



Regional High Pathogenicity Avian Influenza Contingency Plan

Prepared by
CaribVET and CAHFSA

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PREFACE

The 2026 version of the High Pathogenicity Avian Influenza (HPAI) Contingency Plan is a product of the collaborative effort between CaribVET and CAHFSA from the Trinidad and Tobago HPAI Contingency Plan developed through the collaboration between The Inter-American Institute for Cooperation on Agriculture (IICA) and The Ministry of Agriculture, Land and Fisheries (MALF) of Trinidad and Tobago entitled “Supporting the MALF in Avian Influenza Preparedness and Outbreak Management for Safeguarding the Agricultural Sector in Preserving the local poultry industry.”

This document serves as a model framework and should be adapted to national legislation, resources, and veterinary structures. It describes how the national veterinary services will manage an outbreak or incident of High Pathogenicity Avian Influenza in poultry in their country.

This version of the Plan was built on previous iterations that were produced by the Trinidad and Tobago Ministry of Agriculture, Land and Fisheries Animal Health Sub-Division staff over the years, with special recognition of the significant contributions by Dr. Lisa Musai, Senior Veterinary Officer. Their hard work and efforts were the foundation on which this plan was built. In 2024, through an IICA project entitled “Supporting the MALF in Avian Influenza Preparedness and Outbreak Management for safeguarding the Agricultural Sector in preserving the local poultry industry “, the staff from the Animal Health Sub-Division team lead by Chief Veterinary Officer, Dr. Lana Gyan, in collaboration with Chief Project Facilitator, Dr. Shayne Ramsubeik, School of Veterinary Medicine, University of the West Indies further updated the Plan.”

The compilation of the 2026 document and facilitation of validation in consultation with Committee of CARICOM Chief Veterinary Officers (CCCVO) and regional stakeholders was coordinated by the Caribbean Agricultural Health and Food Safety Agency (CAHFSA).

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We appreciate the dedication and expertise of all contributors and look forward to continued collaboration in achieving the goals outlined in this Caribbean Model HPAI Contingency Plan, 2026.

1.0 LIST OF ACRONYMS, ABBREVIATIONS AND SPECIAL TERMS

Term	Definition
AHA	Animal Health Assistant
AI	Avian Influenza
AILT	Avian Infectious Laryngotracheitis
AO	Agricultural Officer
CAHFSA	Caribbean Agricultural Health and Food Safety Agency
CARICOM	Caribbean Community
CARPHA	Caribbean Public Health Agency
CEO	Chief Executive Officer
CMO	Chief Medical Officer
CVO	Chief Veterinary Officer
DCP	Dangerous Contact Premises
DIVA	Differentiating infected from vaccinated animals
ICO	Incident Command Officer
EOC	Emergency Operations Centre
FAO	Food and Agriculture Organization of the United Nations
HPAI	High Pathogenicity Avian Influenza
ICS	Incident Command System
IP	Infected Premises
LPAI	Low Pathogenicity Avian Influenza
MOA	Ministry of Agriculture
MOH	Ministry of Health
NEMO	National Emergency Management Organisation
NVSL	National Veterinary Services Laboratory, USDA
ODPM	Office of Disaster Preparedness and Management
PPE	Personal Protective Equipment
PS	Permanent Secretary
PZ	Protection Zone
SP	Suspect Premises
SVO	Senior Veterinary Officer
SZ	Surveillance Zone
TO	Technical Officer
TTAICP	Trinidad and Tobago Avian Influenza Contingency Plan
VDL	Veterinary Diagnostic Laboratory
VO	Veterinary Officer
VPP	Veterinary Para-professional
VS	Veterinary Services
VPH	Veterinary Public Health
WOAH	World Organisation for Animal Health

***Abbreviations and terms should be replaced by the equivalent national agencies in country where relevant.**

2.0 DEFINITIONS

Asymptomatic - presenting no signs or evidence of illness or particular disease

Case fatality rate - measures the severity of disease by defining the total number of deaths as a percentage of reported cases at a specific time

Cathedral Silence- reduction in noise

Conjunctiva - the mucous membrane that covers the front of the eye and lines the inside of the eyelids

Epidemiological Link: refers to the relationship between disease cases, indicating that they may arise from shared exposure or transmission pathways.

Gamecock - type of rooster with physical and behavioural traits derived from breeding for fighting

Haemorrhage - escape of blood from blood vessels into surrounding tissue or through broken skin

Helminth- a parasitic worm

Index Case: The first detected case that triggers an outbreak investigation.

Morbidity - the state of showing clinical signs or being unhealthy for a disease or condition.

Mortality - a term that refers to a percentage of death from any cause

Necrosis - pattern of cell death that occurs in response to injuries

Oedema - a palpable swelling due to the expansion of interstitial fluid volume in tissues or an organ

One Health: A collaborative approach recognising the connection between animal, human, and environmental health.

Outbreak: Occurrence of one or more cases in an epidemiological unit.

Passive Surveillance: Disease monitoring through routine reporting of suspected cases or unusual events.

Serous exudate - a type of exudate that forms as a clear, thin, watery fluid with relatively low protein content, usually observed in acute or mild inflammation

Sinusitis - inflammation, or swelling, of the tissue lining the sinuses

stamping-out policy

means a policy designed to eliminate an outbreak by carrying out under the authority of the Veterinary Authority the following:

- a. **The killing of the animals which are affected and those suspected of being affected in the herd or flock and, where appropriate, those in other herds or flocks which have been exposed to infection by direct animal to animal contact, or by indirect contact with the causal pathogenic agent; animals should be killed in accordance with WOAHS standards;**
- b. **the disposal of carcasses and, where relevant, animal products by rendering, burning or burial, or by any other method in accordance with WOAHS standards;**
- c. **the cleansing and disinfection of establishments through procedures as defined in WOAHS standards.**

Surveillance: means the systematic ongoing collection, collation, and analysis of information related to animal health and the timely dissemination of information so that action can be taken.

Tracheitis - inflammation of the trachea

Virulent - the degree to which a pathogenic organism can cause disease.

Zoonotic - any disease or infection that is naturally transmissible from vertebrate animals to humans

3.0 NATURE OF THE DISEASE

3.1 DEFINITION

Avian Influenza (AI) is a highly contagious viral disease affecting poultry, as well as wild animals and occasionally domestic mammals, including humans (due to its zoonotic potential). The causative agent is a Type A influenza virus, classified into subtypes by two surface proteins, haemagglutinin (H1-H18) and neuraminidase (N1-N11), of which there are 144 potential combinations.

3.2 AETIOLOGY

Influenza viruses, members of the Orthomyxoviridae family, cause respiratory infections. Types A, B, and C influenza viruses are based on internal nucleoprotein antigens. Type A viruses are Avian Influenza viruses, and their various H and N proteins form subtypes such as H5N1.

The ability of a particular virus strain to produce disease is referred to as its pathogenicity. High Pathogenicity Avian Influenza (HPAI) causes high mortality, acute and systemic infection, and demonstrates rapid spread from flock to flock. To date, all HPAI isolates have been influenza A viruses of subtypes H5 and H7. Certain HPAI outbreaks have been shown to infect humans, who had close contact with infected poultry or contaminated fomites.

Low Pathogenicity Avian Influenza (LPAI) may show minimal signs in wild birds and poultry and does not typically affect humans. H5 and H7 viruses can mutate into HPAI in gallinaceous species.

3.3 EPIDEMIOLOGICAL FEATURES

3.3.1 Susceptible species

Migratory wild birds, especially waterfowl, are natural reservoirs of AI viruses. AI can infect multiple species of domestic chickens, turkeys, quails, guinea fowl (and more), as well as pet birds. AI has also been detected in mammals, including humans, pigs, ferrets, tigers, wild foxes, (dairy) cattle, domestic cats and dogs, as well as aquatic mammals such as elephant seals.

3.3.2 Virus Characteristics and Environmental Stability

The virus displays the following properties:

- Inactivation by heat (56°C for 3 hours or 60°C for 30 minutes)
- Inactivation by high levels of ultraviolet light
- Relative stability over a pH range of 5.8 – 8 but is rapidly inactivated at pH 2.5
- Inactivation by oxidising agents, sodium dodecyl sulphate, lipid solvents, β -propiolactone, formalin and iodine compounds
- Viability for long periods in:
 - contaminated water for up to 32 days at 0 °C and for up to 4 days at 22 °C
 - faeces and manure for at least 35 days at 40 °C
- Survival for only a few days in carcasses at ambient temperature, and up to 23 days from autolysed carcasses when refrigerated
- High contagion among birds
- The incubation period at the poultry flock level is variable (1-14 days), and dependent upon the AI virus strain, dose, route of exposure, and species of bird.

3.3.3 Disease Transmission

Wild birds are natural reservoirs for AI viruses. Pigeons show significant resistance and therefore play a minimal epidemiological role. Clinically affected birds in the wild can become easy targets for birds of prey and scavengers, which can enable easy spread of the virus.

Poultry can become infected by direct contact with secretions (nasal secretions, saliva and faeces) from infected wild birds, especially waterfowl. Clinically normal waterfowl and sea birds (asymptomatic carriers) may introduce the virus into poultry flocks. The virus can mutate into virulent pathogenic strains and spread rapidly throughout the flock via direct contact.

HPAI virus is also likely to be present on the eggshell and internal egg contents of an infected hen. However, there is no evidence of egg transmission.

Indirect spread occurs via contaminated fomites such as feed, water, litter, equipment, vehicles, footwear, and clothing. Personnel, animals, insects, and vermin may act as mechanical vectors. Live bird movements through markets and pluck shops are a principal means of spreading the infection. Airborne transmission is not likely a primary mode of transmission, however, in windy environments, dust and manure from infected farms may serve as a source of infection to nearby premises.

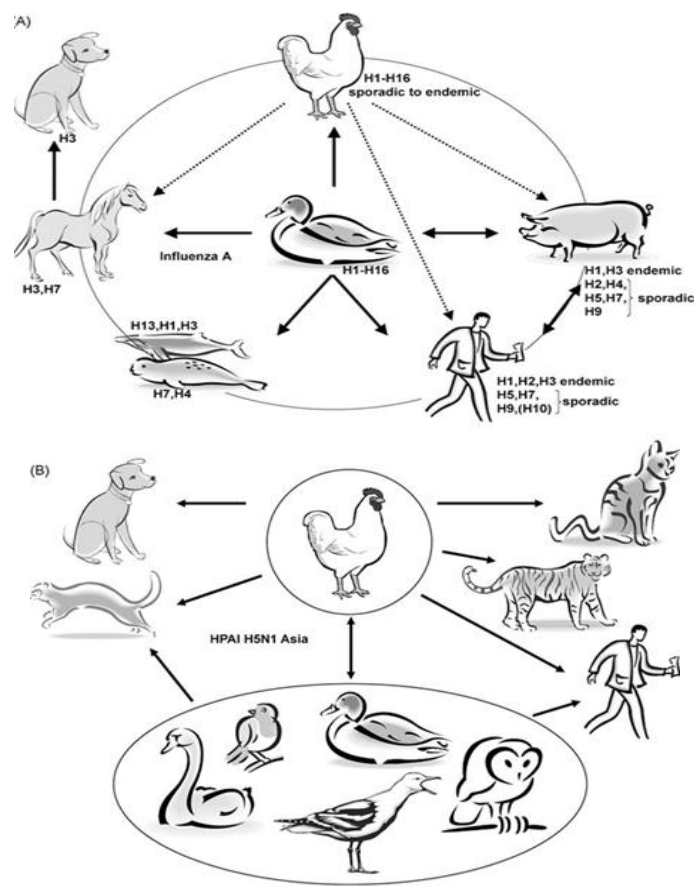


Figure 1. Schematic illustration of (A) influenza A virus cross-species transmission and (B) infectious routes of HPAI H5N1 in particular.

Source: Kalthoff, D., Globig, A., & Beer, M. (2010). (Highly pathogenic) avian influenza as a zoonotic agent. *Veterinary microbiology*, 140 3-4, 237-45.

3.4 CLINICAL SIGNS

Table 1: Clinical Signs of Avian Influenza

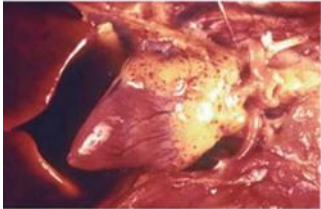
Type of bird	HPAI	LPAI
Gallinaceous Poultry <i>Chickens</i> <i>Turkeys</i> <i>Quail</i> <i>Pheasants</i> <i>Guinea fowls</i>	-Severe spike in mortality; can reach 100% in a few days -Drastic drop in egg production (up to 100%) -Cathedral silence, ruffled feathers, lethargy, inactivity, inappetence -Excessive serous exudate, facial oedema, swollen eyelids, red conjunctiva, watery eyes and sinusitis -Respiratory and nervous signs, -Bleeding disorders -Diarrhoea	Mild signs: -Decreased egg-laying (up to 45%), soft-shelled eggs; Up to 45% drop in production -Coughing, sneezing, and diarrhoea -Can mutate to HPAI easily if H5 or H7.
Anseriformes/Waterfowl <i>Ducks</i> <i>Geese</i> Younger birds	Neurological signs: -Ataxia – incoordination -Torticollis- Tilted head and neck, star gazing, developing into flaccid paralysis (limber neck) causing drowning of birds on water -Forced movements – swimming in circles. -Involuntary movements - shivering, trembling -Blindness -Somnolence -Stupor -Reluctance to move	-Asymptomatic; Signs are not obvious
Older birds	-Clinical disease can be absent, but if present, the signs are similar to young birds	-Asymptomatic; Signs are not obvious

Wild birds show similar signs to domestic bird species, but signs depend on virus strains. The clinical presentation of HPAI can vary depending on the virus clade, host species, age, immune status, and stage of infection. This will acknowledge that not all outbreaks present with identical clinical signs.

3.5 PATHOLOGY

HPAI is characterized by severe, widespread lesions, rapid onset of clinical signs, and high mortality rates. LPAI typically presents with milder and more localized lesions, with lower mortality rates and the potential for subclinical infections.

Table 2: Gross Pathological Findings Commonly Associated with HPAI in Chickens

Lesions	Sample Image	Lesions	Sample Image
Subcutaneous haemorrhages of feet		Swollen head and neck regions	
Bile-stained loose droppings		Torticollis	
Necrotic lesions on pancreas, liver, spleen, kidney, and lung	 Pancreatic lesion	Renal congestion (Congestion of the kidneys)	
Internal haemorrhage	 Petechial haemorrhaging around the heart	Cyanosis of combs, wattles, and mucus membranes	

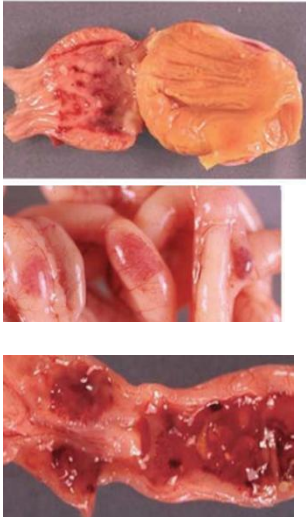
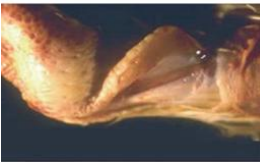
Lesions	Sample Image	Lesions	Sample Image
Nasal and oral cavity discharge; respiratory tract oedema		Excessive mucous or caseous exudate in trachea or air sacs, severe haemorrhagic tracheitis, congested lungs, inflammation of air sacs	 Lung congestion and oedema
Haemorrhage, necrosis, and oedema in the digestive organs.	 (From top to bottom: haemorrhage in proventriculus, small intestine, large intestine)	Muscle haemorrhage and oedema	 Haemorrhage in leg muscle  Oedema in leg muscle

Image Source : Pantin-Jackwood MJ, Swayne DE. *Pathogenesis and pathobiology of avian influenza virus infection in birds*. Revue scientifique et technique (International Office of Epizootics). 2009 Apr 1;28(1):113-36.

Gross pathological findings commonly associated with LPAI in chickens:

Localised Lesions:

- Lesions are often more localised and milder compared to HPAI.
- May be restricted to specific organs or tissues.

Respiratory and Digestive Systems:

- Respiratory and digestive tract lesions may occur but are generally less severe than in HPAI.
- Oedema, haemorrhages, and necrosis may be observed in these organs.

Limited Systemic Spread:

In contrast to HPAI, LPAI typically exhibits less systemic spread, with fewer organs affected.

The gross pathological findings of LPAI can vary depending on the specific virus strain, host species, and other factors. The milder nature of LPAI contributes to its potential for subclinical infections and lower overall impact on poultry populations.

3.6 DIAGNOSIS

3.6.1 Differential Diagnoses

Table 3: Differential Diagnoses for AI and Clinical Signs Common with other Diseases

Disease	Clinical Signs Common to Both
Newcastle Disease (ND)	Respiratory signs (coughing and sneezing); swollen head and neck
Infectious Bronchitis (IB)	Respiratory signs (coughing and nasal discharge); decreased egg production
Avian Infectious Laryngotracheitis (ILT)	Respiratory distress, coughing, swelling of the head and neck
Fowl Cholera (Pasteurellosis)	Sudden onset of high mortality, respiratory and systemic signs
Avian Metapneumovirus	Respiratory signs (nasal and ocular discharge), facial swelling
Mycoplasma gallisepticum (MG)	Respiratory signs (coughing and sneezing), reduced egg production
Infectious Coryza	Respiratory signs (e.g. nasal discharge), facial swelling
Aspergillosis	Respiratory distress and lesions
Egg Drop Syndrome (EDS)	Sudden drop in egg production, respiratory signs
Heat Stress	Respiratory signs/distress and congestion of organs
Toxicity	Respiratory signs/distress, congestion of organs and systemic lesions

This table provides examples of common differential diagnoses and is not intended to be comprehensive. Depending on the epidemiological context, other diseases causing high mortality, respiratory disease, neurological signs, or production losses should also be considered during an outbreak investigation.

3.6.2 Laboratory Diagnosis

Table 4: Diagnostic Tests for AI and Their Intended Purposes

Method	Purpose					
	Population freedom from infection(a)	Individual animal freedom from infection prior to movement(b)	Contribute to eradication policies(c)	Confirmation of clinical cases(d)	Prevalence of infection – surveillance (including vaccinated flocks)(e)	Immune status in individual animals or populations post-vaccination(f)
Detection and identification of the agent^(a)						
Virus isolation	☑☐☐	☑☑☐	☑☐☐	☑☑☑	☑☐☐	☐☐☐
Antigen detection	☑☐☐	☑☐☐	☑☐☐	☑☐☐	☑☐☐	☐☐☐
Real-time RT-PCR	☑☑☑	☑☑☑	☑☑☑	☑☑☑	☑☑☑	☐☐☐
Conventional RT-PCR	☑☐☐	☑☐☐	☑☐☐	☑☑☐	☑☐☐	☐☐☐
Detection of immune response						
AGID	☑☐☐ (Influenza A)	☑☐☐ (Influenza A)	☑☑☐ (Influenza A)	☑☐☐ (convalescent)	☑☑☐ (Influenza A)	☑☑☐ (Influenza A)
HI	☑☑☑ (H5 or H7)	☑☑☐ (H5 or H7)	☑☑☑ (H5 or H7)	☑☑☐ (convalescent)	☑☑☑ (H5 or H7)	☑☑☑ (H5 or H7)
ELISA	☑☑☑	☑☐☐	☑☑☐	☑☐☐ (convalescent)	☑☑☑	☑☑☐

Key: ☑☑☑ = recommended for this purpose; ☑☑☐ = recommended but has limitations;
 ☑☐☐ = suitable in very limited circumstances; ☐☐☐ = not appropriate for this purpose.
 RT-PCR = reverse-transcription polymerase chain reaction; AGID = agar gel Immunodiffusion;
 HI = haemagglutination inhibition test; ELISA = enzyme-linked immunosorbent assay.

Source of Table 4: WOAH Terrestrial Manual, 2026.

Table 5: Samples required for AI Diagnostic Testing

Test	Sample Required
Virus isolation	Tissue, cloacal & oropharyngeal swab
Antigen detection	Cloacal & oropharyngeal swab
Real-time PCR	Cloacal & oropharyngeal swab
AGID	Serum - 2ml minimum (not recommended for waterfowl)
HI	Serum - 1 ml of serum (not whole blood; should not exceed 1% of total body weight)
ELISA	Serum- 2 ml minimum

“Emerging mammalian HPAI considerations: Dairy Cattle and Other Species

In early 2024, Influenza A HPAI H5N1 was confirmed for the first time in small ruminants and dairy cattle in the United States. Viral genome sequencing data obtained from the infected dairy cows has suggested a single bird to dairy cow transmission of the HPAI virus (genotype B3.13). To date this genotype has not been detected in dairy cattle outside the United States.

Common clinical signs in dairy cattle

- Decreased feed intake
- Decrease milk production
- Abnormal milk (thickened, discolored)
- Altered faecal consistency
- Respiratory distress
- Fever
- <2% mortality rate
- Infected cattle may also present as subclinical

Highly infectious viral loads have been detected in raw milk (unpasteurized), mammary gland and lymph node tissue and sporadically in the respiratory tract of infected cows. Infected cows have reportedly recovered with supportive treatment.

Transmission and spread

Presently, the mode of transmission between cattle and the duration of infectious virus shedding are yet to be defined. Ongoing investigative studies seem to link the movement of infected animals and contaminated fomites as the source of transmission amongst mammals between farms e.g. domestic cats that were fed raw milk and colostrum from infected cows became infected with a 50% mortality rate. Common clinical signs observed in cats include neurological and respiratory signs and sudden death

Potential for human infection

The public health risk of HPAI for dairy farm workers is low to moderate depending on the risk mitigation measures in place.

Risk preventive measures include:

1. Proper use of recommended PPE
2. Practice of good personal hygiene.
3. Improve biosecurity measures on dairy farms
4. Do not feed raw milk to other farm animals, especially cats.

Consumption of raw milk represents a public health risk and should be avoided

Please contact the official Veterinary Services if the above clinical signs are observed in dairy cattle. HPAI has also been reported in other mammalian species (e.g. domestic cats, dogs, marine mammals and wildlife) for updated information on susceptible species, clinical signs, and evolving epidemiological knowledge.

3.7 ZOO NOTIC POTENTIAL

Global outbreaks of HPAI (H5N1) have caused human infections and death with a case fatality rate (CFR) of 52%. The use of PPE and proper hygiene practices by those who work in the poultry and dairy industry, or handle poultry/dairy cattle and their products is a major component of preventing exposure to the virus. High risk groups include the immunocompromised, elderly and other susceptible persons who are in direct contact with infected birds such as veterinarians, food processors, farm workers and laboratory staff.

3.8 RISK ANALYSIS

A country-specific risk assessment is necessary to identify and evaluate the potential pathways for the entry, establishment, spread, and amplification of HPAI. The assessment should consider national poultry production systems, wildlife ecology, trade and movement patterns, and other relevant epidemiological factors. At a minimum, consideration should be given to the role of wild birds, legal and illegal movement of poultry and poultry products, live bird markets, backyard poultry, game fowl/cockfighting activities, contaminated fomites (including vehicles, equipment, egg trays and transport crates), shared personnel, and inter-island movement of animals and animal products.

The natural reservoir host for avian influenza viruses are wild waterfowl, and migratory shore birds. The December to April period is regarded as the peak time of these migratory birds.

Key considerations for **DIRECT** contact between domestic poultry and the HPAI virus:

- Farms located near migratory waterfowl populations, flyways and wetlands.
- Farms located near other open bodies of water e.g. ponds.
- Other wild bird species can serve as a vector for the virus.
- Unregulated movement of avian species.

Key considerations for **INDIRECT** contact between domestic poultry and the HPAI virus:

- Farm workers in contact with wild bird species (faecal dropping and bodily secretions)
- Predatory animals that feed on infected avian species coming into contact with poultry
- Contaminated feed sources
- Movement from infected premises to other farms
- Live hauling crews and live sale distributors
- Farm workers and persons moving from farm to farm

- Proximity of small backyard flocks to commercially reared poultry – INTENSIVE LANDSCAPE
- Improper disposal of carcasses
- Improper manure disposal and untreated poultry litter

Importation of poultry and poultry products

- Risk: Low based on enforcement of health certificate requirements which are based on import risk analysis (See Section 4.1)

4.0 STRATEGIES FOR PREVENTION, CONTROL AND ERADICATION

4.1 PREVENTION STRATEGIES

While the movement and migratory patterns of wild birds cannot be controlled, other measures must be implemented where possible to prevent the introduction of AI into a country, for example, legal importation of commodities. Proper biosecurity measures also play a major role in keeping AI off potentially vulnerable premises and reducing exposure to susceptible animals. Additionally, surveillance strategies should be strengthened and risk assessments (as discussed in section 3.8) are necessary measures for implementation. Public education is also a critical pillar of prevention.

4.1.1 IMPORT POLICY

The WOAHA Terrestrial Animal Health Code (2026 edition, Chapter 10.4, most recent update adopted in 2025) provides guidelines for the safe importation of domestic and wild birds, meat and any other products derived from birds and their tissues with respect to AI. Legal, regulated trade aims to reduce the risk of entry of AI through the adoption of internationally recognised standards.

All animals and animal products legally entering the country must be accompanied by an import permit, international veterinary certificate, and any other documentation as requested by the Veterinary Authority. These include (but are not limited to) poultry carcasses, meat products of poultry, table eggs and egg products, hatching eggs, live poultry (usually day-old chicks and ducklings), non-poultry birds, feathers and any other items of avian origin. These import permits have conditions specific to AI (and other infectious diseases) that must be met before these consignments are allowed to enter the country. These conditions are subject to change based on changing animal health status of the exporting countries and/or changes in international standards.

The veterinary authority of the veterinary services reserves the right to refuse entry of the entire shipment, if conditions are not in accordance with those stipulated on the import permit. Live animals will not be released to the consignee, until they have been examined by an authorised veterinarian and found to have satisfied the conditions stated on the import permit.

In addition to the regulation of trade through Sanitary and Phytosanitary (SPS) measures, border control is also necessary for early detection and prevention of AI. Effective border control services are necessary to ensure that international airports, seaports, and other points of entry are under constant surveillance. This ensures that the illegal entry of animals or animal products are stopped, and these items are confiscated. Live animals entering illegally may be euthanised or returned to their country of origin as per relevant laws and Regulations in place. Any confiscated risk material (products/carcasses) should be disposed of using an approved method of disposal.

4.1.2 TREATMENT AND CONTROL MEASURES

4.1.2.1 Treatment and Control

There is no treatment readily available for AI affected birds. The control policy is stamping-out, which is the depopulation of infected and in-contact susceptible poultry. Movement controls should also be implemented to mitigate traffic in areas identified for surveillance.

4.1.2.2 Vaccination

This decision on the registration and use of vaccines lies with the veterinary authority. Decisions regarding the use of HPAI vaccination should be based on a national risk assessment and implemented as part of an approved vaccination strategy, where appropriate. Such strategies should be supported by appropriate surveillance, monitoring, and the ability to differentiate infected from vaccinated animals (DIVA), consistent with current international standards and guidance. This approach will provide greater flexibility for member states should vaccination policies evolve in the future. If vaccination is to be approved there should be consultation and agreement amongst all stakeholders, and the necessary structure and equipment and supplies are in place for an exit strategy.

4.2 CONTROL AND ERADICATION STRATEGIES

All instructions regarding the control and eradication process must come from the Veterinary Authority. This involves the 3 Ds: depopulation, disposal and decontamination. The decision for which procedures will be undertaken during each phase is dependent on consideration of professional, ethical, and technical aspects as well as the availability of infrastructure, equipment, trained personnel, human and animal welfare, environmental outcomes as well as which procedure can occur in **the shortest possible timeframe**. Ensuring biocontainment of the disease on the affected premises is also critical for virus eradication.

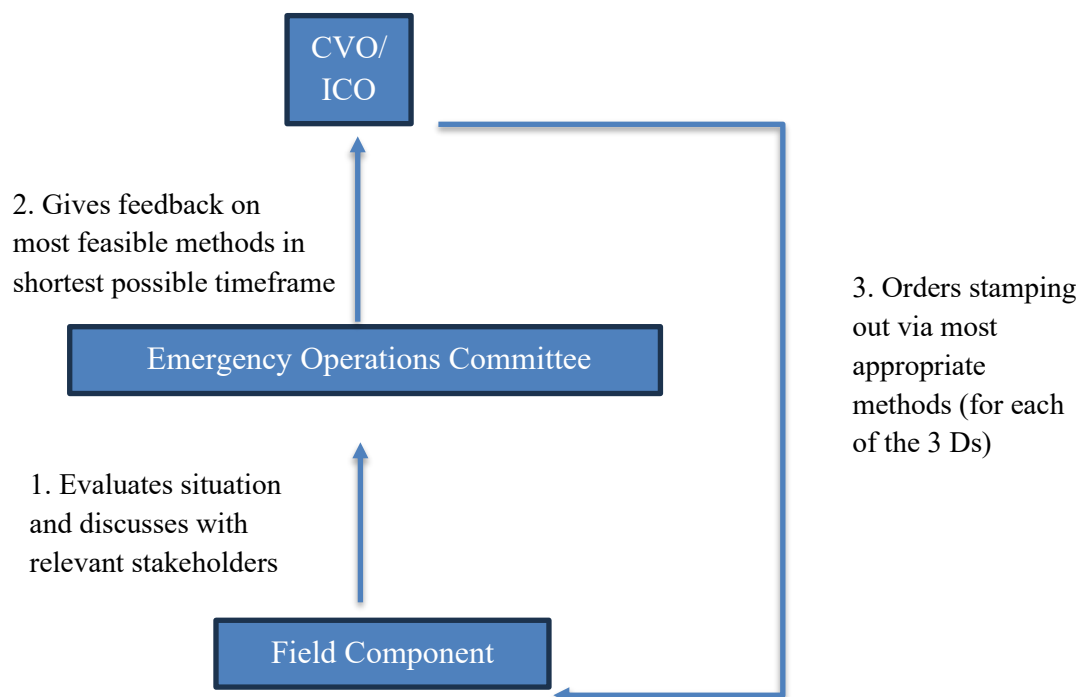


Figure 2. Communication Flow for Decision Making During HPAI Eradication

4.2.1 DEPOPULATION

Once the sample(s) are confirmed positive by rt-PCR for HPAI H5 or H7 the depopulation process is initiated.

- Animals must be **swiftly and humanely destroyed**. Under extenuating circumstances during an emergency response, depopulation may not guarantee painless or distress-free deaths.
- Animals must be confirmed dead before initiating carcass disposal.
- MOH liaison officers or equivalent representatives should be engaged to facilitate medical treatment, counselling and other medical support during the stressful process to the response team as well as livestock owners and their families.

It is important to note that the method selected for depopulation is dependent on the resources available in-country. Each country should review and define approved depopulation methods, available equipment, agencies involved and environmental approvals. This plan aims to provide a guide with acceptable options; however, it is critically important for each country to evaluate the national situation. An approved depopulation method can then be selected and utilised based on available equipment, relevant partner agencies and environmental approvals.

4.2.1.1 Selection of depopulation method

Depopulation decisions must balance the welfare of the poultry against the immediate risk to humans, other populations of animals, and the environment.

Practical considerations when selecting and evaluating a depopulation method (*Refer to Appendix 9*):

- Details of property layout, facilities, equipment, number and species of animals, destruction technique, and timeframe for depopulation
- Inventory of **all** animals on the property
- Determination of methods and facilities for safe, humane, and efficient animal destruction
- Determination of facilities for confinement of animals not designated for destruction (e.g. domestic pets)
- The species, number, age and size of animals to be euthanised, and the order of euthanising them
- Disposal method/option for carcasses
- Cost/availability of equipment for the method/available resources for the function of equipment
 - Equipment may be available on the premises that will assist with the depopulation method
 - Equipment that may need to be sourced externally and brought on and off the premises
- Availability of trained, competent personnel with knowledge, expertise, and certification (ex: respirator-fitted, confined space certification, euthanasia training, etc.)
- Expertise of health and safety professionals and structural engineers
- Status of building infrastructure where poultry are housed and presence of other nearby premises holding animals (potential for property damage)
- Biosecurity protocols and zoonotic disease risk
- Personal health, safety and well-being of the depopulation team
- Legal restrictions and implications (e.g. restricted veterinary medicines or poisons may be used, or where the process may impact on the environment)
- Communication and ability to maintain confidence and trust (internal, customer, public)

A concise written plan, detailing euthanasia methods, sites, personnel, facilities, and equipment should be approved by the CVO prior to depopulation activities. Personnel involved in the depopulation exercises must report completion of euthanasia for timely initiation of subsequent tasks, such as disposal and cleaning and disinfection.

- Relevant stakeholders for each method:

- Water-based foaming:
- Carbon Dioxide Gassing: VS, MOA, other external/private agencies.
- Firearms (Rifles and Guns): Police Department, Defence Force
- Cervical Dislocation: VS
- Captive Bolt Gun: Police Department, Wildlife personnel
- Injectable Agents: VS
- Electrical: VS, MOA, Fire Department
- Electrical, followed by euthanasia: VS, MOA, Fire Department
- Maceration: VS, MOA, other external/private agencies

Confirmation of Death

Following the application of a euthanasia method, death must be confirmed. Animals should be evaluated for confirmation of death by competent personnel.

4.2.2 DISPOSAL

The main aim of disposal of carcasses and infected materials is to curb infection spread. This requires prompt action immediately after euthanasia to minimize material dispersion. Carcass handling is easiest before decomposition. Carcasses and other items awaiting disposal should be guarded to prevent unauthorised access and to prevent domestic pets, wild animals and birds removing potentially infectious material. Personnel must be fully briefed on disease specifics, especially for zoonotic diseases, and supplied with appropriate protective gear for safety during disposal activities. Other factors to consider include environmental concerns, funding, staff resources and available equipment. The disposal method should also cater for pathogen inactivation.

Disposal sites may be subject to statutory approvals. The relevant agencies should be consulted inter alia Ministry responsible for the Environment, Water Authority and the Fire Services.

The disposal site must be confirmed/authorised by competent authority.

4.2.3 DECONTAMINATION: CLEANING AND DISINFECTION

Personnel involved in the decontamination process must adhere to the personal safety guidelines listed in section 14.0.

IPs and DCPs must be cleaned and disinfected with the focus on virus elimination. For premises that cannot be cleaned and disinfected, the premises should be quarantined and allowed to lie fallow for 120 days.

Decontamination, a critical component of AI eradication, involves a combination of physical and chemical processes aimed at virus elimination. It involves two steps:

1. **Cleaning:** The process of eliminating substantial contamination, organic matter, and debris from the premises or relevant structures through mechanical methods such as dry sweeping or wet cleaning with water, soap, or detergent. The objective is to reduce remaining organic material to enhance the effectiveness of disinfection. It must be noted that this organic material is to be disposed of appropriately, to avoid contact with other surfaces, personnel, and the environment.

2. Disinfection: Techniques applied on surfaces to eradicate or eliminate the virus through either physical method such as heat, or chemical methods such as disinfectants. A combination of methods may be necessary.

Considerations:

- Understanding virus biology and disease spread is the basis for effective planning.
- Personal decontamination enables safe movement during surveillance.
- Mechanical Brushing is effective in removing virus contaminants, and fundamental for subsequent chemical cleaning.
- Fat and organic dirt reduces the effectiveness of disinfectants.
- Hot water and steam are effective for cleaning.
- Steam can be used to clean interior pipework, followed by disinfection with detergents and soaps.
- The virus is susceptible to dehydration, warmth, and sunlight.
- Disinfectants can be toxic to other animals and humans; care is needed to avoid health problems.
- First aid boxes are essential; workers and property owners should be briefed on safety aspects.

5.0 EARLY WARNING AND CONTINGENCY PLANNING

Early detection is critical in controlling the spread of AI, and eradication (where possible). For this to occur, effective surveillance measures must be put into place. This requires proper education, reporting channels, and diagnostic capabilities. Due to the nature of the disease, a multistakeholder approach to education must be adopted to include wildlife NGO's and relevant governmental and non-governmental entities.

5.1 DEFINITION OF CASES

Suspect case:

- Clinical illness compatible with HPAI infection; OR
- Detection of antibodies to Influenza A as determined by AGID or HI with or without the presence of compatible clinical illness, OR
- Detection of Influenza A antigen by rRT-PCR or using a commercially available Influenza A antigen test kit (if available) with the presence of compatible clinical illness.

Presumptive positive case:

- Poultry with identification of influenza A H5/H7 RNA by rRT-PCR with or without the presence of compatible clinical illness, OR
- Poultry with compatible clinical signs and epidemiologically linked to confirmed infected premises.

Confirmed positive case:

- Poultry with influenza A antigen detection (virologic or molecular detection methods) AND
- The confirmation of the H5/H7 subtype WITH determination of pathogenicity (by preferred reference laboratory)
- The first H5 or H7 case in the country should be confirmed as well by a WOA or FAO international reference laboratory.

5.2 COLLECTION AND DISPATCH OF DIAGNOSTIC SPECIMENS

Sample Collection (i.e. cloacal, tracheal, tissue, blood):

1. Use the recommended PPE when handling birds or opening containers with samples.
2. Use a synthetic or semi-synthetic swab (e.g. polyester, rayon, nylon) with a plastic handle (flocked or spun head). Avoid cotton or calcium alginate or wooden handled swabs.
3. Select appropriate swab for the size of the bird.
4. Open and remove the swab from the envelope by holding the wand and taking care not to touch or contaminate the head of the swab.
5. Insert the entire head of the swab into the cloaca. Use gentle pressure and with a circular motion sample the interior of the cloaca four times. Try to avoid a twisting motion as damage to the cloacal wall may occur.
5. Shake off any large (>0.5 cm) pieces of faecal material.
6. Open the viral transport media tube and place the swab head completely into the media.
7. Swirl the swab vigorously in the media and squeeze the excess liquid from the swab into the tube.
8. Discard the sample swab in a container filled with disinfectant solution for proper disposal at the laboratory. Avoid leaving swabs in the tube as it may reduce the volume available for testing
9. Label the tube appropriately (sample identification number and type as cloacal, tracheal or tissue) so that the information on the tube correlates with the recorded data on the sample collection form.
10. Record the sample tube identification number on the sample collection form along with bird's assigned identification number, date, species, type of sample (cloacal or tracheal), age, sex, location (GPS coordinates are preferred), band number and any comments or other pertinent information.
11. For tracheal swabs follow steps 1 through 4; then hold the bird's mouth open and observe for the opening and closing of the larynx (opening to the trachea). Carefully introduce the swab into the opening and touch the swab head to the back and sides of the trachea and remove. Follow steps 6 through 10.

Reference for sample collection protocol: U.S Department of Agriculture, Animal and Plant Health Inspection Service. (2023). Avian Sample Collection for Influenza A and Newcastle disease.

Consumables for sampling:

- Universal Viral Transport Media Vial, 3ml, Catalog number 220220 (50 per box).
- Cellmatics. Viral Transport Kit, catalog number 252171 (50 per box). Distributor: Becton Dickinson. Worldwide search: <http://www.bd.com/support/locations.asp>
- Lysis buffer RNAlater. 50 ml (catalog number 76104) and 250 ml (catalog number 76106). Distributor: Qiagen. Worldwide search: <http://www1.qiagen.com>

NB

1. Please note that if the birds are small, like passerines, it may not be possible to introduce the swab head into the narrow opening of the trachea without risking damage to the bird. In these cases, an oropharyngeal swab can be collected by gently sampling the inside (dorsal and ventral) of the beak and behind the tongue.
2. If scissors are used to cut the sample wands, they must be disinfected between each sample to prevent cross-contamination. Some commercial sample swabs are pre-cut and can be easily broken manually. Also note that the wands in many of the smaller sized sample swabs are made of thin metal wire. In this case insert the swab into the transport media and swirl it around, mixing it thoroughly. Discard the sample swab in a container filled with disinfectant solution.

Remember:

- For the surveillance of HPAI, always take two sets of samples (one for Real Time Polymerase Chain Reaction, or RT PCR, and another for submission to a WOA reference laboratory for purposes of confirmation of the H5/H7 subtype/pathogenicity).
- Place all serum samples in cryovials that have sealed screw tops and with labels that withstand low temperatures (such as liquid nitrogen).
- Samples to be collected for HPAI surveillance - all birds (alive or dead):
 - Two (2) tracheal swabs and two (2) cloacal swabs, placing each swab in a viral transport media
 - Blood should be collected in a vacutainer blood collection tube and centrifuged. Serum or plasma should then be placed in a cryovial and frozen.

Sample Submission:

1. Samples are to be submitted to the Veterinary Diagnostic Laboratory (VDL).
2. Samples for avian influenza diagnosis include:
 - Sera samples in vacutainer blood collection (red top) tubes, minimum volume of 2ml; to be taken to the VDL within 4 hours
 - Oropharyngeal/or tracheal and cloacal swabs, using sterile swabs, placed in saline broth or phosphate buffered saline
3. All samples must be submitted with a completed submission form (contact the VDL prior to submission) and appropriately labelled including the following details:
 - Animal ID
 - Veterinarian's Name
 - Owner's Name/Farm ID
 - Date
 - Specimen type
4. Both swab and tissue specimens must be chilled at 4 °C during transportation. Swab specimens in transport media can be stored at 4 °C immediately upon collection up to 48 hours, and can additionally be maintained from weeks to months at -20 °C. Tissue specimens can be stored at 4 °C for a duration of 48 hours or can be stored long term at ≤ -70 °C.
5. Pooling of samples
 - Samples may be pooled in batches of 5 – 10 samples
 - Samples may be pooled if they are collected from:
 - the same species,
 - same premises and
 - the same sampling route – do not pool tracheal/oropharyngeal and cloacal swabs together

5.3 FARMER AWARENESS/EDUCATION PROGRAMMES

The Veterinary Services will collaborate with the Extension Department of the Ministry of Agriculture and with the poultry private sector to update existing educational materials for dissemination to farmers, other stakeholders of the poultry and livestock industry, wildlife groups, companion animal owners and the public. This collaboration will also include various training sessions on recognising clinical signs of AI, biosecurity practices, and other ways to safeguard vulnerable premises from AI.

There is also a need to collaborate with the Communications Unit of the Ministry of Agriculture to distribute this educational material available to the public through the Ministry's website.

5.4 SPECIALIST DIAGNOSTIC TEAM

The Veterinary Diagnostic Laboratory, in collaboration with the Ministry of Health Laboratory will form the specialist diagnostic team. Training to conduct molecular testing at the laboratory will involve personnel belonging to:

- Veterinary Services
- Environmental Health, Ministry of Health

5.5 LABORATORY DIAGNOSTIC CAPABILITIES

- Serology (ELISA, AGID, HI antibody testing for AI (detection of antibodies to Avian Influenza A virus) and Avian Influenza rapid antigen field test kits
- rtPCR testing for matrix AI antigen and for H5/H7

Regional Avian Influenza testing services (RT-PCR)

- Trinidad and Tobago: The Caribbean Public Health Agency (CARPHA), Trinidad and Tobago
- Guadeloupe: French Agricultural Research Centre for International Development (CIRAD)

5.6 INTERNATIONAL REFERENCE LABORATORIES AND COLLABORATING CENTRES

WOAH Reference Laboratories (CONFIRMATION)

- United States: National Veterinary Services Laboratories (NVSL), Ames, Iowa
- Canada: National Centre for Foreign Animal Disease (NCFAD), Winnipeg
- Brazil: Laboratório Federal de Defesa Agropecuária (LFDA-SP), Campinas
- National Veterinary Services Laboratories (NVSL), Ames, Iowa will be utilised for determining H5/H7 subtype, pathogenicity and sequencing. The EU Reference Laboratory for Avian Influenza will serve as an alternative reference laboratory in the event the samples cannot be shipped to NVSL.
- Samples will be shipped using an international courier company such as FEDEX or DHL, VS must ensure that the courier can maintain the integrity of the samples up to delivery at the laboratory.
- The process of shipment of samples to the Reference Laboratory and turnaround time for results takes approximately 48 - 72 hours.

6.0 SEQUENCE OF EVENTS – EARLY RESPONSE AND OUTBREAK MANAGEMENT

6.1 ALERT PHASE: TRIGGER POINTS FOR REPORTING OF A SUSPECT CASE

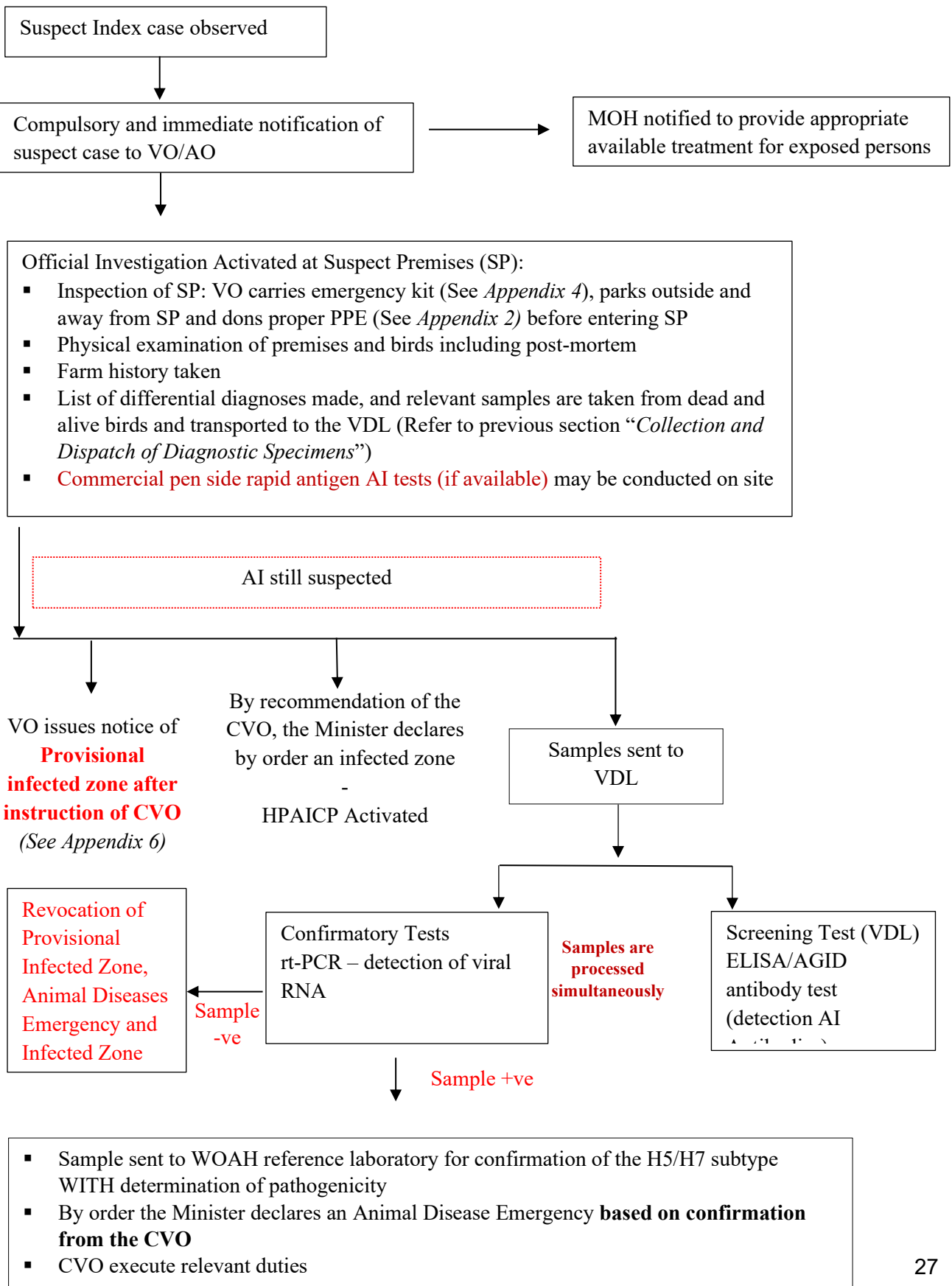
These criteria would trigger a prompt disease epidemiological investigation by the official veterinary services. There should be compulsory and immediate notification (within 24 hours) of these trigger points by the farmer or veterinary professional to the official veterinary services.

- Reduction of feed and water consumption by 25%
- Daily mortality of 1% for two consecutive days – commercial broilers, layers, turkeys - (gallinaceous species)
- Daily mortality of 5% for two consecutive days – backyard poultry
- Decline in egg production of 30%
- Neurological signs - waterfowl (Anseriformes).

- Passive surveillance: dead wild bird
 - At least 1 dead wild waterfowl
 - At least 3 dead wild birds of the same species found at one location
 - At least 5 dead wild birds of different species found at one location

6.2 CLINIAL INVESTIGATION OF A SUSPECT HPAI CASE AND TRIGGER POINTS FOR ACTIVATION OF THE CONTINGENCY PLAN

NB: All activities in a disease outbreak event must be sanctioned by the CVO



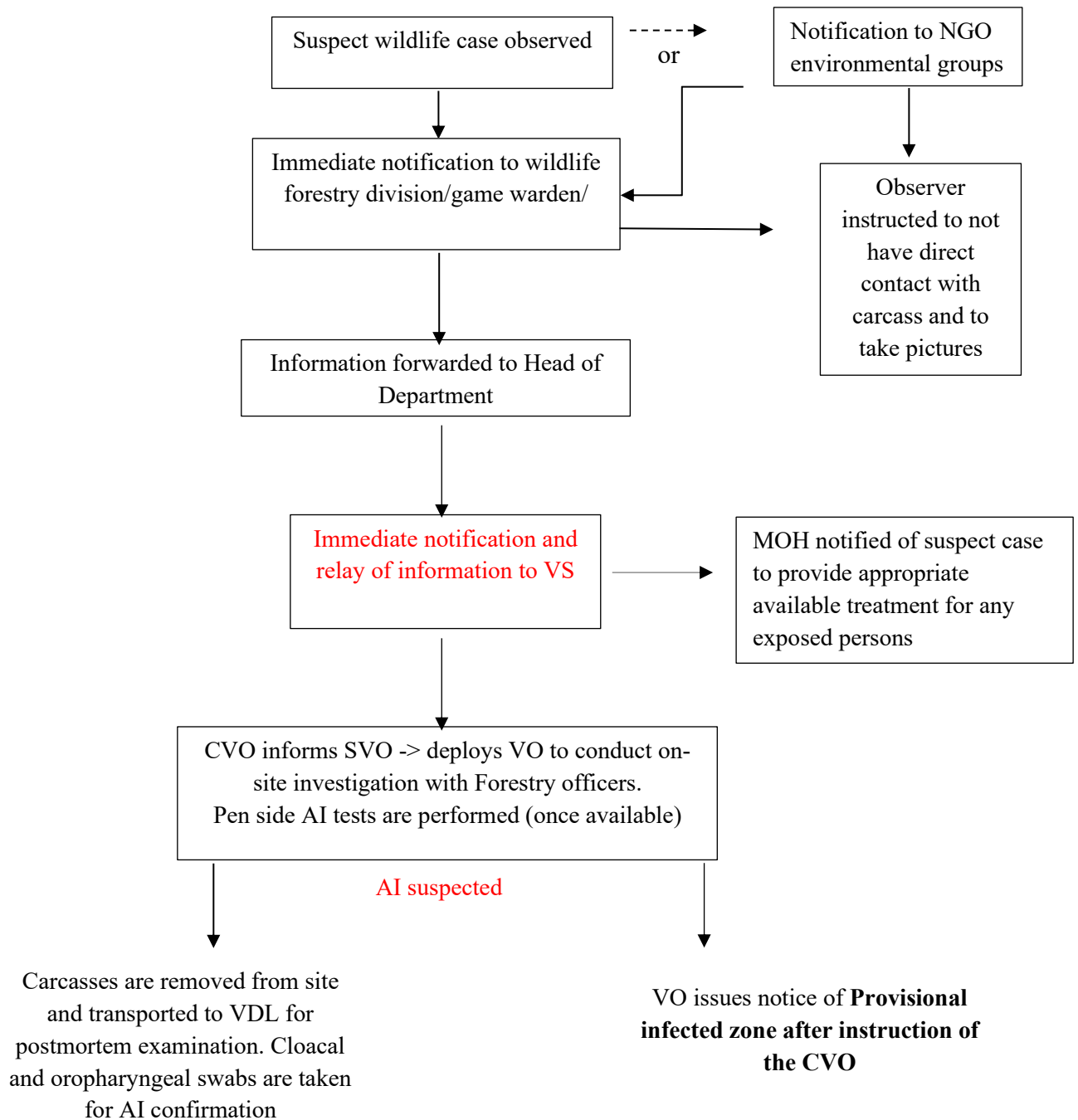


Figure 3. Wildlife Detection Flowchart

Additional actions

- Farmers are instructed to increase biosecurity within area while awaiting test results
- Once HPAI (H5/H7) is confirmed samples are sent to a WOA reference laboratory for confirmation of the subtype WITH determination of pathogenicity and sequencing.
- The Minister declares an **Infected Zone** and Animal Disease Emergency based on confirmation from the CVO
- CVO/SVO execute relevant duties along with Forestry officers.

6.3 DECLARATION OF PROVISIONAL INFECTED ZONE, INFECTED ZONE AND MINISTERIAL EMERGENCY DISEASE DECLARATION – ACTION POINTS

Table 8: Initial Action Points taken at Provisional Infected Zone, Infected Zone and Ministerial Emergency Disease Declaration

Provisional Infected Zone	Infected zone	Ministerial Emergency Disease Declaration	Confirmation of H5/H7 subtype with pathogenicity
- Farm officially declared as a Provisional Infected Zone (<i>See Appendix 7</i>) by VO on instruction of CVO - Limits of zone are defined - Farmer owner/manager updated - Farm is placed under immediate imposition of tightly controlled quarantine and surveillance in accordance with the Provisional Infected Zone notice (<i>See Appendix 7</i>) - Disposal of dead birds and decontamination - Epidemiological investigation conducted (<i>See Appendix 6</i>) - Confirmation of suspect case must be done within 7 days. - Minister is notified once suspect case is confirmed - Informed Industry contact point.	- By Order, an Infected zone is officially declared by the Minister (<i>See Appendix 1</i>) after a positive rt-PCR result - CVO liaises with advisory committee for technical, logistic and field support etc.	- By Order, The Minister, upon written recommendation by the CVO declares an animal disease emergency (<i>See Appendix 1</i>) - Minister approves release of emergency funds ASAP to CVO for emergency activities, supplies etc. - Activation of HPAI contingency plan	- WOAHP Delegate/focal point notifies WOAHP within 24 hours - Farm owner/manager updated

CVO duties following a declaration of an **Infected Zone**:

- Activates EOC and ICS
- Local Police, Environmental Health, Military, Field Engineering Components, Veterinary Public Health and all other relevant stakeholders and responders are informed within 24 hours.
- Field Component Personnel are mobilised and deployed as required.
- Implements adopted strategy (depopulation, disposal, and decontamination) ASAP or within 48 hours
- Determination of Suspect Premises (SP), Dangerous Contact Premises (DCP), Surveillance Zone (SZ) and Protection Zone (PZ) (*See 7.4: Definition of Premises and Zones*) with SVO
- Directs field component to carry out procedures of depopulation, disposal and decontamination
- Designates, if required, approved non-government veterinarian and auxiliary Veterinary component to assist in necessary activities
- Initiates the following measures:
 - Identification of all premises having poultry and other avian species within the PZ
 - Mobilisation of field staff to visit all the premises having avian species to clinically examine the birds and collect samples for laboratory submission
 - Submission to EOC of records of visits and findings and inventory
 - Confinement of all poultry indoors
 - Appropriate means of disinfection at the entrances and exits of premises.
 - Control of movements of persons handling poultry, poultry carcasses and eggs, vehicles carrying poultry, eggs and carcasses within the PZ
 - Prohibition of removing or spreading poultry litter or poultry manure without authorization
 - Prohibition of pigeon racing, live bird markets, pluck shops or other gatherings of poultry or other birds

Note: a statutory instrument may need to be prepared to allow for measures: confinement, prohibitions, movement control, etc)

The Protective Services Component:

- Set-up and man checkpoints around the control area.
- Restrict all movements of animals, humans, and vehicles on and off the infected premises.
- Allow only essential and authorized personnel to move into or out of the 3 km PZ and the 10 km SZ.

The Field component:

- Directs the trace back and epidemiologic investigation to attempt to identify the origin of infection.
- Directs the trace forward investigations to determine possible secondary outbreaks in conjunction with epidemiological support unit once available.
- Creates and/or uses maps in conjunction with the GIS unit, the Ministry of Agriculture to delineate other IPs, SPs and DCPs.
- Develops and maintains a database of collected data and provides analysis to inform further decision making to the CVO.
- Monitors and regulates animal movement within the SZ to prevent additional outbreaks.

6.4 DEFINITIONS OF PREMISES AND ZONES

Table 9: Definitions of Premises and Zones during an Outbreak

Premises/Zones	Definition
Clean Premises	Premises free from HPAI or LPAI (H5/H7) infection, marked as clean. No disease control measures required. [Colour Code: GREEN]
Dangerous Contact Premises (DCP)	Premises with items recently introduced from an IP (usually up to 21 days before infection declaration) and likely to be infected or contaminated. May include items in contact with people, vehicles, or equipment associated with an IP within three days. A DCP is subject to disease control procedures that might include slaughtering animals. [Colour Code: BLUE]
Infected Premises (IP)	Premises with confirmed HPAI or LPAI (H5/H7) infection or suspected presence. Subject to quarantine, eradication, and control procedures. [Colour Code: RED]
Suspect Premises (SP)	Premises includes birds possibly exposed to HPAI or LPAI (H5/H7) virus, warranting quarantine and surveillance, additionally, birds showing clinical signs requiring differential diagnosis. ‘Suspect premises’ is a temporary classification given due to the suspicion that the birds in these premises are infected with HPAI or LPAI. High priority should be given to clarifying the status of the suspect birds so that the premises can be reclassified appropriately and have appropriate quarantine and movement controls be implemented.
Protection Zone (PZ)	Zone that immediately surrounds an Infected Premises; the perimeter should be at least 3 km beyond the perimeters of the presumptive or confirmed Infected Premises.
Surveillance Zone (SZ)	Zone that is established around the Infected Premises; the perimeter should be based on radius of 3-10 km beyond the perimeters of the presumptive or confirmed Infected Premises.
Control Area	Consists of the Protection and Surveillance zones. The perimeter of the Control Area should be at least 10 km beyond the perimeter of the closest Infected Premises.
Zones may be redefined as the outbreak continues, considering geographical, administrative, ecological and epidemiological factors relating to HPAI and of monitoring facilities	

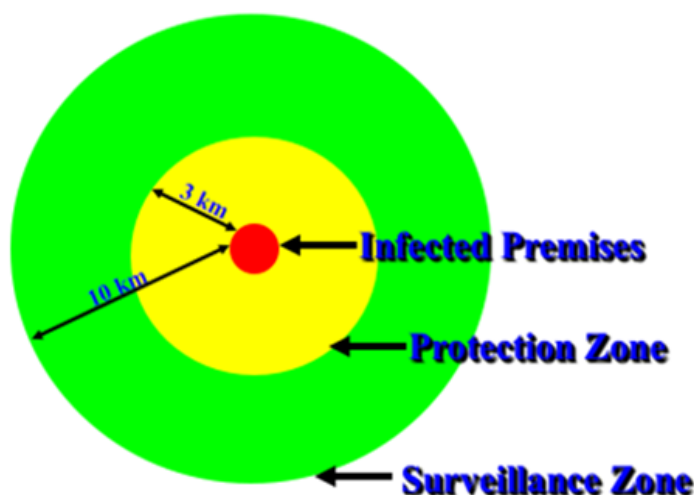


Figure 4. Diagram of Zones during an Outbreak

6.4.1 Minimum Sizes of Zones and Areas

If HPAI is detected on a premises, formation of a control zone is necessary. This control zone will consist of a protection zone and a surveillance zone.

The determination of Protection Zones, Surveillance Zones, and Control Areas should be informed by a **national risk assessment**. While the minimum distances provided serve as useful guidance, the final size of these zones should be based on factors such as disease epidemiology, poultry density, production systems, wildlife ecology, geography, movement patterns, available resources, and other country-specific risk factors. Thereby enabling establishment of zones appropriate to the epidemiological situation while remaining consistent with international standards.

The **Protection Zone (PZ)** Perimeter should be *at least* 3 km beyond perimeters of presumptive or confirmed Infected Premises. The size of this zone will depend on the disease agent and epidemiological circumstances.

The **Surveillance Zone (SZ) Perimeter** should be *at least* 7 km beyond the perimeter of the Protection Zone. This can be much larger if necessary.

The **Control Area** Perimeter should be *at least* 10 km beyond the perimeter of the closest Infected Premises. See section below on factors used to determine the size of a control zone during an outbreak.

Please note that the sizes of these zones may be redefined as the outbreak progresses.

Factors Used to Determine Control Zone Size

The size of a control zone during an outbreak is dependent on several factors including:

- Physical boundaries: areas defined by geographical factors and distance between premises
- Disease epidemiology: reproductive rate, incubation period, ease and modes of transmission, infectious dose, species susceptibility, environmental survivability, ease of diagnosis.

- Infected Premises characteristics: number of contacts, transmission pathways and risk (movement of animals, numbers, species and age of animals, movement of traffic and personnel to and from premises, level of biosecurity)
- Contact Premises characteristics: number and types of premises, susceptible animal populations and population density, movement of animals and traffic/personnel, existing biosecurity measures
- Environment: types of premises and land use in area or region, susceptible wildlife (potential vectors) and population density
- Climate: prevailing winds
- General area, region, or agricultural sector biosecurity: prior to and during outbreak
- Number of backyard or transitional premises: types of premises, animal/personnel/fomite movements
- Continuity of business: Plans and processes in place or activated at beginning of outbreak to ensure business continuity

6.5 OPERATIONAL PHASE (QUARANTINE, ISOLATION OF PREMISES, ZONING, TYPE OF TESTING)

Table 10: Action Plan for Premises and Zones During an Outbreak

Premises	Zone	Action Plan	Type of Testing
DCPs	Protection zone, Surveillance zone	▪ Clinical investigation including confirmatory testing (ASAP) ▪ Quarantine ▪ Movement restriction of live birds, poultry products, humans and vehicles ▪ Biosecurity measures ▪ Epidemiological investigation ▪ Active surveillance These premises may be subjected to other disease control measures such as slaughter and additionally disposal and disinfection.	▪ H5/H7 rt-PCR
IPs	Protection Zone	▪ Quarantine ▪ Movement restriction of live birds, poultry products, humans and vehicles ▪ Eradication ▪ Disposal and Disinfection ▪ Biosecurity measures	▪ Confirmation of H5/H7 subtype and determination of pathogenicity (WOAH reference laboratory)
SPs	Protection Zone, Surveillance Zone	▪ Clinical Investigation including confirmatory testing (ASAP) ▪ Quarantine ▪ Epidemiological investigation ▪ Active surveillance	▪ Rapid Antigen Field test ▪ ELISA antibody ▪ H5/H7 rt-PCR

7.0 STAKEHOLDERS INVOLVED IN OUTBREAK RESPONSE

The poultry industry is a complex and dynamic network of agencies and stakeholders, spanning both private and public sectors, as well as non-governmental organisations (NGOs). Regional bodies also have a role to play. In the event of a disease outbreak, successful collaboration among all stakeholders is crucial for a rapid response, which can mitigate the outbreak's negative consequences by fostering a timely resolution. Apart from the Veterinary Services, the emergency management system should involve all authorities that could have any role in the management of an emergency. It is essential to begin to build any emergency management system with intersectoral coordination in mind and as a permanent background. Therefore, a multi-sectoral management team needs to be established, with everyone aware of their function.

7.1 THE ADVISORY COMMITTEE ON ANIMAL HEALTH AND WELFARE

A One Health approach is needed to ensure proper detection, control and eradication of the AI virus. This approach requires a collaborative effort between the different ministries and organizations focused on environmental, animal and human health.

The Advisory Committee on Animal Health as mentioned in the relevant legislation (if applicable) (*See Appendix I*) This Committee will form the core of the multisectoral management team in the event of a disease outbreak:

Example of the establishment of an Advisory Committee

“(1) There shall be established a Committee to be known as the Advisory Committee on Animal Health and Welfare (hereinafter referred to as “the Committee”).

(2) The Committee shall comprise no more than eleven members selected by the Minister as follows:

- (a) a veterinary officer;
- (b) a senior technical officer from the Ministry with responsibility for animal health;
- (c) a representative from the Ministry with responsibility for health;
- (d) a representative of local government (if applicable);
- (e) a representative of the Zoological Society of the country;
- (f) a representative from the private sector;
- (g) a representative of the Institute of Marine Affairs;
- (h) a representative of the Ministry with responsibility for trade;
- (i) a representative of the Food and Drug Division, Ministry of Health; and
- (j) two representatives of the poultry industry, one being a veterinarian.
- (k) representative of CAHFSA
- (l) representative of the national emergency response/ disaster agency
- (m) representative of the police or defence force

Other members would be co-opted as necessary. A suggested list is contained in Appendix 4. This committee will serve to provide technical support and data as requested by the CVO as well as logistical and field support services (including provision of necessary resources and funding, facilitation of outbreak containment, and coordination of personnel and activities)

7.2 RESPONDER TEAM

The responder team represents the team that is responsible for the on the ground activities that takes place on the suspect or infected premises, this team may encompass Veterinary Officers (VOs), veterinary para-professionals (VPPs), Ministry of Health Support Staff, Ministry of Agriculture Health and Safety Officers, Stockmen and Drivers of official vehicles and any personnel that are approved by the CVO to be involved in the eradication process.

7.3 ROLES AND FUNCTIONS OF THE RESPONDING AGENCIES

The responsibilities assigned to each agency or functional group may vary among member states and should be adapted to national emergency management arrangements while maintaining the principles of coordinated multi-sectoral response.

7.3.1 Functions of the Executive management of MOA: Minister/ Permanent Secretary/Chief Executive Officer

After the CVO notifies the Minister, Permanent Secretary or Chief Executive Officer and Deputy Permanent Secretary or Chief Technical Officer of a Notice served on a farm for AI:

- The Minister shall, by Order, declare a disease emergency in the country or any part thereof and specify in the Order: the limits of the provisional infected zone, the duties of persons in the provisional infected zone, or restrictions related to the suspected disease.
- If the Minister is not satisfied that such a course is expedient or necessary, he shall by Order revoke the notice.
- Once advised by the CVO, the Minister may revoke the Order where the circumstances that gave rise to the threat no longer justify the continuing status of an animal disease emergency.
- The Minister may, if he thinks fit, by Order, extend, reduce, or otherwise alter the limits of any infected or infested area.
- The Minister may in his discretion award for the compulsory euthanasia of any animal under this Act such compensation as he may think fit, which shall be payable out of moneys provided by Parliament.
- The Permanent Secretary employs labourers to dispose of carcasses and carry out other functions, as necessary.
- The Competent Authority employs veterinarians to assist with the functions required under the contingency plan, as necessary. These persons shall follow the instructions/directions of the CVO or his/her representative.
- The CVO notifies the police and all relevant agencies of the presence of AI, and the police coordinates cordoning of the outbreak area and relevant zones.
- The CVO arranges with the Regional Fire Department, Field Engineering and Regional Cooperation for necessary equipment and manpower.
- The chief officers of the competent authority will assist the CVO in the coordination of duties.

7.3.2 Functions of the CVO

- Ensures that the AI Field Component is in constant readiness and schedules regular field exercises to enhance its reactive capacity.
- Ensures that the AI Field Component has all the necessary human resources, equipment, supplies and staff training to carry out its functions efficiently.
- Apprises Minister/Permanent Secretary of the Ministry of Agriculture for the consideration of evaluation and compensation options and of emergency/contingency funding recourse.
- Serves as a liaison officer between the Incident Command Officer and the Admin of the Ministry of Agriculture
- Co-opts divisional and inter-divisional resources as necessary.

7.3.3 Functions of the Incident Command Officer

All activities in a disease outbreak event must be sanctioned by the CVO.

- Coordinates training of field diagnosis of AI, proper surveillance techniques, quarantine measures and depopulation/disposal/decontamination procedures, public education/awareness program.
- Together with the Communications team, prepares information releases for radio, television, and press.
- Serves as official spokesperson to the media.
- Serves as Incident Command Officer (ICO) for the outbreak response.
- Orders depopulation, disposal, and decontamination of infected area as soon as diagnosis has been confirmed.
- Allows the movement, on a permit basis, of perishable crops and other non-animal products from infected farms after depopulation, and after the contaminated portion of the premises has been suitably decontaminated.
- Suspends the operations of, or places zoo sanitary restrictions on abattoirs, slaughterhouses, processing plants and other risk enterprises as necessary.
- In collaboration with the SVO, prepares the necessary budget, audit and control procedures for all equipment and supplies.
- Coordinates the activities of all the components of all relevant agencies in the presence of avian influenza.
- Collaborates with the relevant external agencies for necessary equipment and manpower as necessary.
- Proclaims zones and premises.
- Recommends the declaration of an animal disease emergency to the minister for his issuance of the relevant order
- Informs the CVO in a timely manner of all activities.
- Activates and deactivates the Emergency Operations Centre (EOC) designated by the CVO.
- Issues directives to the Field Component as needed through the SVO
- Issues directives to the VDL as required.

7.3.4 Functions of the SVO

- Ensures that the field component is in constant readiness and that each member knows his/her specific tasks and functions.
- Coordinates the activities of all the members of the Field Component.
- Ensures that the task of the Field Component is continuously monitored, making appropriate modifications and prioritizations, until it is accomplished.
- Maintains inventory for field activities prior to and during the outbreak
- Receives directives from the CVO
- Collaborates with relevant technical experts for epidemiological investigations
- Coordinates epidemiological investigation of outbreaks
- Informs the CVO Animal Health in a timely manner of all activities.
- Requests and facilitates the procurement of installation of communication equipment (e.g. a minimum of two telephone lines at the EOC) as rapidly as possible. Where telephone communication is not possible, cell phones must be requested and communication allowances for field staff must be organized, and/or short-wave radio or walkie-talkie communication should be set up.
- Ensures that the EOC is adequately equipped for proper and efficient functioning.
- In collaboration with the CVO and GIS unit of the Ministry of Agriculture, facilitates the availability of animal, farm GIS data and provides this information to all field component personnel.
- Lists personnel complement of Field Component and gives specific, relevant assignments to each.
- Receives regular/daily briefings on the day's activities and problems and plans/briefs activities for the following day/change of shift.
- Gives regular/daily briefing report to the CVO
- Authorizes the deactivation of sections, branches and units when they are no longer required in collaboration with the CVO.

- Organizes office procedures at the EOC and oversees a filing system for all reports.
- Works with relevant team members and agencies to ensure that all personnel going to quarantine areas are provided with refreshments.

7.3.5 Functions of the Field Component

The Veterinary Officers (VOs), veterinary paraprofessionals, Poultry Surveillance Unit (PSU), Ministry of Agriculture Officers, Stockmen, Stores Department personnel, and Drivers of official vehicles shall comprise the Field Component.

- The VO receives instructions from the SVO to delegate duties (daily action plan) to the field component of this plan
- Ensures that the Field Component has access to approved disinfectants, PPE, an equipped emergency kit (*See Appendix 5*) and other relevant supplies required during an outbreak.
- Assists and co-operates with SVO in mapping the relevant areas and zones and supervises the members of the Field Component in posting of disease warning signs on all roads at the outer perimeters of the quarantine and buffer zones.
- Establishes quarantine, hold orders, movement restrictions, and standstill notices for relevant zones and regions. Evaluates quarantine and movement controls.
- Initiates flock appraisal process, verifies and investigates suspicious reports
- Investigates and records farm inventories of birds located within the quarantined premises during the outbreak.
- Begins depopulation activities.
- Implements increased biosecurity measures.
- Starts tracing activities (epidemiological investigation) (*See Appendix 6*).
- Begins confirmatory diagnostics and further virus typing by submitting relevant samples to the VDL.
- Co-ordinates the establishment of 24-hour police and military patrols to cover all roads in areas and zones to control movement of animals, animal products, persons, vehicles, and other farm products.
- Assists the SVO in arranging for overnight cleaning/disposal of contaminated protective clothing.
- Assists the SVO in establishing a system for routine washing, cleaning, and disinfection of vehicles.
- Sets up procedures for the issuance of and accountability for equipment.
- Continues depopulation and disposal activities.
- Proceeds with surveillance and tracing activities, and environmental sampling.
- Collaborates with SVO to ensure re-stocking procedures are conducted as frequently as required.
- Engages post-outbreak surveillance.

Teams inclusive of epidemiology, surveillance, movement control, destruction, disinfection, laboratory/ diagnostic should be formed to perform the activities outlined above.

7.3.6 Functions of the Laboratory staff

The Laboratory staff including the Laboratory Attendants and reception staff comprise the key staff of the lab component.

- The laboratory Officer in charge (OIC) that VDL personnel are on standby and ready for collection of incoming samples from the field to accommodate immediate processing.
- VDL personnel would be responsible for ensuring that incoming samples are processed within 24 hours of submission.
- Suspect samples are simultaneously screened via ELISA and AGID antibody testing for AI at the VDL and sent for rt-PCR testing at the national reference laboratory.
- If a sample is AGID positive or rt-PCR positive, the VDL facilitates the shipment of the sample to National Veterinary Services Laboratories (NVSL), Ames Iowa for confirmation of the H5/H7 subtype as well as determination of pathogenicity. The VDL will notify the relevant laboratory director of the imminent arrival of the samples.

- If submission of additional specimen(s) is required, the OIC advises the Field Component via the SVO, on the appropriate samples for submission within 24 hours of first submission.
- Following a positive AGID or rt-PCR result, the OIC informs the SVO and CVO immediately for prompt execution of their relevant duties.
- Following a negative rt-PCR test the OIC immediately informs the SVO and CVO. Further investigation may be required, based on the disease progression and spread. The contingency plan sequence of events ends based on the decision of the CVO.

7.3.7 Functions of the Auxiliary Veterinary component

The auxiliary veterinary component consists of those veterinarians not employed by the official veterinary services. These include private veterinarians, the veterinary staff of relevant universities/schools of Agriculture, and retired veterinarians.

- Private/non-state veterinarians are required to report all suspicious cases.
- Depending on the size of the outbreak, the auxiliary veterinary component may be required to assist the Field Veterinary Officers of the Field Component in the execution of their duties, as outlined above.
- The lecturers, researchers and diagnosticians at universities and agricultural schools may be called upon to assist the Ministry of Agriculture during the outbreak.

7.3.8 Functions of the Poultry Industry

The official veterinary services should ideally develop public-private partnerships with the poultry private sector in times of peace. During an outbreak the following functions can be taken by the poultry private sector to support early detection and early response.

- To partner with regulators (VS, MOA) to assist in preparatory and control actions.
- To promote the reporting of any suspect clinical signs of AI seen on their establishments to VS.
- To assist, comply and cooperate with the Field Veterinary Officers of the Field Component in the execution of their duties, as outlined above.
- To assist in the strengthening of epidemiological surveillance including support of diagnostic capacity.
- To support early response.
- To comply with the appropriate depopulation, disposal, decontamination and repopulation procedures.
- Enhance biosecurity measures as recommended by their association and VO
- To provide labour resources to assist in the eradication and bio-containment activities.

7.3.9 Functions of the Protective Services Component (Police, Army)

- Possesses an understanding of AI and its implications.
- Restricts movement of animals, animal and farm products, humans and vehicles in and out of the quarantined areas and zones.
- Allows only authorised personnel to move into and out of the 3 km protection zone.
- Ensures 24-hour enforcement of quarantine measures in the area, until quarantine is lifted.
- Deploys and manages checkpoints on appropriate roads, in cooperation with the SVO.
- Maintains documentation of vehicular and human traffic to and from the infected premises with respect to time, date, and authorization (list to be provided by SVO).
- Provides security to the AI Field Component in the infected areas, protection zones and surveillance zones, during quarantine period, when euthanasia and disposal of infected animals are in progress, or when deemed necessary.
- Provides security for machinery and equipment as necessary.
- Assists in providing radio/telecommunications if required.
- Provides emergency road service as is necessary. (e.g., escort service, wrecking service etc.)
- Assists in the provision of equipment for the compulsory euthanasia of animals, as is necessary.
- Assists in the provision of transport for personnel and equipment.

- Assists in the eradication procedures, if necessary.
- Provide security for the infected carcasses and material for disposal (i.e. provide offsite escort if necessary).

7.3.10 Functions of the Field Engineering component

- Provides, operates, and maintains equipment and machinery for the disposal of infected carcasses and materials.
- Confers with CVO on anticipated need of heavy equipment and materials by Field Component.
- Assists in the provision of transport for personnel and equipment, as requested.
- Assists in the disinfection of equipment and premises.

7.3.11 Functions of the Fire Service component

- Assists in depopulation via foaming when that is the chosen method.
- Makes equipment available for use in cleaning and disinfection.
- Assists the Field Component in cleaning and disinfection of infected premises and materials.
- Advises on, and assists with, carcass disposal, with respect to on-site incineration where applicable.

7.3.12 Functions of the Other Services component

This includes state agencies such as environmental and water and other relevant external agencies.

- Advises on, and assists with, field activities, with respect to depopulation (suitability of chosen methods), disposal (water table considerations, landfill usage) and decontamination (availability of water).

7.3.13 Functions of Wildlife Partners

This consists of Wildlife Section-Forestry Division, Zoo, Wildlife NGOs, hunters and their associations, etc.

- Reporting of suspicious cases of AI in wild birds.
- Partners with VS for early detection and early response including surveillance activities.

7.3.14 Functions of Other Government Ministries

- Ministry of Health: This collaboration is necessary due to AI's zoonotic potential. They will be required to assist with public education, inspection/surveillance of poultry products for consumption along with other food safety competent authorities, if applicable, and monitoring and treatment of staff/exposures.
- Ministry of Finance: Assistance to access funding for emergencies. The Customs and Excise Division will also be necessary for border control exercises.
- Ministry of Rural Development and Local Government: Required to collaborate with them in order to obtain equipment and human resources to support outbreak activities. Regional corporations may be required to facilitate locations to be used as EOCs. Requests may be made to the Disaster Management Unit for assistance.
- Ministry of National Security: The National Emergency Management Organisation (NEMO) may also be called upon to assist with the management of outbreak response and containment.

The responsibilities assigned to each agency or functional group may vary among member states and should be adapted to national emergency management arrangements while maintaining the principles of coordinated multi-sectoral response.

7.3.15 Functions of CAHFSA

1. Regional Coordination

- Coordinate the regional response among CARICOM Member States following confirmation of HPAI.

- Convene the CARICOM Committee of Chief Veterinary Officers (CCCVO) and technical working groups.
- Ensure consistent implementation of regional response protocols.
- Facilitate cross-border collaboration and mutual assistance.

2. Surveillance and Early Warning

- Collect, analyze, and disseminate regional surveillance information.
- Maintain regional situational awareness through regular epidemiological updates.
- Identify regional trends and emerging risks.

3. Risk Assessment

- Conduct regional risk assessments.
- Evaluate pathways for virus introduction through:
 - Wild migratory birds
 - Poultry and poultry products
 - Informal trade
 - Human movement
 - Contaminated equipment and fomites
- Provide science-based recommendations to Member States.

4. Technical Guidance

- Develop and update regional technical guidelines aligned with international standards.
- Harmonize surveillance, sampling, laboratory, and outbreak investigation protocols.
- Provide technical advice on:
 - Biosecurity
 - Stamping-out
 - Movement controls
 - Cleaning and disinfection
 - Recovery planning

5. Laboratory Coordination

- Coordinate regional laboratory networking.
- Facilitate shipment of samples to reference laboratories.
- Monitor regional diagnostic capacity.
- Coordinate procurement of laboratory reagents where feasible.

6. Information Management

- Maintain a regional HPAI information management system.
- Produce:
 - Situation reports
 - Risk maps
 - Epidemiological summaries
 - Regional dashboards
- Share information rapidly among Member States.

7. Risk Communication

- Develop harmonized regional communication messages.
- Coordinate public information to reduce misinformation.

- Support Member States with:
 - Media statements
 - Frequently Asked Questions
 - Producer advisories
 - Traveler information
- Promote transparent reporting.

8. Capacity Building

- Organize regional training on:
 - Surveillance
 - Outbreak investigation
 - Incident management
 - Personal protective equipment (PPE)
 - Sample collection
- Coordinate simulation exercises and after-action reviews.

9. Resource Mobilization

- Identify regional funding opportunities.
- Coordinate donor engagement.
- Support emergency procurement where appropriate.
- Facilitate deployment of regional technical experts.

10. Regional Emergency Support

- Coordinate requests for technical assistance between Member States.
- Maintain a regional roster of experts.
- Facilitate rapid deployment of epidemiologists, veterinarians, laboratory specialists, and risk communication experts.
- Coordinate surge capacity during large outbreaks.

11. Regional and International Liaison

- Serve as the regional focal point with key international partners, including:
 - World Organisation for Animal Health (WOAH)
 - Food and Agriculture Organization of the United Nations (FAO)
 - Pan American Health Organization (PAHO)
 - Caribbean Public Health Agency (CARPHA)
 - Caribbean Disaster Emergency Management Agency (CDEMA)
- Ensure coordinated regional reporting and technical collaboration.

12. One Health Coordination

- Coordinating collaboration between veterinary, public health, wildlife, and environmental sectors.
- Supporting joint risk assessments.
- Promoting integrated surveillance between animal and human health sectors through collaboration with CARPHA.
- Facilitating multisectoral preparedness and response planning.

13. Trade and SPS Coordination

- Provide technical advice on regional and international trade implications.
- Promote science-based sanitary measures consistent with international standards.

- Assist Member States in implementing proportionate movement controls while minimizing unnecessary trade disruptions.
- Coordinate regional positions on SPS issues affecting poultry trade.

7.4 INCIDENT COMMAND SYSTEM and EMERGENCY OPERATIONS CENTRE

7.4.1 Functions of the Incident Command System

The VS will adopt the Incident Command System for HPAI and all poultry Animal Health Emergencies to ensure

- Proper planning and budgeting
- Safety of responders and other actors in response
- Achievement of tactical objectives
- Efficient use of resources

In conjunction, the VS may also attempt to work with the NEMO in the emergency situations in ensuring the functionality of the ICS systems once available.

This system creates a structure that organizes emergency response into 5 main functions:

2. Command
3. Operations
4. Planning
5. Logistics
6. Finance and Administration

Table 7: Detailed Description of the ICS Roles for a Poultry Animal Health Emergency

Roles and Respective Officers	Functions
Incident Command (Technical Officer)	Overall leadership for the Animal Health emergency response. Person must be qualified to manage incidents. Sets objectives and priorities for the Animal Health emergency. Establishes and maintains liaison with other participating agencies. May assign a Deputy Incident Commander who must be fully qualified to assume the Incident Commander's position
Operations (SVO and field)	This section manages all the tactical and strategic activities required to achieve the objectives set out by the Incident Command.
Planning (CVO, SVO, and field)	Collects, collates, analyses, situation and status information about the animal health emergency, for development of action planning and for reporting. Plans and monitors resource requirements for operational needs
Logistics (Director VS + MOA)	Provides logistical support, resources and services to meet the operational needs. This includes purchasing, human and physical resources, transport and communications equipment. This section sets up the emergency operations centre and ensures it meets the needs of the animal health emergency.
Finance and Administration (Director VS+MOA)	Manages the financial and administrative arrangements for the animal health emergency. This may include securing funding for the emergency phase and administering contracts for the provision of services.

Table adapted from FAO's Manual for the management of operations during an animal health emergency, 2022.

7.4.2 Functions of the Emergency Operating Centre

In the event of an outbreak, an Emergency Operations Centre (EOC) must also be established as it is critical to managing operations during an animal health emergency. The purpose of this location would be to manage all off-site activities and provide a central location for responders to gather and coordinate resources and requests for on-ground field activities. The EOC serves as the hub for the ICS related activities.

A site needs to be determined for the Emergency Operations Centre and for the Field Office.

8.0 COMMUNICATION

8.1 AVIAN INFLUENZA AWARENESS CAMPAIGN

The awareness campaign for AI should be geared towards educating the public prior to and during an outbreak. This would include the following:

- Avian influenza – causative agent, modes of transmission, risk of poultry infection, clinical signs in birds and humans
- The possibility of a pandemic
- The Veterinary Services strategy for prevention of entry of the virus into the country
- The Veterinary Services strategy for surveillance of the disease
- The Veterinary Services strategy for outbreak management and contingency plan
- The importance of reporting suspicious avian cases and other areas of assistance from the public during pre-outbreak, outbreak and post-outbreak phases
- The Veterinary Services strategy for efficient means of contact and investigation of avian reports
- Upgrading of hygiene and poultry farm biosecurity management, procedures to minimize viral infection of birds and viral contamination of farms and establishment of proper record keeping
- The procedure to follow if clinical signs are observed in humans or for humans in close contact with infected birds.
- The Ministry of Health’s strategy for handling suspect or confirmed human cases
- Methods by which farmers and the public can protect themselves and their families from contracting the disease.
- Food safety statements

(Refer to Appendix 8 for an example of a draft press release during an AI outbreak)

The target audience includes:

- Commercial and backyard poultry farmers
- Outbreak management field staff
- Poultry industry employees, including processing plant, feed mill and hatchery employees, vehicle drivers, service personnel, company officials
- Private veterinarians and agricultural officers
- Hunters, game wardens, naturalists, zookeepers
- Pet bird owners and avian pet shop employees
- Customs and Excise officers
- Students and children
- Consumers
- General public
- Media

Education materials and means of communication:

- Brochures, leaflets, handouts, fact sheets – airports, pluck shops, feed depots, schools
- Data and video clips
- Posters
- Television and radio interviews at prime time
- Paid advertisements in newspapers (articles, pullouts), television and radio
- Community service announcements
- Public meetings – schools, churches, community centres
- Direct mail

- Media news conferences
- Internet
- Press releases
- Volunteers employed to reach out to villages and communities
- Souvenirs delivering key messages (school stationery supplies)

8.2 COMMUNICATION DURING AN OUTBREAK

8.2.1 Reporting a Suspicion of HPAI

Private veterinarians, private laboratory technologists, members of the poultry sector, pet bird owners and the public can report any suspicious case seen through the following channels:

- Through their private veterinarian who must in turn report to a VO in the central VS,
- By contacting Government Veterinarians or Agricultural Officers at the regional or local offices directly. These contact numbers would be available on the VS and MOA websites
- By calling or emailing the Senior Veterinary Officer or the Office of the Chief Veterinary Officer, or the VDL.
- By submitting the online reporting form or APP to report suspicious cases of notifiable diseases which may be available on the VS and MOA websites.
- For suspicious cases of HPAI in wild animals (non-domestic animals), the Wildlife Section of the relevant Ministry if it is not in the MOA.
- Please note that these individuals are **only** required to report their suspicions.

The One Health Field Component of the VS/MOA/MOH/Environment or the official veterinary services, if no One Health Field Component, will then proceed to visit the premises to conduct an epidemiological investigation and take the necessary samples and measures.

8.2.2 Risk Communication

This includes an internal (within VS and MOA) and external (public) communication process. Internal communication should aim at ensuring that informed and timely decisions are made. See Appendix 9 for reporting chains during an outbreak.

External Communication is crucial to the success of outbreak investigation and management.

Features of Internal Communication:

- Establishment of point of contact lists for key personnel
- The CVO, as the ICS Commanding Officer will have the overall responsibility for managing the emergency event

Features of External Communication:

- The goal is to increase public awareness
- A network of stakeholders and systems for communication must be in place prior to an incident or event
- All official external communication must come directly from the CVO or the ICS communications spokesperson

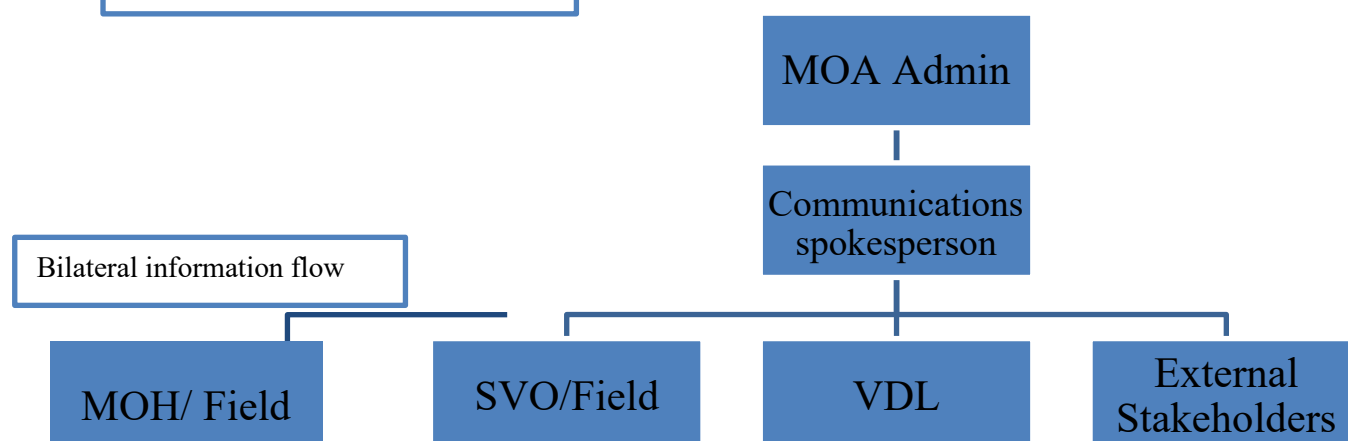


Figure 5. Communication During an Outbreak

Key messages in the communication plan include:

- Communicating the actions the government is taking
- Reassuring the public that an HPAI detection in birds does not signal an avian influenza outbreak or pandemic for humans.
- Reassuring the public that officially inspected, and properly prepared poultry meat, eggs, and egg products are safe to eat
- Preparing the public for the possibility of more cases in poultry, wild birds and other animals
- Preparing the public for the possibility of human illness from direct contact with infected birds and infected environments (at risk persons)

The Communications Division MOA, where applicable, must liaise with the CVO to:

- Establish a Communication Unit under ICS.
- Assign a spokesperson to address the media and release relevant information to the public.
- Maintain on its website an online public database on confirmed cases.
- Prepare and provide flyers, notices and online updates for release to the public.

8.2.3 International Reporting

In accordance with WOA's Terrestrial Animal Health Code, the Veterinary Authority shall, under the responsibility of the Delegate (usually the CVO), notify the WOA through the World Animal Health Information System (WAHIS) or by fax or email within 24 hours of confirmation of the occurrence of a WOA listed terrestrial animal disease. Other regional agricultural organisations (e.g. FAO, CAHFSA, CaribVET, IICA, PAHO), as well as trading partners will also be notified by the CVO to ensure transparency. Weekly follow-up reports shall be submitted to the WOA after the immediate notification until closure of the event.

9.0 ASSURED POULTRY SUPPLY AND BUSINESS CONTINUITY DURING AN HPAI OUTBREAK

Assured Poultry Supply helps to avoid disruptions in poultry or poultry product movement to processing or production sites from premises within a control area with no evidence of HPAI infection. It ensures a continuous supply of safe and wholesome food to consumers; and it maintains business continuity for producers, transporters, and food processors through response planning.

Criteria for Movement of Poultry and Poultry Products During an Outbreak will be discussed for the following:

- Broiler to Market
- Day old chicks from hatchery to farm
- Movement of table eggs from farm to market

9.1 BROILER TO MARKET

Broilers from premises within an HPAI Control Area moving to company owned processing plants represent a low to moderate risk, provided that the criteria below have been met. Broilers may move to processing within or out of the Control Area by permit.

NOTE: NO LIVE SALE ALLOWED.

Permit Guidance Includes:

1. Poultry are moving from premises with an assigned national premises identification number and objectively demonstrates that it is not an Infected Premises, Contact Premises, or Suspect Premises.
2. A Pre-Movement Isolation Period (PMIP) is established.
3. Product-specific biosecurity as described.
4. The route to processing is acceptable.
5. Load out and live haul biosecurity is implemented.
6. RRT-PCR tests on two pools of swabs, one from dead/sick birds and the other from live birds are negative. PCR samples collected within 24 hours of movement.

1. Poultry are moving from a premises with an assigned national premises identification number and objectively demonstrates that it is not an Infected Premises, Contact Premises, or Suspect Premises.

For the move from the premise the following criteria must be met

- a. Pre-movement RRT-PCR testing is negative
- b. Epidemiological investigation form is completed (*Appendix 6*)
- c. No unexplained mortality, no unexplained clinical signs, no unexplained changes in production parameters are noted
- d. Biosecurity measures are acceptable to the competent authority (Ministry of Agriculture)

2. A Pre-Movement Isolation Period (PMIP) is established.

The PMIP starts five days prior to the scheduled movement date and ends when load-out begins (i.e., the hours or days of load-out are not considered part of the PMIP).

3. Product-specific biosecurity as described.

Non-critical operational visits should be scheduled to occur outside of the PMIP. Activities that have a risk for lateral transmission of HPAI virus are prohibited. Specific prohibited activities are:

- **Off-farm disposal of mortality is prohibited.** Risks associated with dead birds on-site must be managed. In this period, mortality should be disposed of or held onsite in a manner that does not allow access by scavengers. Recommended methods include composting, burial, incineration.

- **Off-farm removal of manure or litter is prohibited.** Risks associated with manure or litter movement on-site must be managed. Composting and heat treatment is recommended.
- **Off-farm garbage disposal is prohibited.** Risks associated with garbage storage on-site must be managed.
- **All non-critical visitors are prohibited from entering farms.** All non-critical, routine, or operational visits must be replaced by telephone communication or must be scheduled outside of the PMIP. Non-critical visitors who work with or have contact with another commercial poultry operation (farm, hatchery, processing plant, etc.) or have contact with a non-commercial poultry flock (backyard birds, hobby farms with birds, or game birds) are prohibited from entering farms.
- **Movement of non-critical equipment from off-site is prohibited from being moved on-site.**
- **Moving live poultry onto or off the premises is prohibited.**

Critical operational visits may continue during the PMIP when specific biosecurity measures are in place. These critical visits may include Feed delivery, emergency repair of critical mechanical equipment, and service visits to address changes in bird health.

- For all critical operations visitors or personnel, people who have contact with other poultry must shower and change clothes before entering the premises and wear necessary protective clothing and footwear as described in appropriate biosecurity protocols.
- For all vehicles and equipment entering the premises during PMIP, vehicles and equipment will be cleaned and disinfected prior to entering premises.
- Feed delivery in a dedicated truck directly from the feed mill.
- Feed truck biosecurity
 - Within the Infected Zone, the outside of the vehicle must be cleaned and disinfected at or near the broiler premises both before entering and after leaving the broiler premises. A route should be selected in consultation with a farm veterinarian or production manager to minimize contact and proximity with live poultry and poultry products.
 - Keep vehicle windows closed at farm to ensure no flies enter the cabin.
 - A dedicated feed truck should be used for the Infected Zone.
- Feed truck driver biosecurity
 - Do not enter the poultry house.
 - Put on disposable boots before getting out of the truck cabin. Re-enter the cabin of the truck and remove boots before placing feet onto the floorboards. Leave the disposable boots on the farm.
 - Wear disposable gloves while on the farm and remove them before getting into the cab.
 - Sanitize hands using appropriate hand sanitizer or wash hands with a disinfectant solution before leaving and after re-entering the cab.
 - Spray the cabin interior floors, pedals and bottoms of feet with disinfectant after every stop.
- Visiting other poultry farms is prohibited for people who work on poultry farms. People should only have contact with their assigned flock.
 - Entering a poultry house is prohibited unless the person is wearing clothing dedicated to the farm and footwear dedicated to the house.
 - Growers should shower and change to clean clothes before leaving the farm.
 - Farm labourers will not be allowed to enter the house during the PMIP if they work on another commercial operation with live poultry or have contact with a non-commercial flock.

4. The route to processing is acceptable.

- Avoid high traffic routes.
- The route for live-haul vehicles and equipment should be selected in consultation with the competent authority to minimize contact with and proximity to live poultry and poultry products.

5. Load out and live haul biosecurity is implemented.

Load out begins as the first crew, vehicle or equipment arrives on the premises and ends when the last load of birds departs the premises. Pre-staging of equipment during PMIP is prohibited. Due to the increased risk

associated with extended load-out durations, additional biosecurity measures are required for longer load-out, transit, and yard time at the premises level.

For premises with load-out, transport, and yard time ≤ 24 hours, biosecurity measures are:

- The load-out crew should shower and wear freshly laundered clothing before going on to other activities after load-out.
- When moving equipment from the Infected Zone to the Buffer Zone, cleaning and disinfection of live-haul equipment (power wash) with at least 24-hour downtime is required.

For premises with load-out, transport, and yard time > 24 hours, biosecurity measures in addition to those listed above are required, as follows:

- Load-out equipment and crews:
 - Load out equipment must have been adequately cleaned and disinfected using one of the three following methods: 1) Sanitization by a disinfectant approved to inactivate HPAI virus, 2) Adequate downtime before use, 3) Heat treatment to inactivate HPAI virus
- Additional barn-to-barn biosecurity must be implemented.
 - Pre-staging of equipment in a barn prior to beginning load-out in that barn is not allowed.
 - Other than load-out crew, all persons entering a barn must use barn-specific footwear and farm-specific clothing.
 - Handwashing is required after working with any barn or birds currently or already loaded out and before entering any other occupied barns on the premises.

6. RRT-PCR tests on two pools of swabs, one from dead/sick birds and the other from live birds are negative- PCRs collected within 24 hours of movement.

- PMIP active surveillance: rRT-PCR testing of two pooled samples per house of oropharyngeal or tracheal swabs, one from dead or euthanized sick birds and the other from live birds. Each pooled swab sample should contain a maximum of 11 dead or sick birds. If fewer than 11 dead or sick birds are observed, then swabs from available sick or dead birds taken. A pooled sample consists of multiple swabs of the same sample type collected from birds within the same epidemiological unit (e.g., flock or house) and placed into a single tube of viral transport medium (VTM) for laboratory testing. A pooled sample may contain up to 11 cloacal swabs or up to 11 oropharyngeal swabs in 5 mL of VTM, or up to 5 cloacal swabs or up to 5 oropharyngeal swabs in 3 mL of VTM. Cloacal and oropharyngeal swabs should not be combined in the same pooled sample.
- Load-out active surveillance: in all cases, for all barns loading out after initial 48 hours on a premises, daily testing is required. Negative results of tests (two 11-bird pools) taken within 24 hours of scheduled movement (at barn level) must be documented before birds depart premises.

9.2 DAY OLD CHICKS FROM HATCHERY TO FARM

Broiler day-old chicks (newly hatched chicks that are moved from the hatchery within a day after hatching) from hatcheries within an HPAI Control Area moving to broiler grow-out premises represent a negligible to low risk, provided the criteria below has been met. Broiler day-old chicks moving to broiler grow-out premises may move within or out of the Control Area by permit.

NOTE: NO premises within a control area will receive day old chicks.

Permit Guidance Includes:

1. Chicks are moving from a hatchery that has a national premises identification number and receives hatching eggs that meets the competent authority's health certificate requirements.
2. Truck and driver biosecurity is implemented.
3. Product-specific biosecurity implemented.

4. Chicks are placed under 14-day quarantine at destination premises (quarantine may be lifted after 14 days, at the discretion of the appropriate regulatory officials, with no further testing if there are no unexplained clinical signs and no unexplained mortality).

1. Chicks are moving from a hatchery that has a national premises identification number and receives hatching eggs that meets the Competent Authority's health certificate requirements.

For the movement from the hatchery premises the following criteria must be met:

- Epidemiological investigation form is completed (*Appendix 4*)
- No unexplained embryonic mortality observed at hatchery
- Biosecurity measures are acceptable to regulatory body (Poultry surveillance unit)

2. Truck and driver biosecurity is implemented.

- The hatchery transport vehicle exterior must be cleaned and disinfected before loading and leaving the hatchery.
- The route should be selected in consultation with the Competent Authority to minimize risk away from infected premises and high traffic roadways. Before entering the farm, the exterior of the vehicle especially the tires should undergo cleaning and disinfection. Return the vehicle directly to the hatchery by the same route through the Control Area.
- The risks of spreading virus to and from the premises associated with the driver must be managed in accordance with specific industry and commodity recommendations.
- The vehicle driver must put on disposable plastic boots or cleaned and disinfected rubber boots before getting out of the cabin and follow guidelines for using PPE. The driver should sanitise hands using appropriate hand sanitiser after removing disposable or previously cleaned and disinfected clothing or footwear or PPE.

3. Product-specific biosecurity implemented.

- The day-old chicks must be placed in new cardboard boxes or plastic boxes that have been cleaned and disinfected.
- Personnel must use dedicated hatchery footwear or clean and disinfect their footwear upon entering the hatchery.
- Hatchery employees should not cohabit with household members having direct contact with other poultry, avian species or associated organic waste from operations in the Control Area. If such cohabitation is unavoidable, household member(s) and employee must follow measures applicable for poultry operations in Control Area to effectively mitigate the risk.
- Setting, hatching and chick processing operations in the hatchery must be completely segregated and strict traffic flow must be implemented to prevent cross-contamination.
- Essential visitors to the hatchery must meet the same biosecurity requirements as hatchery personnel at a minimum and require company permission for entry.
- Essential visitors who have contact with poultry, other avian species and/or related organic material are required to have at least 12 hours downtime before visiting the hatchery. A shower and change of clothing are also required before visiting the hatchery.
- Non-essential visitors are not permitted to enter the hatchery.
- Visitors collecting hatchery waste must not enter the hatchery building. Hatchery personnel must keep waste bins outside for collection, and waste bins are stored in a way to prevent access to wild birds or wildlife.
- The broiler hatchery is located at a distance of 1.0 km or more from commercial poultry premises in the Control Area and a distance 1.5 km or more from a known infected poultry premises. If this criterion is not met, the IC may consider additional on-site factors/measures, which must be stated in the permit.

4. Chicks are placed under 14-day quarantine at destination premises

- Quarantine may be lifted after 14 days, at the discretion of the appropriate regulatory officials, with no further testing if there are no unexplained clinical signs and no unexplained mortality).

9.3 MOVEMENT OF TABLE EGGS FROM FARM TO MARKET

Table eggs originating from layer farms in an HPAI Control Area moving to point of sale locations represent a low risk, provided that the permit criteria below have been met. Table eggs may be moved within or out of the Control Area by permit.

Permit Guidance Includes:

1. Table eggs are being moved from premises with an assigned national premises identification number that objectively demonstrates that it is not an Infected Premises, Contact Premises, or Suspect Premises.
2. Product-specific biosecurity is implemented.
3. RRT-PCR tests on two pools of swabs, one from dead/sick birds and the other from live birds are negative. Each flock/ house from which eggs are being gathered may undergo RRT-PCR every 14 days until restrictions are lifted.

1. Table eggs are being moved from premises with an assigned national premises identification number that objectively demonstrates that it is not an Infected Premises, Contact Premises, or Suspect Premises.

For the movement from the premises the following criteria must be met:

- Pre-movement RRT-PCR testing is negative
- Epidemiological investigation form is completed (*Appendix 6*)
- No unexplained mortality, no unexplained clinical signs, no unexplained changes in production parameters
- Biosecurity measures are acceptable to the Competent Authority)

2. Truck and driver biosecurity is implemented.

The risks of spreading virus to and from the premises associated with the truck must be managed in accordance with specific industry and commodity recommendations.

- The cargo interior and exterior of the transport vehicle must be cleaned and disinfected.
- The tires and wheel wells must also be cleaned and disinfected before leaving the premises within the Control Area.
- The risks of spreading virus to and from the premises associated with the driver must be managed in accordance with specific industry and commodity recommendations.
 - The driver should remain inside the cabin of the vehicle.
 - If the driver gets out of the vehicle, the cabin interior must be cleaned and disinfected, and the driver must wear protective clothing, such as disposable boots and gloves, and remove them before getting back in the cab.

3. RRT-PCR tests on two pools of swabs, one from dead/sick birds and the other from live birds are negative. Each flock/ house from which eggs are being gathered may undergo RRT-PCR every 14 days until restrictions are lifted.

4. Use of egg cartons: Only new egg cartons are to be used to move eggs from farm to collection centre and from collection centre to point of sale. Plastic crates used must be cleaned and disinfected prior to use. Carton boxes must be new.

9.4 SPENT HENS TO MARKET

The movement of hens from a multi-age premises within an HPAI Control Area out of a layer barn to pluck shops/live sale depots represents a moderate to high risk to both susceptible poultry on other premises and to birds remaining on the origin premises, therefore it is NOT ALLOWED.

9.5 DUCKS TO MARKET

Ducks from premises within an HPAI Control Area moving to pluck shops/live sale depots represent a high risk therefore movement is NOT ALLOWED.

9.6 IMPORTATION OF POULTRY AND POULTRY PRODUCTS

Please be guided by the conditions stated on the import permits and ensure they are adhered to. These conditions are subject to change based on the changing animal health status of the exporting countries, and they are guided by Articles 10.4.9 – 10.4.12 of WOAHP's Terrestrial Animal Health Code, 2026

10.0 OUTBREAK RECOVERY

10.1 ENVIRONMENTAL TESTING

Environmental testing must be done to ensure that the virus is eliminated from the premises. This is done by conducting PCR tests on pooled samples from the environment. This is to be conducted by the Field Component of the Competent Authority, once 14 days have passed since cleaning and disinfection. Environmental sampling is done via the following method:

Collect one pooled sample (each pooled sample represents 5 surfaces) from each of these 5 targeted areas:

- Bird contact areas (surfaces heavily contacted by birds, eggs, manure and oral secretions)
- High-touch surfaces (areas frequently touched by workers)
- Feeders
- Waterers/drinkers
- Boot covers and gloves

Ensure that surfaces are sampled throughout the entire housing set up. These samples must be taken all in one visit. A total of 25 surfaces will be tested, to make up the 5 pooled samples.

Items needed for each pooled sample:

- 5 gauze pads
- 5 aliquots of 5 ml brain heart infusion (BHI) media
- 5 quart-size sealable plastic bags
- 1 50 ml conical tube

Procedure for collecting a pooled sample:

- Premoisten the gauze with 5ml BHI media immediately before sampling.
- Use the gauze to wipe firmly across the target area, a 5 cm² flat surface area, and 25 cm² non-flat surface area.
- Place the gauze in a sealable bag and pour the remainder (if any) of the 5 ml BHI into the bag. Seal the bag and mix the media with the gauze for 5 seconds. Wring/squeeze the media from the gauze and let pool in one corner of the bag. Cut off the opposite corner and decant the media into the 50 ml collection tube.
- Repeat to collect 4 additional samples to combine into a pooled sample.
- Unused media may be stored at -20⁰ C.
- Samples must be maintained in a cold chain of 4⁰C in transit to the VDL for PCR testing.

10.2 RELEASE OF THE CONTROL ZONE

The control zone is released when **ALL** the following conditions have been met:

- 14 days have passed since depopulation and virus elimination activities on the Infected Premises that established the Control Zone.
- The Infected Premises that established the Control Zone has been depopulated and all birds have been disposed of appropriately.
- Virus elimination activities on the Infected Premises are completed (including, but not limited to, outside areas of premises, equipment, trucks, and other potential fomites used in depopulation and disposal activities).
- Environmental sampling was performed with all 5 samples from the premises being negative for AI.
- Required outbreak surveillance in the Control Zone has been completed and there is no evidence of HPAI infection. If there is a detection, the Control Zone can still be released, and a new Control Zone is established around the detection.
- In the case of multiple Control Zones, premises that are in overlapping Control Zones will follow the timeline for the last Control Zone scheduled for release.
- Surveillance requirements for trade are conducted and may continue.

10.3 RECOVERY OF HPAI FREE STATUS

In accordance with the provisions of WOAHP's Terrestrial Animal Health Code 2026, WOAHP Members can self-declare the freedom of their country, zone or compartment from a disease. A Member wishing to publish its self-declaration for disease-freedom, should provide the relevant documented evidence of compliance with the provisions of the relevant chapters of the Code.

Article 10.4.3. of the Terrestrial Code 2026 contains a list of criteria for a country or zone to be considered free from HPAI:

- Infection with high pathogenicity avian influenza viruses is a notifiable disease in the entire country;
- An ongoing awareness programme is in place to encourage reporting of suspicions of high pathogenicity avian influenza;
- The absence of infection with high pathogenicity avian influenza viruses, based on surveillance, in accordance with Chapter 1.4. and Articles 10.4.26. to 10.4.30., has been demonstrated in the country or zone for the past 12 months;
- An awareness programme is in place related to avian influenza viruses risks and the specific biosecurity and management measures to address them;
- Commodities are imported in accordance with Articles 10.4.7. to 10.4.22.

Surveillance should be adapted to parts of the country or existing zones depending on historical or geographical factors, industry structure, population data and proximity to recent outbreaks or the use of vaccination, if applicable.

10.4 REPOPULATION CRITERIA

Repopulation of an Infected Premises is permitted when all the following criteria are met:

- Official withdrawal of IP notice must be given
- All rules governing an infected place were upheld during the period
- Appropriate biosecurity measures have been implemented to reduce the likelihood of disease reintroduction, including, but not limited to:

- Virus elimination procedures for all movement onto the farm and all movement into and between barns
 - Personnel-specific biosecurity measures, including barn specific clothing not to be worn outside
 - Exclusion of wild birds and rodents from the barn structure
 - Measures to ensure feed and water are not contaminated by wild birds or their faeces
 - Immediate mitigation of standing water, feed spills, and other environmental factors that may attract wild birds
 - Elimination of visits by non-essential personnel
- 14 days have elapsed following virus elimination activities. For in-house composting, this 14 days period starts after the pile is complete and final virus elimination takes place. For outdoor composting, restocking is not permitted until the pile is complete, despite performing virus elimination activities. Therefore, for composting, the MINIMUM period for restocking is 28 days after pile construction.
 - Environmental Sampling was performed, with ALL five pooled samples receiving negative results.
 - Birds used for restocking must come from flocks tested negative for AI. The minimum standard is two (2) negative rRT-PCR tests at least 24 hours apart, with one negative test within 24 hours of movement.
 - The repopulation flock must undergo at least three tests for avian influenza, at least seven days apart in birds no younger than 21 days old.
 - Explicit, written permission to restock must be given from the Competent Authority.

10.5 MONITORING AND EVALUATION DURING EMERGENCY RESPONSE

This requires ensuring that all activities are effectively observed, so they may be assessed in real time and adjusted where necessary.

The following depicts some examples of indicators for monitoring the management of the emergency operations, as proposed by FAO:

- ratio of positive to negative reports;
- days from report received to end of culling;
- days from end of depopulation to end of disposal;
- days from end of disposal to end of cleaning and disinfection;
- numbers of cases, e.g. outbreak locations, during a given period compared with the number of cases in the previous period;
- number of checkpoints.

FAO suggested tools for monitoring and evaluation during an outbreak include:

- Debriefings: to be conducted regularly during the emergency phase. This may occur immediately following a task, at the end of the day, following the completion of a group of operational activities and at the conclusion of the emergency phase.
- After-action reviews: to be conducted as soon as possible after the emergency phase has finished and staff has reflected on the events.

10.6 STAND-DOWN PHASE and DEMOBILISATION

In cases where AI is not confirmed, the ICO should inform all parties that the emergency no longer exists. For confirmed cases of AI, the stand-down phase begins when the ICO is satisfied that all operations for containment, depopulation, disposal and virus elimination have been successful. This is determined by the extent of the outbreak (how many other IPs were discovered), and the effectiveness of the control program. Trade and movement of poultry and poultry products can continue as normal, but a heightened level of surveillance should be maintained for at least the first month or two. During the stand down phase, the CVO will advise the Minister to revoke the Declaration of an Animal Disease Emergency.

The following can also take place during the stand down process:

- Recovery, decommissioning and disposal of stores and equipment
- Stock taking and replenishment of stores
- Documentation and archiving of all documents created during the outbreak
- Review of the outbreak
- Continued external communication and situational awareness campaigns

Demobilisation of resources can also take place during the stand down phase, so they may resume their previously intended purposes.

This requires:

- Determining demobilisation priorities
- The ICO to approve demobilisation activities
- Continued external communication and situational awareness campaigns

11.0 TRAINING, TESTING AND REVISION OF CONTINGENCY PLAN

11.1 SIMULATION EXERCISES

Simulation exercises will be conducted periodically (every four years when HPAICP should be tested and updated) to test and update the contingency plan as necessary. This will be done with all the relevant stakeholders from different sectors, to ensure that everyone is aware of their roles and functions in an outbreak and can perform them adequately. The simulation exercises would consist of various scenarios of HPAI outbreaks, and the teams would work together, following the contingency plan to achieve an ideal resolution. The type of simulation (table-based or field tests) would depend on funding and availability of individuals and equipment.

The simulation exercises would be followed by post-mortem discussions and reports to identify shortcomings in the contingency plan and suggest areas for improvement. It is also important to ensure that, especially for field simulations, the media, the public, WOA and neighbouring countries are alerted so they do not get mistaken for real outbreaks.

11.2 TRAINING

All relevant Ministry of Agriculture staff should be trained in their roles, responsibilities and operational activity in an HPAI outbreak. More significant roles would require more intensive training. Succession planning should also be considered. Those in key positions may be absent in instances of an outbreak, so it is important to ensure that other staff who may be required to assume those roles and responsibilities in the event of an outbreak also receive the necessary training.

11.3 REGULAR UPDATING OF CONTINGENCY PLAN

The HPAICP shall be tested at least every four years and updated within six months of testing.

The Contingency plan shall take into account the different disease control strategies available, the implications of the use of different control strategies and the most appropriate strategy given different circumstances or disease outbreak scenarios.

Due to the rapidly evolving nature of the virus, it is our goal to test the HPAICP as often as necessary. Some things to consider when updating the plan include:

- Varying epidemiology and species affected

- Trade requirements
- Updated legislation
- Changes in structure of national veterinary services
- Experiences of other countries
- Feedback from stakeholders

12.0 APPENDICES

APPENDIX 1: RELEVANT REGULATIONS

Table of Relevant Acts and their Access Links

Act	Access Link
The Animal (Diseases, Importation, Health and Welfare) Act	Insert link
The Animals (Diseases and Importation) (Amendment) Act,	Insert link
The Conservation of Wildlife Act	Insert link
The Conservation of Wildlife (Amendment) Regulations,	Insert link
Other	

Relevant links for the national acts of the country to be inserted.

APPENDIX 2: PROPOSED AGENCIES FOR MULTI-SECTORAL MANAGEMENT TEAM TO ASSIST IN OUTBREAK RESPONSE

AGENCY	AREA/DEPARTMENT/ DIVISION	POST OR REPRESENTATIVE
Ministry of Agriculture, Lands and Fisheries <i>(See below for organizational structure)</i>		Minister/Permanent Secretary/Deputy Permanent Secretary Director/ CVO/ SVO/ VOs, VDL, Quarantine/ Vet Pathologist Director(s) or other appropriate representatives
Ministry of Health		Director Veterinary Public Health Chief Public Health Inspector
Ministry of Finance		Permanent Secretary or an appropriate representative
Ministry of Trade and Industry		Permanent Secretary or an appropriate representative
Ministry of National Security		Permanent Secretary or an appropriate representative
Ministry of Public Utilities		Permanent Secretary or an appropriate representative
Ministry of Works and Transport		Permanent Secretary or an appropriate representative
Ministry of Rural Development and Local Government		Permanent Secretary or an appropriate representative

AGENCY	AREA/DEPARTMENT/ DIVISION	POST OR REPRESENTATIVE
Ministry of Planning and Development		Permanent Secretary or appropriate representative
CAHFSA	Animal Health Technical Agency	Animal Health Specialist or other representative
Pan American Health Organization/CARPHA/FAO/IICA	Technical Agency	Epidemiologist
NGO	Veterinary Association	President
NGO	Society for the Prevention of Cruelty to Animals Animal Welfare Network	Chairperson
University of The West Indies	School of Veterinary Medicine	Director and appropriate technical expertise
Poultry Industry	Broiler Layer Other poultry Pluck shop	Association member Association member Representative Representative

APPENDIX 3: CONTENTS OF HPAI EMERGENCY KIT

List No.	Item	Quantity
1	Sterile tubes and screw caps	15
2	Sterile blood collection tubes	15
3	Sterile blood collection tubes, with anticoagulant	15
4	Sterile cotton swab in screw cap tubes	15
5	Sterile specimen jars with screw cap	2
6	Sterile specimen jars with screw cap, with 10% Formalin	2
7	Sterile physiological saline	1 quart
8	Phosphate buffered saline; glycerol, in screw cap vials	6
9	Formalin, full strength	1 pint
10	Ethyl alcohol, 95%	1 pint
11	Disposable gloves	1 box
12	Hand soap	2 bars or bottles
13	Caustic soda (lye)	1 can
14	Plastic bags and ties to seal tubes and jars	20
15	Cotton to pack materials	1 roll
16	Blue ice (freezer pads)	2 x 1 quart size
17	Insulated box, ice chest, cooler	2
18	Disinfectant – Virkon S, TH4	500ml each
19	Postmortem Kit: Scalpel handle, scalpel blades, thumb forceps, scissors, polythene cutting board, dissecting pan	1
20	Boots – disposable and rubber	1 rubber 3 disposable
21	Boot brush	1
22	Bucket	1
23	Disposable Coveralls	2
24	Respirators- N95 disposable	2
25	Hand Sanitizer	1
26	Household insecticide and insect repellent	1 each
27	Masking tape	1 roll
28	Needles, syringes	30 each

List No.	Item	Quantity
29	Sterile normal saline	2 bottles
30	Notepad, paper, pencil, pen, permanent marker	1 each
31	Plastic garbage bags	10
32	Spray bottles spray can	1 each
33	First aid kit	1
34	Forms- investigative questions, sample submission	2 each
35	Cellular phones, phone cards	1 each
36	Self-adhesive labels	1 roll
37	‘RESTRICTED ENTRY’/ ‘QUARANTINED AREA’/ ‘NO ENTRY’ tape and/or sign	4
38	Waterproof torch	1
39	Extra change of clothing	1
40	Copy of HPAI Contingency Plan	1

APPENDIX 4: EPIDEMIOLOGY INVESTIGATION FORM

(This form should be used for basic data collection, after a comprehensive farm background is recorded.
Other questions can be added as deemed necessary by the investigator.)

What led to the notification and this current epidemiological investigation?
Is the situation the same, worse or improving?

Question	Yes	No	Comments/Details
1. Have any birds been sick within the last 30 days? If yes, comment on the following: a. Dates b. Number and species of bird c. Name of owner and place of origin of birds d. Any medication used e. Vaccine status			
2. Have any birds moved onto the premises within the past 30 days? If yes, comment on the following: a. Reason for movement b. Date of movement c. Number and species of birds d. Method of transportation e. Birds' health or condition f. Source of birds			
3. Have any birds been moved off the premises within the past 30 days? If yes, comment on the following: a. Reason for movement b. Date of movement c. Number and species of birds d. Method of transportation e. Birds' health or condition f. Destination			
4. Do farm employees live on/work on/visit other farms? If yes, comment on the following: a. Location of Farm(s):			

b. Number and kinds of birds maintained			
5. Are the premises located near other poultry farms or premises where poultry is kept? If yes, comment on the following: a. Relative location b. Distance and direction c. Species/type			
6. Have the birds been vaccinated or immunized in the past year? If yes, comment on the following: a. Type of vaccine and manufacturer b. Number of birds vaccinated c. Serial and lot number of vaccine if known			
7. Presence of water sources supplied to birds Tick yes if any of the water source are present, specify which water source and provide details if necessary: a. Standing water (ponds, lakes) b. Flowing water (irrigation, canals, rivers) c. Recent flooding d. Mountain streams and forests e. Pipe borne f. Other (past or present)			
8. Terrain Tick yes if any of these terrains are present, specify which terrain and provide details if necessary: a. Valley b. Plateau c. Hills d. Mountains e. Plains f. Other			

9. List wildlife evident or known to be present on or near premises Tick yes if any of these animals are present, specify which type and provide details if necessary: a. Wild waterfowl b. Other wild birds c. Pet birds d. Domesticated animals e. Other			
10. Is feed delivered from and outside source? If yes, state when was the last time feed was delivered and provide any details in the comments section			
11. Are any family members or employees' families employed within a facility that handles animals and or animal matter? If yes, provide details in the comments section			
12. Have any of the following individuals visited your farm within the last month? a. Poultry serviceman b. Extension officers c. Equipment repair persons d. Feed delivery persons e. Neighbours f. Veterinarian g. Other If yes, please specify and state name, date of visit and contact info			
13. Is vector control practiced on the farm? If yes, give further details in the comment section			
14. Is manure or any other animal waste material from outside brought onto the premises?			

If yes, state source and location, use and method of transport			
15. Is garbage disposed of on the premises? If yes, state where and if no give details			
16. Is manure disposed of on the premises? If yes, state where and if no give details			
17. Do farm employees attend or participate in cock fights? If yes, please state when and where in comments section			
18. Is labour and/or equipment shared with neighbours? If yes, give details in comments section			
19. What is the schedule for feed delivery and who delivers it? If yes, give details in comments section			
20. What is the schedule for egg pick up, and how is it packaged and transported? Please provide details in the comments section			

APPENDIX 5: DRAFT LEGAL INSTRUMENTS

In the event of an outbreak, Legal Notices may be issued by the CVO or a VO upon instruction from the CVO following national legislation guidelines.

NOTICE DEFINING AN INFECTED/SUSPECTED PREMISES

To of

I (name and post) of, for the
 purposes of the Animals (Diseases, Importation, Health and Welfare) Act, hereby issue the Notice defining
 an infected premises.

Dated this day of 20.....

.....
 Veterinary Officer/
 Inspector (CVO)

Description of Infected/Suspect Premises

Premises	County/Parish

Rules to be observed on Infected/Suspect Premises

1. All movement of personnel and items into and out of the premises must be done under approved decontamination protocols as specified by the Inspector.
2. Only essential farm workers and associated vehicles are allowed into and out of the affected premises. The infected/suspect premises is to provide a list of essential workers, their roles and responsibilities and their vehicle registration numbers for pre-approval from the Inspector.
3. The movement of all other persons or vehicles, other than a Veterinary Officer belonging to the Competent Authority, without written approval from the Inspector, into or out of this Infected Premises, is strictly prohibited by law.
4. The sale and movement of the following into and out of the premises is not allowed:
 - Live poultry/birds
 - Poultry carcasses or parts thereof
 - Eggs
 - Litter/Manure/Droppings
 - Any animal-related items and equipment, including but not limited to, feedstuffs, utensils, feed bags, crates, poultry appliances, etc.

If any exceptions are to be made, this will only be allowed under a permit granted by the Inspector and this movement must be in accordance with the conditions specified on said permit.

5. All droppings, litter and waste food shall be thoroughly disinfected to the satisfaction of the Inspector or Veterinary Officer, before being permitted to be removed from any building, house, shed, pen, yard or other place in which the affected or suspected poultry or carcass have recently been kept.
6. Any person attending to affected or suspected poultry shall not attend to any other avian species unless authorized by and in accordance with a written permit obtained from the Inspector.
7. This notice may be amended as often as necessary by the Inspector.

APPENDIX 6: DRAFT PRESS RELEASE

PRESS RELEASE
MINISTRY OF AGRICULTURE
AVIAN INFLUENZA IN POULTRY DETECTED IN _____

Date _____

As a result of the MOA surveillance for Avian Influenza, a limited outbreak of Avian Influenza Type A in poultry has been detected in xx farms in location. Containment measures with immediate effect, prohibit poultry and poultry products from exiting the affected farms. MOA has heightened its surveillance at all other poultry farms.

Samples have been sent to a reference laboratory in the USA for confirmation and subtyping. MOA expects to have the results in 5 days. Further updates will be provided as information becomes available.

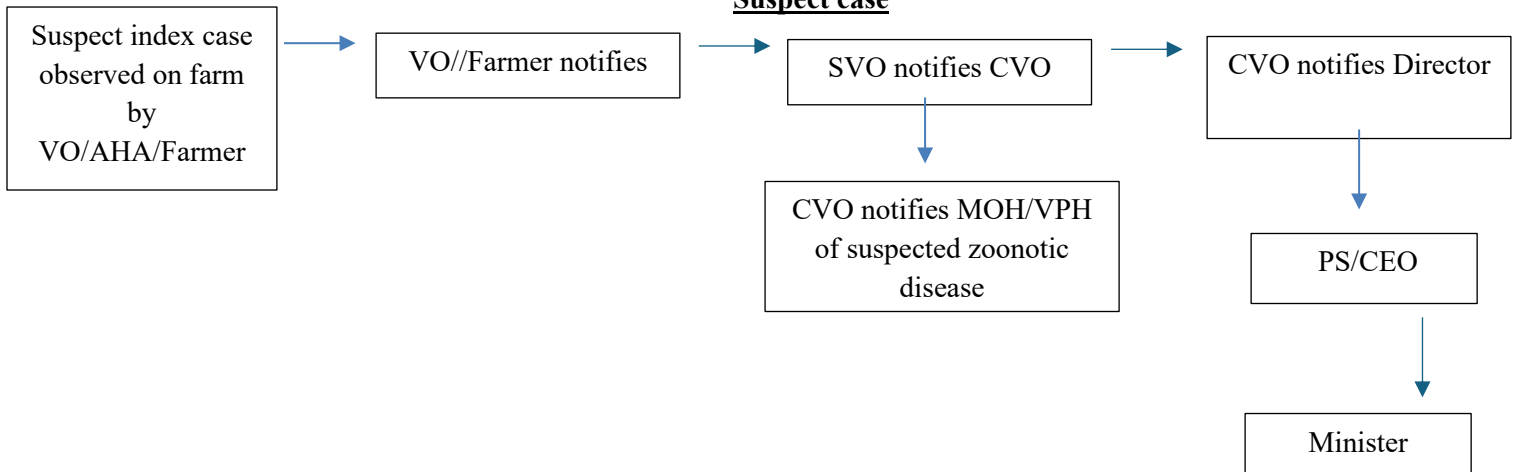
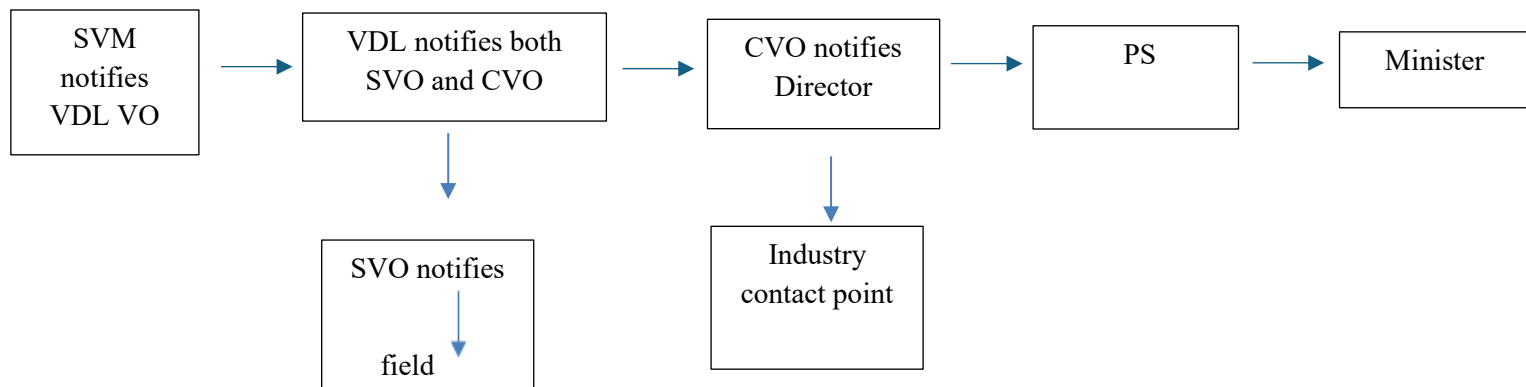
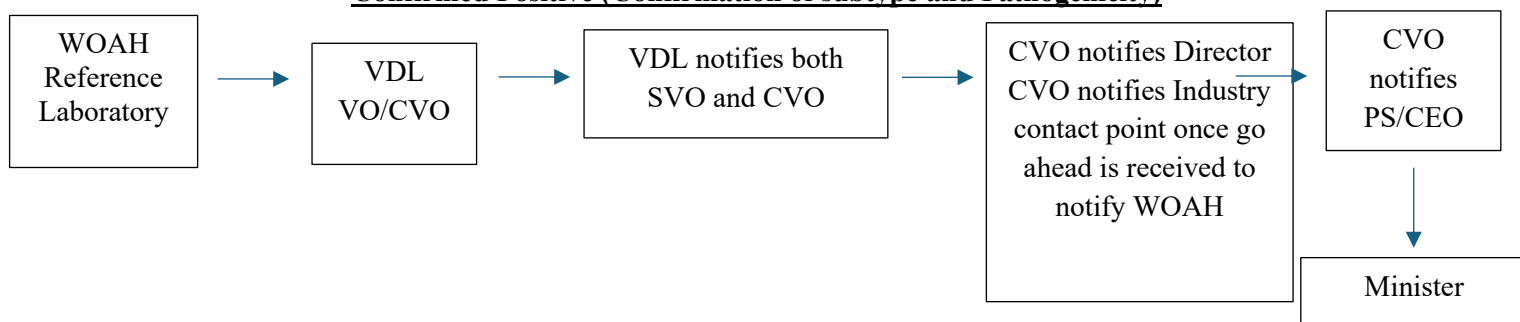
The MOA, Ministry of Health and the Poultry Industry are collaborating in a coordinated response against this limited outbreak. Commercial and backyard poultry farmers across the country are encouraged to step up their biosecurity measures and to notify MOA of any unusual occurrence in their flocks.

The MOA wishes to reassure the public that poultry meat and eggs are safe for human consumption. The MOA and its partners are taking all the necessary measures to address this disease outbreak. Although it cannot be confirmed at this time, wild bird migration is the most likely source of the infection.

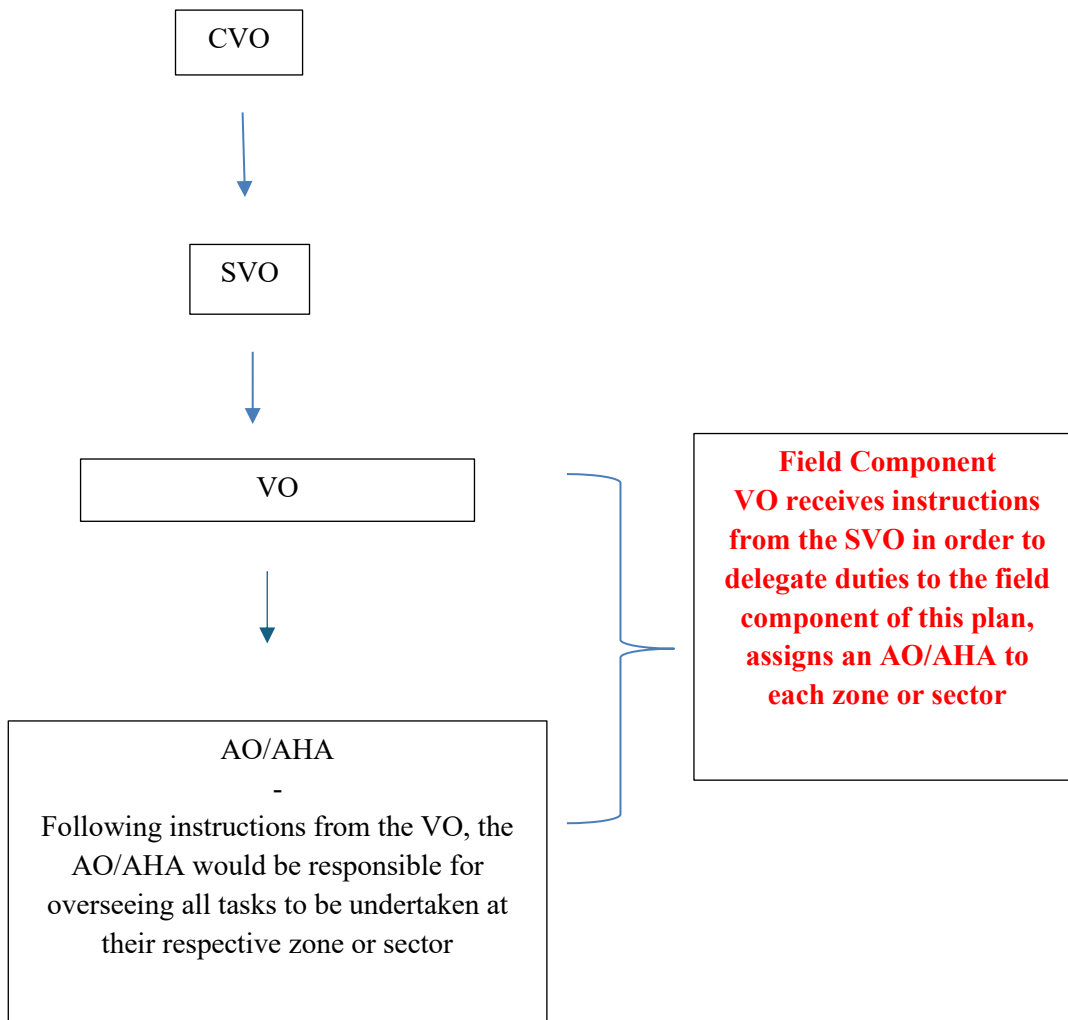
All official communication to the public is being disseminated directly from the CVO or an officially designated representative. The MOA wishes to advise the public to accept information which is forwarded only from this source.

Enquiries can be made by calling the XXX number XXX-XXXX.

End

APPENDIX 7: REPORTING CHAIN FLOWCHART**Suspect case****Presumptive Positive (PCR Positive)****Confirmed Positive (Confirmation of subtype and Pathogenicity)**

Instruction Chain on Field



APPENDIX 8: CHECKLISTS IN THE EVENT OF AN OUTBREAK**1.0 SENIOR VETERINARY OFFICER (SVO) AND CLERICAL STAFF**

- ☐ Consult with Field Officer to confirm suspicion of tentative field diagnosis of Avian Influenza (AI)
- ☐ Alert the Technical Officer (Incident Command Officer) as to the situation
- ☐ Set up Operational Headquarters in the capacity as the team leader of the Field Component
- ☐ Ensure the presence of a minimum of two (2) telephone lines at the Headquarters
- ☐ Organize office procedures at the Operational Headquarters
- ☐ Establish communication with Local Authorities (Ministry of Health; Ministry of Works and Transport; Fire Services; Police etc.)
- ☐ Establish communication with and oversee Private Contractors
- ☐ If the screening test is positive, in collaboration with the TO, Animal Health, determine, Suspect Premises (SP), Dangerous Contact Premises (DCPs) and protection and surveillance zones
- ☐ Supervise the imposition of quarantine and surveillance procedures on the IP
- ☐ Make a listing of the personnel complement of the Field Component and give specific relevant assignments to each.
- ☐ Notify Regional Veterinary Authorities of the situation.
- ☐ Procurement of detailed county maps
- ☐ Trace back and forth the infection to try to identify the origin.
- ☐ Map out the IP with its corresponding protection and surveillance zones.
- ☐ Determine possible secondary outbreaks and use the map to delineate other IPs, SPs and DCPs
- ☐ Implement movement control (animal, human and vehicular) to isolate outbreaks.
- ☐ Coordinate roadway patrols by the Protective Services to control movement to / from the IP.
- ☐ Furnish the Protective Services Team with a list of personnel authorized for entry into the affected areas.
- ☐ Supervise the posting of disease warning signs.
- ☐ Make available vehicles, PPE, recommended disinfectants, equipment and other supplies for outbreak management to the Field Component.
- ☐ Issue and account for supplies, equipment and vehicles.
- ☐ Meet every evening with all personnel for briefing of the daily activities and planning for the forthcoming day.
- ☐ Give a daily briefing report to the TO, Animal Health.
- ☐ Document and record all activities and specifics of the outbreak.
- ☐ Establish a file system for all reports.
- ☐ Prepare a detailed epidemiological report as soon as possible (including possible source of infection; potential contact; possibilities of disease dissemination; condition of the IP and affected birds)
- ☐ Ensure that all personnel going to the quarantine areas are provided with meals and drinks by arranging catering with a local restaurant.

2.0 CHECKLIST FOR THE FIELD OFFICERS

(VETERINARY OFFICERS; AGRICULTURAL ASSISTANTS; ANIMAL HEALTH ASSISTANTS AND PRIVATE VETERINARIANS)

PREPARATION:

- ☐ Training in Personal Protective Equipment (PPE) use and outbreak management
- ☐ Ensure accessibility at all times.
- ☐ Ensure working knowledge of the National Contingency Plan
- ☐ Keep Emergency Kit (PPE, disinfectant, sampling / testing supplies) in vehicle.
- ☐ Keep a change of personal clothing and footwear in a sealed plastic bag in vehicle.

MANAGEMENT:

- ☐ Park vehicle outside and away (approx. 100m) from the Suspect Premises (SP)
- ☐ Put on Personal Protective Equipment (PPE) before entering SP.
- ☐ Obtain farm history, age and number of birds, number of pens and bio-security level.
- ☐ Examine (and postmortem) clinically abnormal (suspect) birds.
- ☐ Examine (and postmortem) clinically normal birds.
- ☐ Carry out AI field test (Fludetect®) on cloacal / tracheal or fresh faecal samples. (oropharyngeal swab for gallinaceous birds; cloacal swab for waterfowl).
- ☐ Prepare differential diagnosis list.
- ☐ Report suspicion of tentative field diagnosis of Avian Influenza to the SVO (≤ 6 hrs after launching investigation).
- ☐ Remain on premise to implement quarantine procedures, after consultation with the SVO.
- ☐ Notify farm owner / manager of official IP status of the farm.
- ☐ Inform farm owner / manager and other individuals of the epidemiology of and risks associated with Avian Influenza.
- ☐ Sketch layout of premises, giving indications of dimensions on each diagram.
- ☐ Place “Restricted Entry” signs at entrance.
- ☐ Control movement of persons and vehicles into, within and out of IP.
- ☐ Ensure personal and vehicular decontamination is enforced before authorized personnel and vehicles leave the IP.
- ☐ Record any unauthorized movement out of IP.
- ☐ Ensure no poultry, poultry products, litter, manure etc. enter / leave the IP.
- ☐ Ensure all farm pets are confined.
- ☐ Set up decontamination stations at entrance / exits of IP.
- ☐ Establish bird proofing procedures ASAP.
- ☐ Collect necessary samples and immediately (≤ 4 hrs after farm declared IP) send to VDL.
- ☐ Properly dispose of dead birds.
- ☐ Assist SVO in mapping relevant areas and zones.
- ☐ Record farm inventories of livestock within the quarantined premises.
- ☐ Before leaving IP wash down PPE, exposed skin and equipment with approved disinfectant and place contaminated PPE in sealed bags.
- ☐ Ensure no contact is made with susceptible flocks on a different non-infected premises for ≥ 7 days.

3.0 CHECKLIST FOR THE PROTECTIVE SERVICES TEAM

- ☐ Establish and manage checkpoints on appropriate roadways around the outbreak areas.
- ☐ Enforce 24-hour quarantine measures in the affected area.
- ☐ Restrict all movement of animals, humans, and vehicles on and off the Infected Premises (IP) and to and from quarantined areas.
- ☐ Allow only authorized personnel to move into and out of the 3 km protection zone.
- ☐ Maintain documentation of vehicular and human traffic to and from the IP with respect to time, date, and authorization (list to be provided by SVO).
- ☐ Provide security for the Field Component, vehicles, equipment and machinery on site.
- ☐ Provide radio/ telecommunication services as necessary.
- ☐ Assist with the transport of personnel and equipment.
- ☐ Assist in the slaughter and eradication procedures.
- ☐ Provide security for the infected carcasses and material for disposal (i.e. provide offsite escort if necessary).

4.0 CHECKLIST FOR THE POULTRY INDUSTRY TEAM**PREPARATION:**

- ☐ Register all poultry establishments (commercial / backyard farms; hatcheries; processing plants; pluck shops etc.) with the Ministry of Agriculture Land and Fisheries.
- ☐ Make available at least 24 persons (per contractor) for training and assistance to the Ministry of Agriculture Land and Fisheries personnel with respect to outbreak management.
- ☐ Ensure all commercial farms adhere to properly documented and functional biosecurity measures.
- ☐ Supply Personal Protective Equipment (PPE) to all employees involved in poultry production.
- ☐ Comply and cooperate with the Ministry of Agriculture Land and Fisheries in providing inputs for relevant poultry database

OUTBREAK:

- ☐ Implement vigilant on farm surveillance with respect to flock observation.
- ☐ Immediately report suspect cases to Veterinary Services Division.
- ☐ Make available previously trained personnel for deployment by the SVO for outbreak management.
- ☐ Practice intra-industry cooperation.
- ☐ Comply and cooperate with quarantine procedures.
- ☐ Comply and cooperate with eradication procedures.
- ☐ Comply and cooperate with epidemiological investigations.
- ☐ Instigate heightened farm biosecurity measures.

APPENDIX 9: PROJECTED BUDGET FOR AN AI OUTBREAK 2026

Description	Quantity	Unit	Cost \$	Cost \$US
1. Personal protection field and materials				
Small gloves	10 bx	Bx/100		
Medium gloves	10 bx	Bx/100		
Large gloves	10 bx	Bx/100		
Disposable coveralls - small	8 bx	Bx/25		
Disposable coveralls - medium	8 bx	Bx/25		
Disposable coveralls - large	8 bx	Bx/25		
Disposable coveralls – x-large	8 bx	Bx/25		
Disposable boot covers	10 bx	Bx/50		
2. Laboratory support				
HiViral Transport kit (VTM and swab)	5 bx	Pk/50		
Standing digital timer	4	Each		
30 – 300 µL 8 channel pipette	3	Each		
30 – 300 µL 12 channel pipette	2	Each		
Avian Influenza Pen Side Rapid Antigen kit	20	20 tests/kit		
Avian Influenza ELISA antibody kits	2	450 tests/ kit		
RNA extraction kits – 50 columns per kit	20			
Reverse transcription real-time PCR mastermix kits (100 samples)	10	1000 reactions		
Thin-walled PCR tubes	3	1000 flat cap tubes per box		

Sterile pipette tips 0.1 - 20 μ L	2	2 bx of 960 tips each, 10 racks of 96 tips		
Sterile pipette tips 2 - 200 μ L	2	2 bx of 960 tips each, 10 racks of 96 tips		
Sterile pipette tips 20 – 300 μ L	2	2 bx of 960 tips each, 10 racks of 96 tips		
Sterile pipette tips 50 – 1000 μ L	2	2 bx of 960 tips each, 10 racks of 96 tips		
Freezer for clean room	1	Each		
Fridge/freezer	1	Each		
Surge protectors for freezers	2	Each		
3. Epidemiological surveillance				
Red top tubes	10 bx	Pk/100		
Lysol spray	10	Each		
Ice packs	25	Each		
Liquid hand soap. 1 gal	5	Each		
Fine point marker	40	Each		
Cooler	12	Each		
Paper towel	2	Bale/25		
Sample shipping and dx fee to NVSL Ames, Iowa.				

4. Depopulation (Foaming and CO2) and disposal				
Foaming				
Foam truck				
Water Truck				
Vacuum Truck				
Polythene				
Wooden lathes				
Disposable PPE for operators				
Personnel				
Welfare costs				
CO2				
Personnel Transport				
Transport for gas container				
Gas Container				
Polythene				
Disposable PPE for operators				
Personnel				
Air quality monitoring - Oxygen, CO2				
Singular control point Personnel, consumables, and equipment per day				
Transport				
Incineration of birds per kg				
5. Public education				
Communication/ETIS				

6. Miscellaneous				5, 000
Misc.				5, 000.00
Total				