) VSD Annual report 2011, page 15
5. New diseases are emerging and existing diseases are mutating thereby becoming more harmful. Since 2003, more than 700 human cases of Avian HPAI H5N1 have been reported to WHO, from 15 countries in Asia, Africa, the Pacific, Europe and the Middle East. Some zoonotic diseases (spread from animals to humans), such as avian influenza (bird flu), have become major concerns because they threaten Ghana’s agricultural economy, as well as human and animal health.

6. VSD annual reports from 2010 to 2017 recorded a total of 8,564 cases of notifiable livestock diseases outbreak in Ghana, resulting in the loss of 475,628 livestock. From 2013 to 2017 VSD recorded a total of GH¢25,062,154.50 as income lost to affected farmers because of death 422,087 animals from notifiable diseases in Ghana. Details are shown in Table 1.

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Outbreaks</th>
<th>No. of animals affected</th>
<th>Total loss of animals</th>
<th>Income lost from death of animals (GH¢)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>1,710</td>
<td>-</td>
<td>15,961</td>
<td>-</td>
</tr>
<tr>
<td>2011</td>
<td>1,764</td>
<td>86,349</td>
<td>26,502</td>
<td>-</td>
</tr>
<tr>
<td>2012</td>
<td>1,581</td>
<td>48,563</td>
<td>11,078</td>
<td>-</td>
</tr>
<tr>
<td>2013</td>
<td>853</td>
<td>35,792</td>
<td>16,064</td>
<td>2,814,525.00</td>
</tr>
<tr>
<td>2014</td>
<td>822</td>
<td>103,045</td>
<td>35,010</td>
<td>1,650,840.00</td>
</tr>
<tr>
<td>2015</td>
<td>351</td>
<td>105,017</td>
<td>103,553</td>
<td>3,431,167.50</td>
</tr>
<tr>
<td>2016</td>
<td>693</td>
<td>61,701</td>
<td>73,164</td>
<td>6,061,535.00</td>
</tr>
<tr>
<td>2017</td>
<td>790</td>
<td>248,695</td>
<td>194,296</td>
<td>11,104,087.00</td>
</tr>
<tr>
<td>Total</td>
<td>8,564</td>
<td>689,162</td>
<td>475,628</td>
<td>25,062,154.50</td>
</tr>
</tbody>
</table>

Source: Compilation of audit team from VSD annual reports 2010 to 2017

7. Concerns were raised in the media about Ghana’s preparedness and response to animal diseases outbreaks. The Ghana News Agency (GNA) on Monday 22nd July, 2013, carried a story on its webpage where the Upper East Regional Director of VSD confirmed the outbreak of Anthrax in cattle in the Builsa North District of the Region. He confirmed the death of three people infected by the Anthrax disease and indicated

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3 Diseases that must be reported to World Animal Health Organization
that, the Regional Veterinary Service was maintaining surveillance to bring the situation under control.

8. Also, the Public Health Directorate of VSD reported that 16 people died in the Ashanti Region in 2015, and four in the Upper West Region because of exposure to the Anthrax disease.

9. On 15th February 2014, the Minister for Food and Agriculture disclosed to the Ghana News Agency that “The extremely low numbers of Veterinarians makes it almost impossible to adequately monitor, prevent and control infectious diseases of economic and public health significance”.

10. In accordance with Section 3(e) of the Audit Service Act, 2000 (Act 584) the Auditor-General commissioned a performance audit on the state of Preparedness and Response of VSD to animal diseases outbreaks.

1.2 Purpose and Scope

11. The purpose of the audit was to determine whether VSD has mechanisms in place to respond appropriately to animal diseases outbreaks.

12. The audit examined VSD’s disease response activities for land-based farm animals for the period 2010 to 2015. We also reviewed status of ongoing projects and other financial information as at 31 December 2018. While we recognize that responding to animal disease outbreaks involves many partners, the audit focused on VSD’s operations and did not examine the activities of its key partners, such as National Disaster Management Organization (NADMO) and Ministry of Health.
1.2.1 Audit Questions

13. The audit questions the team sought to answer were:
   i. Does VSD have measures to respond to animal diseases outbreaks?
   ii. Are the measures put in place based on risk analysis of animal diseases outbreaks?
   iii. Have the measures put in place by VSD enabled the Directorate to respond to animal disease outbreaks?

1.3 Methodology

14. The team used interviews, documents review, observation and inspection to collect data for the audit.

i. Interviews

15. Persons interviewed and the reasons for interviewing them are attached as Appendix 1 to this report.

ii. Documents Review

16. The team reviewed documents to corroborate and confirm information obtained on VSD activities with respect to preparedness and response to animal diseases outbreaks. The documents reviewed and information obtained from them are attached as Appendix 2 of this report.

iii. Observation and Inspections

17. The audit team carried out inspections and observations at VSD Headquarters and other offices and facilities under the management of VSD. Details of places visited and reasons for the visits are attached as Appendix 3.
CHAPTER TWO

Description of the Audit Area

2.1 Historical Background

18. Veterinary services in Ghana begun in 1909 when at the request of the colonial government, the first veterinarian arrived in the Gold Coast. This was in response to the unexplained deaths of several livestock. Veterinary services was then a unit of the Medical Department (GHS) until 1920 when it was established as a Department with headquarters in Pong-Tamale. The Department was responsible for the welfare of livestock in Ghana. The Diseases of Animal Act, 1961 (Act 83) gives authority to VSD to respond to animal disease outbreaks.

19. Encyclopaedia Britannica defines ‘Animal Disease’ as an impairment of the normal state of an animal that interrupts or modifies its vital functions. Animal Disease Outbreaks involve any number of diseases that may affect large numbers of livestock, resulting in severe economic consequences, including high death rates, high levels of illness, and loss of production. The occurrence of any of these diseases may have trade implications, including embargos and import restrictions. Animal diseases outbreaks can also affect human health as some of the diseases are zoonotic (spread from animals to humans). The loss of animals and livelihood from animal diseases outbreak can have severe psychological consequences for affected farmers and those exposed to the animals.

2.1.1 Classification of Animal Diseases Outbreaks

20. The World Organisation for Animal Health (OIE) categorises animal diseases into List A and List B (Attached as Appendix 4). List A includes transmissible diseases, which have the potential for serious and rapid spread, irrespective of national borders. List A diseases are of major importance in the international trade of animals and animal products. Once there is an outbreak of a List A disease in a country, there is an obligation to report the status of the disease weekly to OIE. Until testing has provided
proof of freedom from the disease, exports of likely contaminated animal products and animals are banned or limited.

21. List B includes diseases that are considered to be of socio-economic and/or public health importance within countries and are significant in the international trade of animals and animal products.

22. Ghana is not free from the 15 List ‘A’ diseases defined by OIE, and also from many of the more significant List B diseases. VSD has listed 28 animal diseases (attached in Appendix 5), which together with the risk of new diseases arising, threaten livestock in Ghana and are notifiable to the OIE. VSD treats any outbreak of these diseases in Ghana as animal disease outbreak.

2.2 Mission
23. The mission of VSD is to ensure a stable animal health situation through the provision of quality animal health care services by both public and private sector veterinary practitioners to enhance livestock production and productivity.

2.3 Objective/Goal
24. To accomplish its mission, VSD “protects public health by controlling animal diseases communicable to human beings”

2.4 Organogram
25. VSD is a Directorate under MOFA, headed by a Director. Detail of the organisational structure is attached as Appendix 6.

2.5 Funding
26. VSD receives funding from Government of Ghana (GOG), and attracts donor support from Development Partners. Funding from GOG to VSD goes into wages and salaries, good and services. During the period covered by the audit, VSD received a total amount of GH¢16,906,572.4 from GOG. An additional amount of GH¢7,645,569.14
was received from Development Partners and this went into Preparedness and Response activities of VSD. VSD also generates funds internally and retains 25% for other administrative expenses. Total internally generated funds (IGF) retained during the audit period was GH¢5,879,044.34. Total funds received by VSD from the various sources within the audit period is presented in Table 2. Year on Year analysis of funds received by VSD from the various sources is presented in Appendix 7 of this report.

Table 2: Financial information of VSD from 2010 to 2018

<table>
<thead>
<tr>
<th>Source of fund/year</th>
<th>2010 to 2018 GH¢</th>
</tr>
</thead>
<tbody>
<tr>
<td>GOG</td>
<td>16,906,572.40</td>
</tr>
<tr>
<td>IGF</td>
<td>5,879,044.34</td>
</tr>
<tr>
<td>Donor</td>
<td>18,895.00</td>
</tr>
<tr>
<td>*SINAP</td>
<td>472,265.00</td>
</tr>
<tr>
<td>WAAP</td>
<td>1,137,496.30</td>
</tr>
<tr>
<td>FAO</td>
<td>137,342.50</td>
</tr>
<tr>
<td>AVIAN Influenza</td>
<td>5,879,570.00</td>
</tr>
<tr>
<td>*MAG (GOC)</td>
<td>1,250,000.00</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>31,681,190.94</strong></td>
</tr>
</tbody>
</table>

Source: Veterinary Services Accounts Unit

2.6 Key Players and their Responsibilities
27. Key players in the preparedness and response to animal disease outbreaks and their responsibilities are attached as Appendix 8 to this report.

2.7 Systems description
28. Any emergency or disaster, including animal disease emergencies, involve four phases of management – prepare, prevent, respond and recover. Table 3 shows the processes of preparing for and responding to animal diseases outbreaks.
Table 3: Processes of preparing for and responding to animal diseases outbreaks

| Prepare       | • Identify stakeholders & resources in the community, Risk Assessment  
|               | • Local plan development  
|               | • Practice, Simulations, functional exercises  
|               | • Animal & Premises Identification |
| Prevent       | • Awareness & Education  
|               | • Biosecurity |
| Respond       | • Detection/diagnosis; Surveillance  
|               | • Contain: Quarantine: Isolation: Stop movements, biosecurity  
|               | • Control: Depopulation & disposal, vaccination, cleansing & disinfection |
| Recover       | • Indemnity (Pay Compensation)  
|               | • Business continuity |

i. Prepare

29. Preparedness involves advance planning. This starts with identification of stakeholders and agencies involved or needed for a response. It is important to know members of the community and understand the roles and responsibilities they may have to assume in the event of an emergency at the District, Regional or National level. The VSD should conduct simulation exercises with the stakeholders on their actions to ensure familiarity before the disaster strikes and consequently respond promptly if it does.

30. In the event of an animal disease outbreak, the lead agency responsible for animal health and disease control issues as well as determining actions and the scope of the response, overseeing field operations, animal movement and tracking is VSD. The Directorate also need to identify premises that house animals and any location involved in livestock commerce or the movement of animals or poultry for emergency response activities.
ii. Prevent
31. Prevention includes measures that prevent the outbreak, reduce the chance of the outbreak occurring, or reduce the damage of unavoidable outbreaks. Awareness and management of disease risk is an important component of VSD operations to prevent animal disease outbreak.

32. Disease agents can spread from animal to animal or animal to human (zoonotic disease), through five main routes, namely: aerosol, direct contact, fomite, oral and vector borne. Zoonotic diseases involve the transmission of disease pathogens from animals to humans. The disease carrying agents’ entry into a person goes through the same five routes of transmission as in animals noted above. Most of the infectious agents could be transmitted by more than one route of infection.

33. For brevity, here are quick explanations:
   - aerosol – breathing in contaminated particles;
   - direct contact – disease agent entering through blood, breeding, mucous membranes like eyes/gums/open wounds;
   - fomite – contaminated inanimate objects carry disease agents and enters animals directly or orally (example – needles, buckets, boots);
   - oral – consumption of contaminated feed, water;
   - vector-borne – insects acquire disease agent from one animal/human and spread to another animal/human

iii. Response
34. The response needed for an animal disease outbreak is dependent on a number of factors. However, almost all disease outbreaks in livestock or poultry will involve VSD. Those outbreaks that involve a foreign animal disease (one that is not found in Ghana) will have international trade issues.
35. Response is crucial for animal diseases outbreaks. The goal is to put preparedness plan into action expediently, safely and effectively. The level of response needed vary based on a number of factors. These include:
   - the disease suspected or confirmed,
   - the number of animals or premises affected,
   - the animal health and public health impact from the disease,
   - the economic or trade implications of the disease.

36. Actions taken will be determined by the VSD. Some diseases may potentially require a Presidential declaration of the outbreak. Should the disease be one that spreads quickly or can be transmitted to humans, other agencies may be invited for assistance.

37. Diseases are detected at the local level, by either the farmers or the District Veterinary Officers. In some cases, the diagnostic laboratory or slaughter facility may make initial detection. Veterinary officers are required to report animal disease of high consequence (OIE lists) to the Director of VSD.

38. Once detected, the incident is typically handled at the District VSD level, working in consultation with the Regional VSD office. VSD has authority for and directs all response and treatment actions (in partnership with their other state agencies) in relation to disease outbreaks. Once the animals are euthanized⁴ and disposed of, the site or sites must be cleaned and disinfected.

39. If a major animal disease is reported in Ghana, movement restrictions could be put in place to minimize spread until ample information is available. The VSD, under the authority of the Minister of Agriculture, may implement embargos, voluntary hold orders, or quarantines, depending on the needed response. Animals or their products may not be allowed to go to market or for further processing. People movement may also be limited initially until more is known about the disease and how it is spread.

⁴ The practice of intentionally and painlessly killing animals for humane reasons, especially to end great suffering.
The only ones allowed on/off operations could be essential personnel or state authorities. Deliveries may be halted as well, depending on the disease concern and how rapidly it can spread.

40. Control of a diagnosed animal disease outbreak on a livestock operation usually involves depopulation of all animals on the farm. This decision is made by VSD. Many different humane options exist for euthanizing animals and the method is determined based on species. If animals are to be euthanized, a disposal plan should be in place.

41. Some of the considerations that go into determining a disposal option include the characteristics of the disease pathogen (e.g. ability to spread or infect people), the establishment and breech of quarantine zone designations.

42. Safety is also a concern when assisting with a response to an animal disease outbreak. Physical stress and injuries may occur from interactions with animals or heavy equipment used on the site. Rainy weather conditions as well as wet disinfection and decontamination areas can lead to slips, trips or falls. Psychological issues are also a concern for not only the producers, who may lose their entire herd/flock and possibly their livelihood, but also the responders working with or euthanizing the animals.

iv. Recovery
43. The final step in an animal disease outbreak is recovery – what can be done to restore livestock production, continue with business, and ensure rebuilding Ghana’s agriculture industry.

44. Recovery involves restoring confidence that the situation is contained and the danger is over. A great deal of time, money, and effort is required to recover from an animal disease outbreak. Once the animals are disposed of, then the site(s) must be cleaned and disinfected. Following an animal disease outbreak, Government would
work together on a possible compensation plan (indemnity) for producers for some or all of the loss of value of animals destroyed, dependent upon availability of State indemnity funds. Typically, a farm will not be allowed to restock for a set period dependent on the disease (example for avian influenza, the minimum wait time is 30 days).

45. Finally, business continuity is an important consideration in recovery efforts. Recovery is smoother if a livestock farmer or VSD has a continuity plan to implement. These plans are developed to keep people safe and employed during a disaster and to keep the business running during and after a disaster.
CHAPTER THREE

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

3.0 Introduction
46. This chapter presents the findings of the audit after our review of documents, interviews, inspections and observation. The findings are captured under;

- Preparing for animal diseases outbreaks
- Preventing animal diseases outbreaks
- Responding to animal diseases outbreaks
- Recovering from animal diseases outbreaks.

3.1 PREPARING FOR ANIMAL DISEASES OUTBREAKS
47. In preparing for animal diseases outbreaks, VSD carry out an assessment of animal disease risk, develop plans for animal disease outbreaks and train staff on the plan. In this regard, the audit team noted the following:

- VSD has assessed Animal Disease Risks
- The Directorate has developed policies, plans and procedures to prepare for animal diseases outbreaks
- The Directorate does not carry out trainings on the Preparedness Plan

3.1.1 VSD has assessed Animal Disease Risks
48. According to the FAO Manual on National Disease Preparedness Plans, assessing risks posed by animal diseases is an essential step in outbreak management. In this way, appropriate steps for preventing, reducing, and preparing for outbreaks can be created based on the level of risk. Risk assessment offers information about what the impact on the environment, the economy, and an organization is likely to be, and facilitates rapid response to outbreaks.
49. Risk assessment enable VSD to identify hazards and risk factors that have the potential to cause harm; analyse and evaluate the risk associated with the hazard; and help determine appropriate ways to eliminate the hazard or control the risk when the hazard cannot be eliminated.

50. The audit team noted during documentary review that, the Directorate assess risks related to animal diseases in three ways, namely:

i. **High-level assessments of corporate risks**

   We found that VSD requested for an OIE gap analysis, which is a risk assessment of VSD. OIE dispatched a team to Ghana, which carried out the gap analysis in 2011. (The gap analysis is carried out every five years and a team from the OIE is scheduled to carry out another one in 2016).

ii. **Identification and regulation of high-risk animal diseases**

   VSD has a list of 28 Notifiable diseases (Appendix 5) on which it reports monthly to OIE. Interview with officials of VSD showed that these diseases are of significant importance to human, animal health and to the Ghanaian economy. The Directorate periodically updates the list to ensure that it reflects the current assessment of what constitutes a disease of significant importance.

iii. **Detailed assessment of risks posed by a specific disease, an animal or animal products imported into Ghana.**

   In response to the Avian Influenza risk, the Government of Ghana supported a risk assessment and development of the Avian and Human Pandemic Influenza preparedness plan in the last quarter of 2005 and reviewed it in 2006. The audit team noted that within the audit period (2010-2018), VSD had not reviewed the risk assessment carried out in 2006 to reflect current trends in animal disease risks.
51. Being ready to respond to outbreaks also includes creating risk-based action plans for known issues. The audit team found that the Directorate identifies risks linked to its ability to manage animal diseases outbreaks by conducting risk assessment. The risks include lack of resources like Veterinary Officers to carry out surveillance, lack of precise data on animals, such as the exact number and location of livestock to plan well for disease outbreaks.

52. The audit team reviewed the establishment post of the VSD and found that the number of Veterinarians fell short of the required number. As at 31st December 2018, there were 94 Veterinary Surgeons at post in the public sector. Out of this number, 54 carry out clinical and field veterinary activities, 10 are at VSD headquarters, 10 serve as Regional Veterinary Officers, with the remaining 20 engaged in laboratory diagnostics, epidemiology, slaughterhouse activities, tsetse-fly/trypanosomiasis control and border/quarantine duties.

53. The staff establishment post at VSD as at 31st December 2018 showed that the minimum number of Veterinary Surgeons required to effectively carry out animal health care delivery duties in the public sector is 392 (see Appendix 9 for details). Out of this number, 211 Veterinary Surgeons are required for field/clinical duties in all the veterinary districts.

3.1.2 The Directorate has developed policies, plans and procedures to prepare for animal diseases outbreaks

54. Step four of the OIE Guidelines for Animal Disease control states that “the Veterinary Authority in collaboration with stakeholders should develop a plan based on the goal of the programme”. This means that once a risk has been identified, there should be a plan of action to mitigate the impact of the risk. We examined whether the Directorate had developed policies, plans, and procedures in preparation for animal diseases outbreaks in Ghana.
55. The audit team reviewed the Policy on 28 notifiable diseases and the Preparedness and Response plan for Avian and Human Pandemic Influenza 2005-2006 and noted that these two documents guide the Directorate in responding to animal diseases outbreaks. The Avian and Human Pandemic Influenza response plan highlights an 11-step procedure that the Directorate follows to respond to animal diseases outbreaks.

56. The procedure is as follows;
   i. Investigate rumour(s), collect and analyse samples and report to Director of Veterinary Services
   ii. Discuss report of epidemiologist and laboratory report and steps to be taken
   iii. Inform Minister of Food and Agriculture about outbreak
   iv. Declare the outbreak by Executive Instrument
   v. Deploy financial, human and material resources to outbreak area to assess situation and determine extent of spread of the disease and provide statistics
   vi. Institute quarantine, standstill measures
   vii. Impose movement restrictions on all vehicles
   viii. Meet with all stakeholders to discuss eradication measures such as destruction and compensation
   ix. Identify infected farms and move to affected area
   x. Destroy and burn and/or bury affected and in-contact animals
   xi. Pay compensation to owners of destroyed animals.

57. The FAO guidelines for strengthening animal health services in developing countries in Chapter 7 under Preparation of a Plan requires VSD to “prepare and periodically review action plans for each of the animal diseases outbreaks so that the necessary measures can be taken without delay in the event of a national outbreak involving one of the diseases listed.” The policies, plans, and procedures need to be regularly updated to deal with new scientific knowledge and include lessons learnt from past outbreaks. The audit team through documentary review found that the
Preparedness Plan used by VSD as its logical framework to combat the threat of animal diseases outbreaks has not been reviewed since 2006.

58. We interviewed some VSD officers in the Districts and Regions we visited to ascertain whether they have a Preparedness plan for Avian Influenza (AI) in their Districts and found that the officers were not aware of the existence of such a plan and did not know what action to take in the event of an outbreak.

59. The District Officers indicated that the Regional Office advice on what action to be taken when there is a suspected outbreak of animal diseases.

60. The Directorate also does not have a systematic approach for identifying and incorporating lessons learnt into updating the preparedness plan after an outbreak. This reduces VSD’s ability to identify the most important needs for new or amended policies, plans, or procedures.

3.1.3 The Directorate did not carry out trainings on the Preparedness Plan

61. Training of staff in relation to the Preparedness Plan is an essential element of being prepared to respond to outbreaks of animal diseases. We expected the Directorate to have carried out training for staff on the Preparedness Plan for animal diseases outbreaks. The training would equip the staff to prepare and respond appropriately to animal diseases outbreaks.

62. We enquired whether the Directorate carried out training related to the Preparedness Plan and found that during the years under examination (2010-2018), VSD did not carry out any training or simulation exercises related to its policies and plans on preparing for animal diseases outbreaks. Documentary review of VSD Annual Action Plans and Annual reports showed that staff of the Directorate attended training both locally and internationally but none of the training were in relation to the Preparedness Plan. A sample of training activities attended by staff of VSD within the audit period is shown in Table 4.
Table 4: Trainings and Workshops attended by VSD staff within the audit period

<table>
<thead>
<tr>
<th>Theme of workshop/Training Attended</th>
<th>Number of staff trained</th>
<th>Country</th>
<th>Duration (days)</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality Assurance in Laboratory Management</td>
<td>3</td>
<td>Ghana</td>
<td>3</td>
<td>2011</td>
</tr>
<tr>
<td>Electronic Data Management</td>
<td>2</td>
<td>Ghana</td>
<td>5</td>
<td>2011</td>
</tr>
<tr>
<td>Internal Audit</td>
<td>2</td>
<td>Ghana</td>
<td>2</td>
<td>2011</td>
</tr>
<tr>
<td>Laboratory Training</td>
<td>2</td>
<td>Ghana</td>
<td>14</td>
<td>2011</td>
</tr>
<tr>
<td>Rinderpest Eradication</td>
<td>1</td>
<td>Italy</td>
<td>4</td>
<td>2011</td>
</tr>
<tr>
<td>Global conference on Rabies</td>
<td>1</td>
<td>South Korea</td>
<td>5</td>
<td>2011</td>
</tr>
<tr>
<td>Molecular Techniques in diagnosis</td>
<td>1</td>
<td>Ghana</td>
<td>5</td>
<td>2012</td>
</tr>
<tr>
<td>ARIS 2</td>
<td>3</td>
<td>Ghana</td>
<td>3</td>
<td>2012</td>
</tr>
<tr>
<td>Cost Benefit Analysis</td>
<td>2</td>
<td>Ghana</td>
<td>5</td>
<td>2012</td>
</tr>
<tr>
<td>GIFMIS</td>
<td>4</td>
<td>Ghana</td>
<td>3</td>
<td>2012</td>
</tr>
<tr>
<td>Observation of best practices in the context of Avian influenza</td>
<td>1</td>
<td>USA</td>
<td>8</td>
<td>2012</td>
</tr>
<tr>
<td>Training in Molecular Epidemiology and Bioinformatics</td>
<td>1</td>
<td>Kenya</td>
<td>4</td>
<td>2012</td>
</tr>
<tr>
<td>OIE General Session</td>
<td>1</td>
<td>France</td>
<td>7</td>
<td>2015</td>
</tr>
<tr>
<td>Harmonization for Sub-Regional contingency plans for control of Avian Influenza</td>
<td>2</td>
<td>Mali</td>
<td>5</td>
<td>2015</td>
</tr>
<tr>
<td>Identification Workshop of West Africa Regional Disease Surveillance Systems Enhancement Project (REDISSE)</td>
<td>2</td>
<td>Senegal</td>
<td>3</td>
<td>2015</td>
</tr>
<tr>
<td>AI and Poultry trade</td>
<td>1</td>
<td>USA</td>
<td>3</td>
<td>2015</td>
</tr>
<tr>
<td>Veterinary and animal legislation</td>
<td>1</td>
<td>USA</td>
<td>10</td>
<td>2015</td>
</tr>
<tr>
<td>ARIS Management and Sharing Establishment</td>
<td>2</td>
<td>Mauritius</td>
<td>3</td>
<td>2015</td>
</tr>
<tr>
<td>Codex Alimentarius Conference on Veterinary Drugs Residue in food.</td>
<td>1</td>
<td>USA</td>
<td>5</td>
<td>2018</td>
</tr>
<tr>
<td>85th Session of the OIE</td>
<td>1</td>
<td>France</td>
<td>5</td>
<td>2018</td>
</tr>
<tr>
<td>Biotechnology application in Agriculture</td>
<td>1</td>
<td>Ghana</td>
<td>20</td>
<td>2018</td>
</tr>
<tr>
<td>Africa Regional Behaviour Change to combat Antimicrobial resistance (AMR) framework</td>
<td>1</td>
<td>Kenya</td>
<td>3</td>
<td>2018</td>
</tr>
<tr>
<td>Improvement of the meat inspection systems in Ghana</td>
<td>1</td>
<td>Ghana</td>
<td>3</td>
<td>2018</td>
</tr>
<tr>
<td>ATLASS Assessors training</td>
<td>1</td>
<td>Zambia</td>
<td>4</td>
<td>2018</td>
</tr>
<tr>
<td>Veterinary quarantine and diagnostic laboratory in the control of a transboundary animal disease affecting inter trade</td>
<td>1</td>
<td>Egypt</td>
<td>5</td>
<td>2018</td>
</tr>
</tbody>
</table>

Source: Audit team compilation from VSD annual reports 2010 to 2018
63. Training and simulation exercises on preparedness will enable VSD staff to be abreast with the plan and serve as a way of improving the plan since lessons learned from training and simulation exercises could be used in updating the plan to make it more effective. If staffs are expected to perform adequately in the event of an outbreak of animal disease, then training on the Preparedness Plan would help them achieve this objective.

64. We requested for the preparedness plan at all the Regional and District Offices the team visited but was provided with none. We also interviewed staff at the District offices to see if they were aware of the Preparedness Plan but none of them were aware of the existence of such a plan. The staff were not aware of the procedures for responding to animal diseases outbreaks as was evidenced during the outbreak of Avian Influenza in the Obuasi municipality in 2015. The District Veterinary officer had to call on the Regional Veterinary Officer to put in place measures to combat the outbreak. This was corroborated in interviews with the RVO in Ashanti Region and the DVO in charge of Obuasi where they mentioned challenges in training of staff on the Incidence Command System, which is a main component of the Preparedness Plan.

65. In the opinion of management of VSD, training was not carried out on the Preparedness Plan because the Directorate’s budget was not released in full during the period under review.

Conclusion

66. VSD conducted risk assessments and developed policies and plans based on the risk assessment in preparing for livestock disease outbreaks. However, the Directorate did not carry out training for staff on the Preparedness plan for Human and Avian pandemic influenza, neither did it also review the Preparedness Plan which was last reviewed in 2007.
**Recommendation**

67. We recommended to management of VSD to use funds earmarked for training and workshops for staff, to organise local training on the Preparedness Plan for Human and Avian Pandemic influenza as a matter of priority. In addition, management of VSD should form a technical team/committee to review and update the animal diseases risk and update the Preparedness Plan as warranted by changing circumstances.

**Management response**

*Training on Preparedness Plan*

68. Management explained that, after preparedness plan have been developed and approved at routine and annual review meetings with Regional Veterinary Officers (RVOs) and Unit Heads, it is expected that they train their subordinates accordingly. However, due to the persistent non release of funds, such training could not be carried out regularly except in some districts and regions where Regional Directors of Agriculture and some District/Municipal and Metropolitan Chief Executives help in funding some activities in the agriculture sector.

69. In view of the “One Health” concept of the World Health Organization (WHO) and the World Organization for Animal Health (OIE) which tends to integrate human and animal health, the Ghana Health Service (GHS) has organized a number of trainings in preparedness Plans and Rapid Response locally for staff of the two institutions and other stakeholders such as NADMO especially in the wake of the Ebola outbreak in some countries in Africa.

*No review of Risk Assessment since 2006*

70. After the Avian Influenza (AI) outbreak in 2006, there was risk assessment to ascertain the possible spread of the disease to other areas. This prompted the carrying out of active surveillance in risk prone areas. Funds were readily released for the purpose because the disease was new in the country. In the opinion of the Directorate, the risk assessment done in 2006 reasonably holds good up to date. It is still evident
from the outbreaks since 2014 to date that the disease is still confined to the Southern sector of the country. Since (AI) is not the only disease to serve as an early warning tool to help plan interventions in the future.

Knowledge of staff on actions to take during outbreaks
71. Concerning the knowledge of staff on action to take during outbreaks, VSD agreed that different stations use different approaches to combat outbreaks, which are not the best practice. Taking cognizance of this fact, the Directorate is putting together a team to update the existing Manual of Schedule Diseases (MOSD) that clearly states case definitions and Standard Operating Procedures (SOP) to follow during an outbreak. After the updating, it is expected that with assistance from donor partners, training would be carried out to improve staff knowledge on outbreak prevention, response and control.

3.2 PREVENTING ANIMAL DISEASES OUTBREAKS
72. As part of the policies developed by VSD to minimise the risk of animal diseases occurring, the Directorate carries out passive surveillance, routine vaccination, sensitization, and Animal Movement Control.

73. The team found the following lapses under preventive activities
   - delays in submission of Surveillance Report to Epidemiological Unit
   - VSD conducts routine vaccination of animals
   - VSD has no plan for sensitization
   - VSD did not enforce animal movement control

3.2.1 Delay in submitting Surveillance Reports
74. Passive surveillance involves the routine checking of livestock animals in the field for disease prevalence and incidents. This is done for purposes of early detection. Reports of these surveillance activities are then furnished monthly to the epidemiological unit at VSD. Staff also investigate and report on rumours and the presence of diseases.
75. World Organization for Animal Health (OIE) requires countries to furnish it with information necessary to minimize the spread of animal diseases and to assist in achieving better worldwide control. This information is made available to other countries by the OIE. To comply with this, VSD requires Districts to submit monthly epidemiological reports not later than the 10\textsuperscript{th} day of the ensuing month.

76. These reports capture all information on disease outbreaks, vaccinations carried out, vaccine stocks, meat inspections, laboratory activities, veterinary inspection services and animal movements. This information is gathered by technical officers in the Districts under the supervision of District Veterinary Officers (DVOs). The technical officers and the DVOs use passive surveillance to gather this information.

77. Veterinary Officers carry out surveillance in their respective Districts and are required to submit reports on surveillance activities carried out to the Regional Veterinary Officers (RVOs) by the 5\textsuperscript{th} of the ensuing month. The report also includes an account of vaccines sold. The RVOs compile the surveillance reports for the various Districts in their Regions and forward it to the epidemiological unit by the 10\textsuperscript{th} day of the month they received the report.

78. The audit found that DVOs do the surveillance on animal diseases in the Districts but do not submit the reports on the surveillance to the RVOs by the stipulated period. The RVOs are therefore unable to compile and submit the surveillance reports by the 10\textsuperscript{th} day of the subsequent month as required to the epidemiology unit at the head office. Details of delays in 13 Districts from the Northern Region for January 2015 and June 2015 are shown in table 5.
Table 5: Details of Delays from 13 Districts in the Northern Region

<table>
<thead>
<tr>
<th>No.</th>
<th>District</th>
<th>January 2015</th>
<th></th>
<th>June 2015</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Actual Date of Report</td>
<td>Due Date of Report</td>
<td>Delay Period</td>
<td>Actual Date of Report</td>
</tr>
<tr>
<td>2.</td>
<td>Mamprugu/ Moaduri</td>
<td>2nd Week of February 2015</td>
<td>By 31st of January 2015</td>
<td>2 Weeks</td>
<td>-</td>
</tr>
<tr>
<td>3.</td>
<td>Sawla/Tuna/Kalba</td>
<td>2nd Week of February 2015</td>
<td>By 31st of January 2015</td>
<td>2 Weeks</td>
<td>-</td>
</tr>
<tr>
<td>4.</td>
<td>West Mamprusi</td>
<td>2nd Week of February 2015</td>
<td>By 31st of January 2015</td>
<td>2 Weeks</td>
<td>-</td>
</tr>
<tr>
<td>5.</td>
<td>Zabzugu</td>
<td>1st Week of February 2015</td>
<td>By 31st of January 2015</td>
<td>1 Week</td>
<td>2nd Week of July 2015</td>
</tr>
<tr>
<td>7.</td>
<td>North Gonja</td>
<td>1st Week of February 2015</td>
<td>By 31st of January 2015</td>
<td>1 Week</td>
<td>1st Week of July 2015</td>
</tr>
<tr>
<td>10.</td>
<td>West Gonja</td>
<td>1st Week of February 2015</td>
<td>By 31st of January 2015</td>
<td>1 Week</td>
<td>2nd Week of July 2015</td>
</tr>
<tr>
<td>11.</td>
<td>Nanumba South</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2nd Week of July 2015</td>
</tr>
<tr>
<td>12.</td>
<td>Kpandai</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1st Week of July 2015</td>
</tr>
<tr>
<td>13.</td>
<td>East Mamprusi</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1st Week of July 2015</td>
</tr>
</tbody>
</table>

Source: VSD Northern Region Office compilation

79. From table 5, the delay days ranged between one week and two weeks for Districts in the Northern Region. The dates for the reports are set so that VSD will quickly detect and respond to animal diseases outbreaks if detected.

80. Some DVOs attributed the delay in meeting the deadline for reporting to inadequate staff numbers at the Districts. They further indicated that, they were unable to cover all areas in the Districts on a monthly basis. Documentary review of establishment post by the audit team showed that there were only 71 Veterinary Surgeons in the 211 Veterinary Districts in Ghana, out of which 16 hold administrative positions at the head office.

81. The Regional Veterinary Officers explained that another cause of delay in submitting the Surveillance reports is that the DVOs make use of the proceeds from
the sale of vaccines and pay back after collecting their salaries at the end of the month before submitting the reports.

82. The RVOs were therefore unable to compile and forward the reports of all the Districts in their regions to the Epidemiology Unit at head office within the required period. Details of delays in submitting to the Epidemiology unit in Accra from the Regions for the month of July 2015 are shown in Table 6.

Table 6: Delays in submitting surveillance reports to the Epidemiology-Unit

<table>
<thead>
<tr>
<th>Region</th>
<th>Due Date of Report</th>
<th>Actual Date of Report</th>
<th>Delay Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashanti</td>
<td>10/08/2015</td>
<td>10/08/2015</td>
<td>0</td>
</tr>
<tr>
<td>Brong Ahafo</td>
<td>10/08/2015</td>
<td>03/08/2015</td>
<td>7 days earlier</td>
</tr>
<tr>
<td>Central</td>
<td>10/08/2015</td>
<td>16/08/2015</td>
<td>6 days</td>
</tr>
<tr>
<td>Eastern</td>
<td>10/08/2015</td>
<td>14/08/2015</td>
<td>4 days</td>
</tr>
<tr>
<td>Greater Accra</td>
<td>10/08/2015</td>
<td>17/08/2015</td>
<td>7 days</td>
</tr>
<tr>
<td>Northern</td>
<td>10/08/2015</td>
<td>15/08/2015</td>
<td>5 days</td>
</tr>
<tr>
<td>Upper East</td>
<td>10/08/2015</td>
<td>20/08/2015</td>
<td>10 days</td>
</tr>
<tr>
<td>Upper West</td>
<td>10/08/2015</td>
<td>17/08/2015</td>
<td>7 days</td>
</tr>
<tr>
<td>Volta</td>
<td>10/08/2015</td>
<td>10/08/2015</td>
<td>0</td>
</tr>
<tr>
<td>Western</td>
<td>10/08/2015</td>
<td>*</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: VSD Epidemiological Unit compilation

* There was an animal disease outbreak in Western Region so there was no surveillance report.

83. The Director of the Epidemiology Unit at the head office in an interview said that the effect of delay of the surveillance reports is that, the unit is unable to report to the VSD Director and the Ministry of Agriculture on actual disease situation as required of them. He stated further that due to the delays in receiving the surveillance reports, the Unit is unable to report to AU-AIBAR and OIE in a timely manner as required on the current disease trends in Ghana.

3.2.2 VSD conducts routine vaccination of animals

84. The VSD policy on the 28 notifiable diseases requires officials in the field to carry out routine vaccinations on animals. It stipulates the intervals at which animals should be routinely vaccinated for particular listed diseases as a preventive measure. In areas with high prevalence, the intervals for vaccination can be reduced to cater for the
special circumstances. VSD is supposed to provide vaccines and personnel for routine vaccinations of notifiable diseases.

85. The audit team reviewed vaccination schedule and noted that VSD follows the schedule to vaccinate the animals as a preventive measure. The livestock farmers pay for the vaccines whenever VSD officials vaccinate their animals. However, some donor sponsored projects such as VACNADA provides some vaccines free of charge to farmers. In 2013, 15,278,302 animals, worth GH₵655,447.11, were vaccinated against notifiable diseases, whilst 21,915,080 animals worth GH₵1,227,235,725 were vaccinated in 2016. Some of the vaccinations that were carried out within the audit period is shown in Table 7.

<table>
<thead>
<tr>
<th>Table 7: Vaccination of animals within the period 2013 to 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal Species</td>
</tr>
<tr>
<td>Poultry</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Cattle</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Pigs</td>
</tr>
</tbody>
</table>

Source: VSD annual reports

3.2.3 VSD has no plan for sensitization

86. Good practice among OIE member countries requires the public health unit of VSD to form a task force to come up with sensitization messages relating to the issues at hand. These messages should be suited to the relevant target groups for example livestock farmers and traders, community members etc. Veterinary Service officers are required to explain the messages in the sensitization materials to the targeted groups.
during distribution. For the sensitization to achieve the desired results, the language, timing, medium of transmission and places where sensitizations materials are hanged/pinned should be appropriate.

87. Our review of the VSD Annual Programme of Work revealed that provisions were not made for their staff to engage farmers and relevant stakeholders on best practices. We noted through interviews that education of the public on the effects of consuming unwholesome animal and animal products were done on ad-hoc basis as there were no provision for education. We also noted that sensitization was mostly carried out in response to outbreaks and not to prevent outbreaks.

88. When the Regional and District veterinary officers were asked how they carried out sensitization, they indicated that they educate farmers when they carry out surveillance and vaccination but information on sensitization of farmers were not documented.

89. Failure to document sensitization activities by the VSD could result in the loss of institutional memory and absence of reference points for the Directorate to plan or learn.

3.2.4 Lapses in Animal Movement Control
90. Enforcement of the Diseases of Animals Act, 1961 (Act 83) and the relevant regulations relating to animals is primarily the mandate of VSD. In some instances, the police, local administration, immigration officers at border and other entry points assist with enforcement in collaboration with VSD.

91. VSD is expected to operate Animal Check Points (ACPs) in high animal disease risk areas and along the major animal routes. ACPs are either mobile or fixed and are operated by Veterinary Authorities in accordance with the Diseases of Animals Act, 1961 (Act 83). ACPs should have facilities to hold animal and animal products that are impounded and should have security, water, fodders and disinfectants. They should
also have storage for animal products and at least one qualified Veterinary staff based on the work and conditions on the ground.

92. Livestock farmers who intend to move animals from one location to the other within the country need to obtain a movement permit at a fee from VSD. The Veterinary officer would carry out inspection of the animals to ascertain whether the animals are free from diseases.

93. The veterinary officer then issues a movement permit covering the animals to be transported when the animals meet the agreed criteria. The permit is necessary to prevent the spread of transboundary and zoonotic diseases. It also enables the VSD to trace the origin of a disease in the event of an outbreak or detection at slaughter.

94. The permit issued should indicate ownership of livestock, purpose of movement and whether they have been cleared of disease. The permit should also indicate the routes for transporting the animals and their destination, which can be changed only if unforeseen trouble or risks occur. The farmer is then required to inform the nearest police unit and the Veterinary authorities as soon as possible. Persons carrying livestock and or livestock products on the highway or entry points must stop at ACPs and present a movement permit for inspection. Veterinary officers at ACPs examine the animals based on clinical assessment. The audit team however noted that there were no expiry dates on the movement permit.

95. Animals or animal products impounded at ACPs may be kept at the nearest animal quarantine facility until the necessary screening is carried out by VSD officials and the owner pays the appropriate fees. Ports of entry/exit, border posts, slaughter houses or processing places are also regarded as animal check points and may be used for purposes of ACP activities.

96. Before animal or animal products can be imported into the country, the importer is expected to inform VSD of the intention to do so. Based on information supplied by
OIE, importation is not permitted if the country in question has been declared disease endemic by OIE. Where importation is permitted, the livestock or livestock products on arrival at the entry point are examined to ascertain whether they are disease free and meet other conditions stipulated by the Food and Drugs Authority for entry.

97. If conditions are met, animal or animal products entry is granted, else they are returned to the country of origin, quarantined or destroyed. VSD must have at least a Veterinary officer stationed at the border entry points to enforce the rules and regulations regarding the import and export of animal and animal products. The border entry points are also required to have nearby animal holding ground where animals would be screened before they are allowed into the country.

98. The audit team visited the VSD offices at Paga and Mognori, both in the Upper East Region. These are areas that VSD has identified as a major animal route and border points through which livestock are imported into the country. Ghana is a net importer of livestock, therefore it does not export livestock. The team found that the ACP facility at Mognori had a quarantine station attached to it but the place was deserted. Picture 1 shows the state of the Mognori Animal check point.

**Picture 1: Quarantine Station Mognori (A-Holden pen, B-Grazing area)**

![Quarantine Station Mognori](source:Audit Service field pictures)

99. At Mognori, we were informed that the quarantine station had not been operational since 1982 even though farmers continue to use this route to transport
livestock into the country. We noted that the facility had been run down and not secure for safe keeping of impounded animals. The holding pens for livestock had no gates and some portions of the fence had collapsed. In view of the state of the facility, we noted that livestock which entered the country through Mognori in most cases, were not screened for any animal disease.

100. At the Paga ACP, we noted that the facility, which is along the Ghana-Burkina Faso border is in use well maintained. Refer to picture 2.

**Picture 2: Quarantine station in Paga (A-Holding Pen, B-Loading Pen)**

![Picture 2]

*Source: Audit team field pictures*

101. Apart from the border points, the audit team also visited the Ashaiman livestock market in Accra and noted that they had no ACPs. Although staff of the VSD in Ashiaman had an office at the market, they have no quarantine facilities for their operations.

102. Traders and farmers interviewed during our field inspection at the Ashaiman livestock market confirmed that, in most instances, they transport their livestock through the various entry points into the market to sell without movement permits.

103. We interviewed VSD officials at the Ashaiman market as to why some of the livestock farmers did not acquire movement permits before transporting the animals to the market. The officials indicated that there were no operational ACPs along the
routes to check if the animals being transported have been issued movement permits or not.

104. There is a potential risk of transporting animals infected with diseases to the market as they were not inspected and screened, not to mention revenue loses to VSD due to the non-issuance of movement permits.

105. Though inadequate funding seems to be one of the causes of the poor control in the movement of animals across the country by VSD, we are of the view that, ineffective management oversight and supervision on the operations of veterinary officers stationed at the border points and markets also contributed to the transporting of animals with various kinds of infectious diseases to the market.

Conclusion

106. There was weak control by management in ensuring prompt submission of the Surveillance report by both the Regional and District veterinary officers. Also, VSD does not have adequate structures for planning and dissemination of information on disease and its effect on humans. Additionally, there were lapses in animal movement control. Finally, VSD did not make provisions for sensitization in their annual programme of work.

Recommendation

107. We recommended to management of VSD to:
- Decouple the pay-in-slips from the surveillance reports so that the reports would not be delayed because of non-payment of revenue to bank
- Liaise with banks to find alternative means of making payment without physically going to the banks e.g. mobile money
- Plan for sensitization and liaise with media houses for access to their media outlets to be used for sensitization programmes as part of their corporate social responsibility
- Document sensitization activities
- Ensure that the Public Health Unit liaises with the Ghana Police Service, the Ghana Immigration Service and Customs Division of the Ghana Revenue Authority to organize sensitization workshops for their officers on animal movement control.

**Management response**

*Delays in submission of Reports*

108. Apart from your reasons for delay in submission of reports which is true, in the wake of the Unified Extension System which brought together all departments of the Ministry of Food and Agriculture, District Veterinary Officers reported to the District Directors who fail to forward same to the Director of Veterinary Services to be incorporated into the national Report to be submitted to the relevant international organizations like the WHO, OIE and others who may demand them. This situation can be resolved if and only if the Veterinary Services Directorate is made completely autonomous.

109. The problem of spending service charges before paying with salaries of staff is true and this is due to the fact that most of them use the money for travels to make farm visits and treat animals hoping for a refund which is never made. In the case of districts, especially new ones with no big banks except the rural banks, staff wait till the end of the month to collect their salaries and travel to adjoining districts with banks approved for payment of revenue to pay service charges and subsequently collect pay-in-slips which causes delays.

*Non-sensitization of Farmers*

110. Although it is appreciated that sensitization of farmers on all aspects of the work of the department is essential, most districts do not carry out sensitisation due to financial challenges. Districts with free access to radio stations carry out routine sensitization programmes. To ensure that the same messages are sent to farmers, the department intends to revive the hitherto editorial board of the directorate to design messages in the form of bulletins, pamphlets and flyers for the purpose.
111. Management agreed with the issue of inadequate staff and stated that the directorate recently had a meeting with the Minister of State in charge of Agriculture on the issue who assured them of a positive outcome within the shortest possible time.

**Poor state of Mognori Quarantine Station**

112. This situation has been a bother to the Department. Non-availability of funds for capital investment for a very long time has made it impossible to address the situation.

**Movement Permits**

113. Most livestock dealers obtain movement permits before transporting animals however, a few do not. This situation may be due to the fact that the police do not have adequate knowledge on regulations governing movement and transhumance.\(^5\) There is therefore the need to train them in this regard. Furthermore, all officers at destination points have been directed to collect movement permits when animals arrive and submit to their RVOs monthly so that figures could be tallied with issuing points to ascertain the difference if any.

### 3.3 RESPONDING TO ANIMAL DISEASES OUTBREAKS

#### 3.3.1 The Directorate followed the preparedness plan to respond to animal diseases outbreaks

114. The audit team randomly selected the outbreak of African swine fever in the Ellembelle district in 2014 and the outbreak of Avian Influenza in the Obuasi municipality in June 2015. This was to examine whether VSD followed the 11-step procedures in the Preparedness and Response Plan for Avian Influenza (Refer to Paragraph 56) put in place in 2006. We focused on VSD emergency response activities other than the activities of its stakeholders such as NADMO, Ghana National Fire Service, Ghana Police Service and owners of the infected premises.

115. We reviewed the outbreak reports on the two sampled livestock diseases and found that the Directorate followed all the procedures outlined in the preparedness

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\(^5\) Seasonal movement of livestock either under the care of herders or in company with owners
plan to curb the outbreak. Refer to Appendix 9 for the reports on the outbreaks of the two livestock diseases.

3.4 RECOVERING FROM ANIMAL DISEASES OUTBREAKS

3.4.1 VSD did not pay compensation in full to owners of destroyed animals

116. Where necessary during outbreaks of livestock diseases, VSD can destroy affected animals as part of response activities. Under such circumstances, owners of affected animals need to be compensated for the destruction of their animals (livelihoods). Step 11 (Refer to paragraph 56) of the Preparedness and Response Plan for Avian & Human Pandemic Influenza states that: “Pay compensation to owners of destroyed animals”. The compensation paid will enable the farmers restore animal production and continue with their business.

117. The audit team found through interviews and documentary review that, where funds are available the VSD paid compensation to livestock farmers who had animals destroyed. In some instances, like the outbreak of African swine fever in the Ellembelle District in 2014, VSD in conjunction with the Animal Services Directorate of the MOFA provided breeding animals to the famers who lost their pigs to multiply and distribute amongst themselves. However, in the case of the Avian Influenza outbreak in the Obuasi municipality, no compensation was paid to the affected farmers.

118. Documentary review of the approval of MOFA budget for implementation of emergency plan showed that on 11th August 2015, Parliament approved an amount of GH¢11,000,000.00 to implement MOFA emergency plan for the control of Avian Influenza. Out of the amount approved, GH¢3,500,000.00 was detailed as compensation to farmers.

119. Our review of Receipts and Payments account of VSD for the period 13 October 2015 to 29 December 2016 showed that an amount of GH¢7,000,000.00 was released from MOFA under the plan. Out of this amount, a total of GH¢1,141,222.24
(16.3%) was paid to farmers as compensation, leaving an amount of GH¢1,504,192.50 as outstanding compensation to poultry farmers.

120. We interviewed five farmers at the Ningo Prampram District who did not receive compensation for their destroyed birds and two mentioned that they lost their source of income because they could not restock their farms. The other three said they took loans from friends before they could restore their production. They requested for expedite payment of the outstanding compensation to enable them restore production and pay off the loans.

**Conclusion**

121. VSD compensates farmers either by providing healthy animals to farmers after responding to livestock disease outbreaks or by giving money to help the farmers restock. In some instances, there are delays in compensating the farmers.

**Recommendation**

122. We recommended to management of VSD to work through the Ministry of Food and Agriculture to get Ministry of Finance to timely release funds for compensation of farmers affected by livestock disease outbreaks.

**Management response**

*Compensation to Farmers*

123. Compensation of farmers during outbreaks is within the purview of Central Government to release funds for that purpose. Presently the Department is being threatened with legal action by some farmers whose birds were destroyed during the 2016 AI outbreak and are yet to receive compensation as promised.
## APPENDICES

### Appendix 1: Persons interviewed and reason(s) for interviews

<table>
<thead>
<tr>
<th>No.</th>
<th>Officials</th>
<th>Reason(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Director of VSD</td>
<td>Input in developing Plans and policies for animal diseases outbreak</td>
</tr>
<tr>
<td>2</td>
<td>Deputy Director in Charge of Disease Prevention and Control</td>
<td>Role in responding to animal disease outbreaks</td>
</tr>
<tr>
<td>3</td>
<td>Deputy Director in Charge of Public Health and Regulatory Services</td>
<td>Actions taken during animal diseases outbreaks</td>
</tr>
<tr>
<td>4</td>
<td>Deputy Director in Charge of Laboratory Services and Research</td>
<td>Activities undertaken in diagnosing disease at the laboratory.</td>
</tr>
</tbody>
</table>
| 5   | Chief Accountant of VSD                  | i. Sources of funds for VSD and expenditure for preparing and responding to animal diseases outbreaks. 
                                         | ii. Compensation paid to farmers                                           |
| 6   | Regional and District Veterinary Officers | Actions taken during animal diseases outbreaks in the Regions and Districts |
| 7   | Epidemiologist                           | Trends on animal’s diseases outbreaks in Ghana                             |
### Appendix 2: Documents Reviewed and information obtained

<table>
<thead>
<tr>
<th>No.</th>
<th>Document</th>
<th>Information obtained</th>
</tr>
</thead>
</table>
| 1   | Diseases of Animals Act, 1961 (Act 83)                                   | I. Definition of animal diseases  
ii. What the act requires of VSD  
and farmers during animal disease outbreaks |
| 2   | VSD Annual Reports (2010 – 2015)                                         | I. Historical background of animal diseases in Ghana  
ii. Notifiable disease  
i. Diseases outbreaks and amount lost to farmers |
| 3   | Preparedness and Response Plan for Avian and Human Pandemic Influenza (2005-2006) | VSD plans and policies to prepare and response to animal diseases outbreaks             |
| 4   | Animal Disease outbreaks reports                                          | I. Type and number of diseases  
ii. Type and number of animals affected  
iii. Actions taken during the |
| 5   | Financial statements of VSD (2010 – 2015)                                | Sources of funds for VSD and expenditure for preparing responding to animal diseases outbreaks |
| 6   | OIE terrestrial code                                                      | I. International veterinary practices                                                  |
| 7   | OIE Guidelines for animal disease control                                | Criteria for developing plans for animal diseases outbreaks.                           |
| 9   | FAO Guidelines for strengthening animal health services                   | Importance of animal disease risk assessment.                                           |
### Appendix 3: Places Visited and Reasons for Visiting Them

<table>
<thead>
<tr>
<th>Places visited</th>
<th>Reasons for visiting them</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kotuku International Airport and Team Harbor</td>
<td>To observe and monitor the activities undertaken by VSD on imported animals and animal products</td>
</tr>
<tr>
<td>Abattoir (Accra, Kumasi)</td>
<td>To witness the roles undertaken by VSD staff before meat is certified as wholesome for public consumption</td>
</tr>
<tr>
<td>Laboratory (Accra, Kumasi and Tamale)</td>
<td>To observe and corroborate information on the role of the laboratories in vaccine production and diagnosing of livestock animal diseases</td>
</tr>
<tr>
<td>VSD border posts (Sampan, Mingora and Page)</td>
<td>To observe, inspect and corroborate information on animal movement control by VSD and also assess the state of facilities at the quarantine stations.</td>
</tr>
<tr>
<td>Ashaiman cattle market and slaughter House</td>
<td>To verify if cattle brought to the market had movement permits and to witness the role of VSD in certifying meat as wholesome for public consumption.</td>
</tr>
</tbody>
</table>
Appendix 4: OIE notifiable animal diseases

List A

- Foot and mouth disease
- Swine vesicular disease
- Paste des petites ruminants
- Lumpy skin disease
- Bluetongue
- African horse sickness
- Classical swine fever
- Newcastle disease
- Vesicular stomatitis
- Rinderpest
- Contagious bovine pleuropneumonia
- Rift Valley fever
- Sheep pox and goat pox
- African swine fever
- Highly pathogenic avian influenza

List B

<table>
<thead>
<tr>
<th>Multiple species diseases</th>
<th>Cattle diseases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthrax</td>
<td>Bovine anaplasmosis</td>
</tr>
<tr>
<td>Aujeszky's disease</td>
<td>Bovine babesiosis</td>
</tr>
<tr>
<td>Echinococcosis/hydatidosis</td>
<td>Bovine brucellosis</td>
</tr>
<tr>
<td>Heartwater</td>
<td>Bovine cysticercosis</td>
</tr>
<tr>
<td>Leptospirosis</td>
<td>Bovine genital</td>
</tr>
<tr>
<td>New world screwworm (Cochliomyiabominivora)</td>
<td>campylobacteriosis</td>
</tr>
<tr>
<td>Old world screwworm (Chrysomya bezziana)</td>
<td>Bovine spongiform encephalopathy</td>
</tr>
<tr>
<td>Paratuberculosis</td>
<td>Bovine tuberculosis</td>
</tr>
<tr>
<td>Q fever</td>
<td>Dermatophiliosis</td>
</tr>
<tr>
<td>Rabies</td>
<td>Enzootic bovine leukosis</td>
</tr>
<tr>
<td>Trichinellosis</td>
<td>Haemorrhagic septicaemia</td>
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<td></td>
<td>Infectious bovine</td>
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<tr>
<td></td>
<td>rhinotracheitis/infectious</td>
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<tr>
<td></td>
<td>postular vulvovaginitis</td>
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<tr>
<td></td>
<td>Malignant catarrhal fever</td>
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<tr>
<td></td>
<td>Theileriosis</td>
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<tr>
<td></td>
<td>Trichomononisis</td>
</tr>
<tr>
<td></td>
<td>Trypanosomosis (tsetse-transmitted)</td>
</tr>
</tbody>
</table>
### Sheep and goat diseases
- Caprine and ovine brucellosis (excluding *B. ovis*)
- Caprine arthritis/encephalitis
- Contagious agalactia
- Contagious caprine pleuropneumonia
- Enzootic abortion of ewes (ovine chlamydiosis)
- Maedi-visna
- Nairobi sheep disease

### Equine diseases
- Contagious equine metritis
- Dourine
- Epizootic lymphangitis
- Equine encephalomyelitis (Eastern and Western)
- Equine infectious anaemia
- Equine influenza
- Equine piroplasmosis
- Equine rhinopneumonitis
- Equine viral arteritis
- Glanders

### Swine diseases
- Atrophic rhinitis of swine
- Enterovirus encephalomyelitis
- Porcine brucellosis
- Porcine cysticercosis
- Porcine reproductive and respiratory syndrome
- Transmissible gastroenteritis

### Avian diseases
- Avian chlamydiosis
- Avian infectious bronchitis
- Avian infectious laryngotracheitis
- Avian mycoplasmosis (*M. gallisepticum*)
- Avian tuberculosis
- Duck virus enteritis
- Duck virus hepatitis
- Fowl cholera
- Fowl pox
- Fowl typhoid
- Infectious bursal disease (Gumboro disease)
- Marek's disease
- Pullorum disease

### Bee diseases
- Acariosis of bees
- American foulbrood
- European foulbrood
- Nosemosis of bees
- Varroosis
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<th>Lagomorph diseases</th>
<th>Mollusc diseases</th>
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<tbody>
<tr>
<td>- Myxomatosis</td>
<td>• Bonamiosis ( (\text{Bonamiaexitiosus, B. ostreae, Mikrocytosroughleyi}) )</td>
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<tr>
<td>- Rabbit haemorrhagic disease</td>
<td>• Marteiliiosis ( (\text{Marteiliarefringens, M. sydneyi}) )</td>
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<tr>
<td>- Tularemia</td>
<td>• Mikrocytosis ( (\text{Mikrocytosmackini}) )</td>
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<tr>
<td></td>
<td>• MSX disease ( (\text{Haplosporidiumnelsoni}) )</td>
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<td></td>
<td>• Perkinosis ( (\text{Perkinsusmarinus, P. olsen/atlanticus}) )</td>
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<thead>
<tr>
<th>Fish diseases</th>
<th>Other List B diseases</th>
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<tr>
<td>- Epizootic haematopoietic necrosis</td>
<td>Leishmaniosis</td>
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<td>- Infectious haematopoietic necrosis</td>
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<tr>
<td>- \textit{Onchorhyncusmasou} virus disease</td>
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<tr>
<td>- Spring viraemia of carp</td>
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</table>
Appendix 5: List of Notifiable Diseases in Ghana

1. RINDERPEST
2. CONTAGIOUS BOVINE PLEUROPNEUMONIA
3. ANTHRAX
4. RABIES
5. EPIZOOTIC LYMPHANGITIS
6. TRYPANOSOMIASIS
7. MANGE
8. ASWINE FEVER
9. SWINE ERYSIPELAS
10. FOOT AND MOUTH
11. BLACK QUARTER
12. GLANDERS
13. NEWCASTLE DISEASE
14. FOWL PLAGUE (HIGHLY PATHOGENIC AVIAN INFLUENZA)
15. FOWL TYPHOID
16. PULLORUM (BACILLARY WHITE DIARRHOEA)
17. MAREK’S DISEASE (FOWL PARALYSIS)
18. TUBERCULOSIS
19. FOWL POX
20. HAEMORRHAGIC SEPTICAEMIA
21. GUMBORO (INFECTIOUS BURSAL DISEASE)
22. AFRICAN HORSE SICKNESS
23. LUMPY SKIN DISEASE
24. PESTE DES PETITS RUMINANTS
25. BRUCELLOSIS
26. BOVINE SPONGYFORM ENCEPHALOPATHY
27. DERMATOPIHLOSIS
28. CONTAGIOUS PUSTULAR DERMATITIS (ORF)
Appendix 6: Organogram of Veterinary Services Directorate
Appendix 7: Details of Financial information of VSD from 2010 to 2018

<table>
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**TOTAL** 1,462,982.00 1,453,283.24 3,031,067.63 2,677,066.74 3,475,177.98 14,508,342.06 898,098.29 1,965,178.00 2,209,995.00 31,681,190.94
### Appendix 8: Key Players and their Responsibilities

<table>
<thead>
<tr>
<th>No.</th>
<th>Key Players</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Minister of Food and Agriculture (MOFA)</td>
<td>Provide Policy directions</td>
</tr>
<tr>
<td>2</td>
<td>Director of VSD</td>
<td>Head of the division and responsible for the day to day administration and in so doing ensures that Ministerial decisions are fully and properly implemented in accordance with international best practice in veterinary</td>
</tr>
<tr>
<td>3</td>
<td>Veterinary Council of Ghana</td>
<td>Responsible for securing the highest standards in the practice of veterinary medicine in Ghana.</td>
</tr>
<tr>
<td>4</td>
<td>National Disaster Management Organisation</td>
<td>Coordinates the response to all disaster in the country</td>
</tr>
<tr>
<td>5</td>
<td>National Coordinating Committee (NCC)</td>
<td>Overall planning and coordination of avian influenza outbreaks in Ghana</td>
</tr>
<tr>
<td>6</td>
<td>Avian Influenza Response Team</td>
<td>Response to avian influenza emergency outbreaks in the districts</td>
</tr>
</tbody>
</table>
| 7   | Ghana Police Service                 | The police collaborates with VSD to:  
   i.  enforce law at various road check points and animal control points.  
   ii. Provide security when VSD impose quarantine on a farm.  
   The reason for Police involvement is because VSD is not a law enforcer and as such has to work with other law enforcement agencies. |
| 8   | Ghana Health Service                 | Ensures that animal diseases are not spread to Humans                                                                                     |
| 9   | Ghana National Fire Service          | Provide water based foam to depopulate birds infected with animal diseases.                                                                 |
| 11  | Farmers                             | Ensuring bio security on their farm and reporting suspected diseases to VSD.                                                               |
### Appendix 9: Human Resource Situation of Veterinary Professionals and Technical Staff in Ghana

<table>
<thead>
<tr>
<th>S/NO</th>
<th>GRADE/POSITION</th>
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Appendix 10: Reports on Outbreak of African Swine Fever and Avian Influenza in Ghana

FINAL REPORT ON JUNE 2015 OUTBREAK OF AVAIN INFLUENZA (BIRD FLU) IN OBUSA MUNICIPALITY IN ASHANTI REGION

INTRODUCTION
Avian Influenza (Bird Flu) started in the West African sub-region in January 2015 first in Nigeria, then it occurred in Burkina Faso, Niger and Cote D’voire. In April 2015 the Minister of Food and Agriculture issued an alert to the nation on the outbreak of the disease in Burkina Faso and imposed total ban on import of poultry and poultry products from that country and call surveillance on all the entry points of Ghana. The Veterinary Services Department has intensified surveillance for the Avian Influenza throughout the country. However, in May 2015 the disease entered the country and up to the 10th June 2015 nine (9) outbreaks of Avian Influenza have been recorded in Ghana – 7 and 2 in Greater Accra and Volta regions respectively.

OUTBREAK IN ASHANTI REGION
Justice Kofi Annan farm reported usual deaths of 9-week birds (pullets + cockerels) to Municipal Veterinary Officer at Obuasi on the 11th June 2015. In course of seven days the stock of 1247 birds was left with only 10. Close to these birds was a batch of 54-week layers totaling 701 which gives an average 450 eggs per day. They became infected and lost 65 birds in a week and egg production dropped to 345 per day. Samples of the birds sent to Accra Veterinary Laboratory on 18th June 2015 proved positive Avian Influenza HPAI H5 sub-type (Bird Flu). The information was swiftly communicated to the Ashanti Regional Veterinary Officer at 20.30 GMT on 18/06/2015.

MOBILIZATION FOR THE CONTAINMENT OF AI OUTBREAK
The Regional Veterinary Officer (RVO) informed the key stakeholders (Regional Coordinating Director, Director of NADMO and Municipal Veterinary Officer) to alert all members of the Municipal Emergency Avian Influenza Response Team. The RVO quickly secured basic logistics for the depopulation and disposal of Justice Kofi Annan farm the following morning 19/06/2015. Advance information was sent to the owner of the farm on the impending exercise. The RVO requested the presence and full participation of the District Veterinary Officers of Adansi South and North districts.

DEPULATION, DISPOSAL AND DISINFECTION OF JUSTICE KOFI ANNAN FARM AT OBUSA
The Regional Veterinary Officer arrived at Obuasi at 05.00GMT 19th June 2015 and move immediately to inspect the farm and its environs and then discussed the containment plan with owner of Justice Kofi Annan farm. The RVO convened the Incident Command System (ICS) for the outbreak at the municipal veterinary officer at 08.30GMT. As the incident commander for Avian Influenza outbreak, the RVO briefed the members on their roles and duties in the operation. Additional logistics for the operation were secured.
The ICS was constituted as follows:
Veterinary Services Department (MOFA) - 5; NADMO - 7; Ghana National Fire Service - 8; Ghana Police Service – 4; Environmental Health - 2 and Municipal Disease control Office (MOH) -1.

EXECUTIVE ENDORSEMENT:
The ICS briefed the Municipal Chief Executive and Coordinating Director on the details of the operation and secured the approval for the implementation of the containment plan. The Municipal Coordinating Director was made the task master of the whole operation, to ensure it success:

ACTUAL DEPOPULATION AND DISPOSAL
The ICS moved to the farm at Mosin Valley, Obuasi. The farm was quarantined by clearly delineated the infected area. Designated area were map out for each party based on their duties. Appropriate personal protective equipments (PPEs) were given out and the depopulation commenced at 12:35 GMT after a thorough inspection of the infected premises by the Incident Commander. The method of depopulation employed in the exercise was water based foam expertly managed by the GNFS team. The foam humanely killed about 80% of the stock but, the drenched 20% were put down by cervical dislocation. The Veterinary team undertook the depopulation with a two member GNFS providing the foam. The depopulation exercise lasted for about one hour.

There was two batches of birds on Justice Kofi Annan Farm at Mosin Valley in Obuasi Municipality.

- 9 week batch of 1247 of pullets and cockerels and
- 54-55 weeks layers of 701.

Biosecurity on the farm was virtually zero, with no traffic control.

The figures at the end of the first phase of the process on 20th June 2015.

1. 9-week birds (pullets + cockerels) total at 11/6/15 was 1247 and at the time of depopulation on 19/6/15 were left with 10 birds and 14.5 bags of 30kg each.

   10 birds and 14.5 bags of 30kg each of feed were destroyed.

2. 54-55 weeks layers were 701 at the beginning of the outbreak on 11/6/15 with a production level of 493 eggs per day. Production dropped to 345 by the 18/6/15 - the eve depopulation.

   607 layers, 27 dressed birds, 345 eggs and 16.5 bags of 30kg each feed were destroyed.
DISPOSAL OF BIRDS

The birds that were destroyed and the dressed ones, 31 bags of feed, 345 eggs, litter and manure, wooden feeders/ trough were dumped into 4’x4’x6’ excavated pit burnt and sealed.

Ghana Police Service provided excellent security around the de-lineated infected farm. Staff of NADMO assisted immensely in all the operations.

The Obuasi Municipal Assembly facilitated the process. The Municipal Health Directorate is screening the eleven (11) people after the exercise.

Disinfection has started and is on-going. This exercise will be carried out for the next six months and the Ag Municipal Veterinary Officer and his team will maintain active and passive surveillance for Avian Influenza HPAIV H5N in all poultry farms and backyards in the municipality.

Throughout the region similar exercises will be undertaken by the Veterinary Services staff, as we anticipate the outbreak spreading quickly and indeed constituting to a big threat to our fragile poultry industry.

**SUMMARY OF DEPOPULATION AND DISPOSAL AT JUSTICE KOI ANNAN FARM AT MOSIN VALLEY, OBUASI MUNICIPALITY**

<table>
<thead>
<tr>
<th>NO</th>
<th>TYPE</th>
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<th>DEAD</th>
<th>DESTROYED</th>
<th>SLAUGHTERED</th>
<th>FEED</th>
<th>EGGS</th>
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<tbody>
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<td>1.</td>
<td>9-10WK (PULLETS + COCKERELS)</td>
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<td>1237</td>
<td>10</td>
<td></td>
<td>14.5 BGS (30kg each)</td>
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</tr>
<tr>
<td>2.</td>
<td>54-55WK (LAYERS)</td>
<td>701</td>
<td>65</td>
<td>609</td>
<td>27</td>
<td>16.5 BGS (30kg each)</td>
<td>345</td>
</tr>
<tr>
<td></td>
<td>GRAND TOTAL</td>
<td>1948</td>
<td>1302</td>
<td>619</td>
<td>27</td>
<td>345</td>
<td></td>
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</table>

The Regional Veterinary Services Department is grateful to the Regional Minister and the Regional Coordinating Council, the leadership of Obuasi Municipality and all partners that assisted in the containment.

**CONCLUSION**

Veterinary Services Department must be resourced to maintain surveillance for Avian Influenza throughout the region. District Emergency Avian Influenza Task forces must be activated and resourced. Massive education/information dissemination must be intensified.

*REGIONAL VETERINARY OFFICER (DR. A. H. K. KWANSAH-ELSON)*
FINAL OF THE OUTBREAK OF AFRICAN SWINE FEVER IN THE ELLEMBELLE DISTRICT IN THE WESTERN REGION FOR THE PERIOD 15TH JANUARY-18TH JUNE 2014

INTRODUCTION

An outbreak of African Swine Fever (ASF) in the Ellembelle District of the Western Region was confirmed by the Accra veterinary Laboratory on the 17th January 2014. Very stringent control measures were put in place immediately to curtail the situation.

However through the collaborative efforts of the pig farmers, the Ellembelle District Assembly, The veterinary services directorate, The Regional Agricultural Development Unit and all stakeholders the Ellembelle District is now free of this devastating African Swine Fever that deprived 54 pig farmers of a total income of about GH¢2000.00 -GH¢3000 through the death of 730 pigs and the killing and burning of 239 pigs. The challenges were enormous but were overcome through the unprecedented collaborative efforts and commitment of all the major stakeholders.

METHOD OF DISEASE DETECTION, CONTROL AND PREVENTION

On the 13th January 2014, an honorable assembly man, Mr Bomah, informed the Ellembelle District Agricultural Development Unit of an unexplained death of pigs in two communities (Atokyi and Badu) in his electoral area.

On the 14th January 2014, two veterinary staffs were dispatched to the area for first hand information. African swine fever was suspected as the probable cause of the deaths in the two communities.

On the 15th January, the regional veterinary officer was informed and he quickly visited the site and took blood samples and visceral to the regional veterinary laboratory and Accra for further investigations.

On the 17th January, the Accra Laboratory confirmed the cause of death to be African swine fever.

On the 18th January, a two member team from Accra was dispatched together with the regional team to Ellembelle and detected that the diseases has spread to other two communities (Ngallechic and Ngallepley). A ban was placed on the movement and slaughter of pigs in and around the Ellembelle District whilst the appropriate preventive and control measures were put in place and enforced.

PREVENTION AND CONTROL MEASURES

1. Ban was placed on the movement and slaughter of pigs in and around the Ellembelle District on the 18th of January 2014.

2. Communities in and around the Ellembelle District were sensitized on the prevention and control measures of the disease.

3. Pig farmers and community leaders were sensitized and educated on their respective roles to play in containing the outbreak and stop further spread.
4. Two hundred and thirty nine (239) pigs were killed and burnt.

5. All dead pigs that were not properly disposed off in the communities were buried and their surroundings thoroughly disinfected.

6. All pig structures, houses, feed and water troughs were thoroughly disinfected for three consecutive times.

7. Twelve (12) sentinel pigs were introduced on 17th May 2014. These pigs were purchased by the Ellembele District assembly. The results of the sentinel pigs indicated that the district is now free of the African swine fever disease and the ban placed can be lifted.

8. The ban will be officially lifted by the honorable deputy Minister for livestock on the 20th of June 2014

RESULTS

Due to the unprecedented collaborative efforts of all the major stakeholders, the following results were achieved

1. The pig farmers, opinion leaders and the district assembly voluntarily and collectively agreed that all their pigs should be destroyed and ban placed on movement and slaughter of pigs in and around Ellembele district.

2. The member of parliament of the constituency provided excavators, tools and equipments for the destruction and proper disposal of the dead and destroyed pigs.

3. The veterinary services directorate provided disinfectants, spraying machines and funds for community sensitization and education on the detection, control and prevention of the disease. Funds for monitoring was also provided by Veterinary Services.

4. The animal production directorate is providing breeding animals to the farmers who lost their pigs to multiply and distribute among themselves. The Ellembele district assembly is paying for the cost of transportation of the pigs from Accra to Ellembele whilst the farmers will take care of the housing, feeding and management.

5. The pig farmers are now constituting themselves into a sustainable pig farmers organization.

6. The Western regional agricultural development unit of the Ministry of Food and Agriculture has produced a project document that will be implemented with the district assembly and other donors to make the Ellembele district a model pig production center for Ghanaians.

7. The regional agricultural development unit is increasing the number of veterinary staff in the district from only one staff to two so as to improve on the service delivery and efficiency in the district.
CONCLUSION

The outbreak of African swine fever in the Ellembelle district has posed enormous challenges that exposed a lot of opportunities, constrains, strengths and weaknesses.

The unprecedented collaborative efforts of all the major stakeholders were very useful in the prevention and control of the outbreak and this must be sustained.

RECOMMENDATIONS

In order to prevent such devastating loss of income to livestock farmers and the occurrence of future outbreaks, the following are being recommended.

1. The Ministry of Food and Agriculture should budget adequate funds and release it early for the timely detection, control and prevention of outbreaks.

2. The Ministry of Food and Agriculture should recruit adequate number of veterinary and animal production staff so that, the minimum number of these staff in a district is at least two.

3. The district assemblies should pass bye-laws that will protect the health and production of their animals (unauthorized slaughter, uncertified movement of livestock, proper housing of livestock and livestock on free range)
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To promote

- good governance in the areas of transparency, accountability and probity in Ghana’s public financial management system

By auditing

- to recognized international standards and reporting our audit results

And

- reporting to Parliament