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**TO: Deputy Chief Veterinary Officers  
Chief Veterinarians  
State Veterinarians  
All Staff Members  
All Stakeholders**

**RE: NATIONAL FOOT AND MOUTH DISEASE CONTINGENCY PLAN**

This circular serves to bring to your attention the updated National Contingency Plan for Foot and Mouth Disease (FMD). The plan outlines the activities and measures required to prevent, prepare, detect, rapidly respond, and recover from FMD outbreaks in Namibia.

The FMD Contingency Plan was developed by the Directorate of Veterinary Services (DVS) in consultation with key stakeholders. Its implementation is in accordance with the Animal Health Act, Act No. 1 of 2011, and other relevant legislation and regulatory requirements.

All veterinary officials and stakeholders are hereby requested to familiarize themselves with the updated National Contingency Plan and ensure that its provisions are communicated and implemented within their respective areas of responsibility.

Please bring the contents of this circular to the attention of all veterinary officials and relevant stakeholders for their information, guidance, and necessary action.

Your cooperation and continued commitment towards the prevention and effective management of FMD outbreaks are highly appreciated.

Dr. Kennedy K. Shoombe

**CHIEF VETERINARY OFFICER**



*The previous circular V2/2026 deals with the list of circulars of 2025.*



**Republic of Namibia**  
**Ministry of Agriculture, Fisheries, Water and Land Reform**



**DEPARTMENT OF AGRICULTURAL DEVELOPMENT**  
**Directorate of Veterinary Services**

**NATIONAL FOOT AND MOUTH DISEASE**  
**CONTINGENCY PLAN**



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The outcome of this workshop is an improvement on the 2021 Foot-and-Mouth Disease Contingency Plan, which was produced by the DVS team at the FMD contingency plan review workshop in Otjiwarongo in October 2021.



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## List of Acronyms

|                |                                                                  |
|----------------|------------------------------------------------------------------|
|                |                                                                  |
| <b>AAN</b>     | <b>Abattoir Association of Namibia</b>                           |
| <b>ADC</b>     | <b>Animal Disease Control</b>                                    |
| <b>AHT</b>     | <b>Animal Health Technician</b>                                  |
| <b>CBT</b>     | <b>Commodity Based Trade</b>                                     |
| <b>CVL</b>     | <b>Central Veterinary Laboratory</b>                             |
| <b>CVO</b>     | <b>Chief Veterinary Officer</b>                                  |
| <b>DMA</b>     | <b>Disease Management Area</b>                                   |
| <b>DVS</b>     | <b>Directorate of Veterinary Services</b>                        |
| <b>ED</b>      | <b>Executive Director</b>                                        |
| <b>ELISA</b>   | <b>Enzyme- linked Immunosorbent Assay</b>                        |
| <b>EU</b>      | <b>European Union</b>                                            |
| <b>FAO</b>     | <b>Food and Agriculture Organization</b>                         |
| <b>FM</b>      | <b>Farmers Meat</b>                                              |
| <b>FMD</b>     | <b>Foot and Mouth Disease</b>                                    |
| <b>FMDV</b>    | <b>Foot and Mouth Disease Virus</b>                              |
| <b>HQ</b>      | <b>Head Quarter</b>                                              |
| <b>LABTA</b>   | <b>Livestock Agents, Brokers and Transporters Association</b>    |
| <b>LLPBN</b>   | <b>Livestock and Livestock Product Board of Namibia</b>          |
| <b>MAFWLR</b>  | <b>Ministry of Agriculture, Fisheries, Water and Land Reform</b> |
| <b>MEFT</b>    | <b>Ministry of Environment, Forestry and Tourism</b>             |
| <b>MHSS</b>    | <b>Ministry of Health and Social Services</b>                    |
| <b>MOU</b>     | <b>Memorandum of Understanding</b>                               |
| <b>NALETA</b>  | <b>Namibian Livestock Exporters and Transporters Association</b> |
| <b>NamLITS</b> | <b>Namibian Livestock Identification and Traceability System</b> |
| <b>NAPHA</b>   | <b>Namibian Professional Hunters Association</b>                 |
| <b>NAU</b>     | <b>Namibian Agricultural Union</b>                               |
| <b>NDF</b>     | <b>Namibian Defense Force</b>                                    |
| <b>NFEC</b>    | <b>National FMD Emergency committee</b>                          |
| <b>NNFU</b>    | <b>Namibian National Farmers Union</b>                           |
| <b>NSP</b>     | <b>Non-structural Protein</b>                                    |
| <b>nVCF</b>    | <b>North of the Veterinary Cordon Fence</b>                      |
| <b>RFEC</b>    | <b>Regional FMD Emergency Committee</b>                          |
| <b>RFID</b>    | <b>Radio Frequency Identification Device</b>                     |
| <b>RSA</b>     | <b>Republic of South Africa</b>                                  |
| <b>SADC</b>    | <b>Southern African Development Community</b>                    |
| <b>SAT</b>     | <b>Southern African Territories</b>                              |

|             |                                             |
|-------------|---------------------------------------------|
| <b>SOP</b>  | <b>Standard Operating Procedures</b>        |
| <b>SP</b>   | <b>Structural Protein</b>                   |
| <b>SV</b>   | <b>State Veterinarian</b>                   |
| <b>sVCF</b> | <b>South of the Veterinary Cordon Fence</b> |
| <b>VCF</b>  | <b>Veterinary Cordon Fence</b>              |
| <b>WOAH</b> | <b>World Organization for Animal Health</b> |

# 1. INTRODUCTION

## 1.1 Background

Namibia acquired in 1997, a World Organization for Animal Health (WOAH) recognised Foot and Mouth Disease (FMD) Free zone where livestock vaccination against FMD is not practiced. The WOAH official recognised status without vaccination allows the country to access lucrative markets for animals and animal products with the minimum sanitary restrictions. Furthermore, Namibia in 2014 acquired a WOAH endorsed FMD control program for areas in the Northern communal areas.

Namibia, as a member of the World Organization for Animal Health (WOAH), has ratified and makes use of the international standards on animal health as espoused in the Terrestrial Animal Health Code, the Aquatic Animal Health Code of the OIE, and the Codex Alimentarius established by the Food and Agriculture Organization (FAO) and World Health Organization (WHO). Namibia continues to collaborate on animal disease issues affecting the region and continues to work with other SADC and African Union states in the prevention and control of trans-boundary animal diseases.

## 1.2 Purpose, and objectives of the FMD Contingency Plan

A FMD Contingency Plan is a national document developed with extensive consultation with key stakeholders. The FMD Contingency Plan is implemented in line with the Animal Health act, Act 1 of 2011 and other relevant legislations. The purpose of the FMD Contingency Plan is to describe the FMD control strategies and measures aimed at achieving the following specific control objectives:

- Prevention of the disease outbreaks.
- Preparation for possible disease outbreaks.
- Rapid / early detection of the disease infection,
- Rapid response/control measures in the event of disease outbreaks, and
- Eradication/ elimination of the disease outbreaks.
- Recovery and maintenance of the FMD recognised or endorsed status.

## 1.3 Definition and Epidemiology of FMD (WOAH 2024)

Foot and mouth disease is caused by viruses which has great capacity to mutate resulting in many types and subtypes. The incubation period for FMD is 14 Days (WOAH, 2024). The virus belongs to the family Picornaviridae and is the only member of the genus Aphthovirus. Seven immunologically distinct serotypes: A, O, C, SAT1, SAT2, SAT3, and Asia1 which do not confer cross immunity. Mutation from error-prone RNA replication, recombination, and host selection generate constant new FMDV variants. Consequently, vaccination cannot be fully protective. There are over 60 subtypes that have been identified.

In southern Africa there are three serotypes of the virus, SAT 1, 2 & 3 which have among them 14 subtypes (Seifert, 1996). Recently FMD outbreaks due to serotypes O and A have also been confirmed in some SADC countries while serotype O caused a massive outbreak in Namibia's infected zone in 2022. All domestic cloven-hoofed animals are susceptible, including cattle, pigs, sheep, goats, and water buffalo. All wild cloven-hoofed animals are also susceptible, including African buffaloes, deer, antelope, wild pigs, giraffe, and camelids. Other animals including elephants, rats and mice may also be susceptible. FMD is characterized in livestock by high morbidity, low mortality (except in young animals), and by vesicles and erosions in the mucosa of the mouth and skin of the inter-digital spaces and coronary bands (Thomson, 1994).

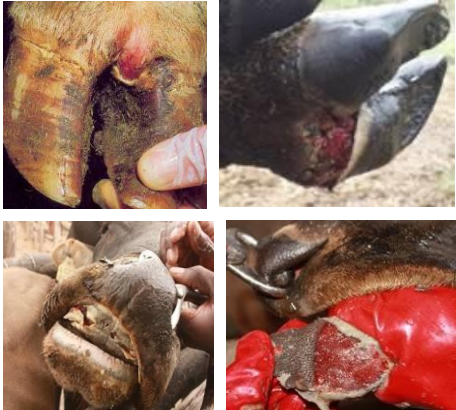
### 131 Case definition (WOAH, 2024)

The following defines the occurrence of infection with Foot and Mouth Disease Virus (FMDV):

- A. FMDV has been isolated and identified as such from a sample of a susceptible animal; or
- B. Antigen or nucleic acid specific to FMDV has been detected in a sample from a susceptible animal, showing clinical signs consistent with FMD, or epidemiologically linked to a confirmed or suspected case of FMD, or giving cause for suspicion of previous association or contact with FMDV; or
- C. antibodies to structural proteins (SP) or non-structural proteins (NSP) of FMDV, that are not a consequence of vaccination, have been detected in a sample from a susceptible animal, showing clinical signs consistent with FMD, or epidemiologically linked to a confirmed or suspected case of FMD, or giving cause for suspicion of previous association or contact with FMDV.

**FMD should be suspected when a combination of 2 or 3 of the clinical signs presented in the following table are observed.**

**Table 1. Case Definition (source of pictures, DVS 2015-2022).**

| STAGES                                                                                                                                     | CASE DEFINITION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Stage 1: Clinical Case Definition/<br>Suspected case<br> | FMD should be suspected when a combination of the following 2-3 clinical signs are observed: <ul style="list-style-type: none"> <li>• Lameness in a number of animals</li> <li>• Vesicles/lesions in the mouth (on tongue, gum, cheeks, lips)</li> <li>• Salivation (drooling)</li> <li>• Smacking of lips, grinding of teeth</li> </ul>                                                                                                                                                                 |
| Stage 2: Post Mortem Case Definition                                                                                                       | <ul style="list-style-type: none"> <li>• Vesicles or blisters on the tongue, gum, cheeks, lips, nostrils, muzzle, coronary bands, teats, udder or</li> <li>• Erosions on rumen pillars</li> <li>• Necrosis of the myocardium in young animals of all species ("tiger heart")</li> </ul>                                                                                                                                                                                                                                                                                                      |
| Stage 3: Epidemiological link /Probable case                                                                                               | <ul style="list-style-type: none"> <li>• epidemiologically linked to a confirmed outbreak of FMD, or</li> <li>• giving cause for suspicion of previous association or contact with FMDV.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                          |
| Stage 4: Laboratory Case Definition/<br>confirmed case                                                                                     | <ul style="list-style-type: none"> <li>• <b>FMDV</b> isolated and identified as such from an animal or a product derived from that animal; or</li> <li>• <b>viral antigen or viral RNA</b> specific to one or more of the serotypes of FMDV has been identified in samples from one or more animals, whether showing clinical signs consistent with FMD or not, or</li> <li>• <b>antibodies to structural or nonstructural proteins</b> of FMDV that are not a consequence of vaccination, have been identified in one or more animals showing clinical signs consistent with FMD</li> </ul> |

**Case Classification: A disease event reported by veterinary official or farmer is considered as:**

- i. Suspected FMD occurrence if it fulfills the criteria under the clinical case definition
- ii. Probable FMD occurrence if it satisfies the criteria under stages 1,2 & 3
- iii. Confirmed FMD occurrence if it satisfies the criteria under stage 4

### 1.3.2 Transmission

- Direct contact between infected and susceptible animals
- Direct contact of susceptible animals with contaminated inanimate objects (hands, footwear, clothing, vehicles, etc.)
- Consumption (primarily by pigs) of untreated contaminated meat products (swill feeding).
- Ingestion of contaminated milk (by calves)
- Artificial insemination with contaminated semen
- Inhalation of infectious aerosols
- In temperate regions airborne spread over long distances has been shown to be important in virus transmission. However, this is less likely to occur in the Namibian context due to dry weather conditions and abundance of UV light.
- Humans can harbor FMDV in their respiratory tract for 24–48 hours, leading to the common practice of 3-5 days of personal quarantine for personnel exposed in research facilities.

### 1.3.3 The source of the virus

- Incubating and clinically affected animals.
- Breath, saliva, faeces, and urine; milk and semen (up to 4 days before clinical signs).
- Vesicular fluid contains the highest concentrations of viral particles and therefore highly infectious.
- Meat and by-products in which pH has remained above 6.0.
- Contaminated inanimate objects e.g., people's clothes, feed, vehicles, etc. can be a source of mechanical transmission. Mechanical transmission through contaminated hypodermic needles is also possible.
- Exposed humans (farmers, Veterinary officials, animal handlers etc.) can harbor FMDV in their respiratory tract for 24 – 48 hours, leading to the common practice of 3-5 days of personal quarantine for personnel exposed in research facilities and during active outbreaks.
- **Carriers:** recovered or vaccinated and exposed animals in which FMDv persists in their oropharynx for more than 28 days.

Carrier status can also develop in cattle once they are infected. A Carrier status is defined as an animal (including game animals) with an in-apparent infection and where virus can be isolated 28 days post-virus infection. The rates of carriers in cattle vary from 15–50%. The carrier state in cattle usually does not persist for more than 6 months, although in a small proportion it may last up to 3 years, and sheep and goats up to 9 months while pigs do not become carriers. Asian water buffalo (*Bubalus bubalis*) do not usually carry the FMD virus for more than a few months. African buffalo are the major maintenance host of SAT serotypes, and may harbor the virus for at least 5 years.

In Southern Africa the wild African Buffalo (*Syncerus caffer*) has been shown to be the reservoir of infection for domestic animals. It is therefore highly likely that in Namibia a number of recent outbreaks in the Zambezi and Kavango East regions may have been attributed to their presence. High percentage of buffalo (70 - 80 %) over three years old carry FMD virus in their pharynx. Buffalo calves are acutely infected at 3-8 months of age when their maternal antibodies wane. Once infected, they excrete virus in large amounts and it is believed that this is the method of transmission to other species. The estimated calving time is just before and during the rainy season; therefore, calves are expected to lose immunity six months later. This period coincides with livestock experiencing nutritional stress which may lead to lowered immunity. Other wild cloven-hoofed animals (such as impala and kudu) may have an important role as they may act as an intermediate host between the African buffaloes and cloven-hoofed domestic animals.

### 134 Clinical Signs (WOAH Animal Health Terrestrial Code, 2024)

Incubation period for FMD is 2–14 days. However, for the purposes of the WOAH Terrestrial Animal Health Code, the incubation period for FMD is 14 days.

The severity of clinical signs varies with the strain of virus, exposure dose, age, host species, and degree of host immunity. Signs can range from mild or inapparent to severe. Morbidity may approach 100%. Mortality in general is low in adult animals (1–5%) but higher in young calves, lambs and piglets (20% or higher). Recovery in uncomplicated cases is usually about two weeks.

Initial signs of FMD as may be observed by a farmer or any person responsible for livestock would be salivation, lack of appetite, lameness, dairy cattle will show sudden decrease in milk production. Lameness may also be observed; pigs may walk “on their knees” due to the intense pain in their feet. These signs may appear in any combination, and should be closely investigated.

### 135 FMD clinical signs per animal species

#### a. Cattle

- Pyrexia, anorexia, shivering, reduction in milk production for 2–3 days, then
  - » smacking of the lips, grinding of the teeth, drooling, lameness, stamping or kicking of the feet: caused by vesicles (aphthae) on buccal and nasal mucous membranes and/or between the claws and coronary band
  - » after 24 hours: rupture of vesicles leaving erosions
  - » vesicles can also occur on the mammary glands
- Recovery generally occurs within 8 – 15 days and longer in case of complications.
- Complications: tongue erosions, super infection of lesions, hoof deformation, mastitis and permanent impairment of milk production, myocarditis, abortion, permanent loss of weight, and loss of heat control ('panthers').
- Death of young animals from myocarditis ("tiger heart").

#### b. Sheep and goats

- Pyrexia. Lameness and oral lesions are often mild
- Foot lesions along the coronary band or inter-digital spaces may go unrecognized, as may lesions on the dental pad
- Agalactia in milking sheep and goats is a feature. Death of young stock may occur without clinical signs

#### c. Pigs

- Pyrexia
- May develop severe foot lesions and lameness with detachment of the claw horn, particularly when housed on concrete
- Vesicles often occur at pressure points on the limbs, especially along the carpus ('knuckling')
- Vesicular lesions on the snout and dry lesions on the tongue may occur. High mortality in piglets is a frequent occurrence

### 136 Lesions

- Vesicles or blisters on the tongue, dental pad, gums, cheeks, hard and soft palate, lips, nostrils, muzzle, coronary bands, teats, udder, snout of pigs, corium of dewclaws and inter-digital spaces
- Erosions on rumen pillars at post mortem. Gray or yellow streaking in the heart from degeneration and necrosis of the myocardium in young animals ('tiger heart').

On closer inspection lesions may vary in size, age and severity. Animals may suffer from pronounced. Animals may suffer from pronounced halitosis lesions on the tongue or gums may vary from small blisters or erosions to large, fluid-filled vesicles that slough off, leaving raw and painful areas. Lesions may be so pronounced that the entire tongue may be devoid of its normal mucosal covering and eating will be impossible; or they may be small and insignificant.

Vesicles may appear between the digits or around the coronet of hooves, which “burst” and leave bleeding ulcerations in their place. Hooves may be so badly affected that the wall of the hoof separates and sloughs off. However, it should be noted that feet lesions may not always be present as observed in some recent outbreaks in the Zambezi region. Silent outbreaks” have been reported in RSA in 2011 (WOAH website). Therefore, sero-surveillance should be conducted in the protection zone at least once every two years and in the free zone at the frequency determined by the CVO.

### **1.37 Activation of the FMD Contingency Plan**

**The FMD Contingency Plan shall be activated based of the following:**

1. When there is a higher risk of FMD from neighboring countries or any Namibia’s FMD control zones:
  - a. Active FMD outbreak in a neighboring country or in any of Namibia’s FMD control zones.
  - b. Incursion or stray of a potentially infected animal(s) into any of Namibia’s FMD control zones.
  - c. Legal or illegal importation of potentially infected animals in any of Namibia’s FMD control zones.
  - d. Any other potential risk that warrants activation of the FMD Contingency Plan.
2. When there is a significant suspicion of FMD in any of the FMD control zones.
3. When FMD is confirmed in any of the FMD control zones.

The CVO shall activate the FMD Contingency Plan through an Internal Memorandum to all DVS staff members, which contains a set of instructions and activities to be carried out that are aimed at prevention, preparedness, confirmation and control of the FMD outbreaks. Furthermore, the CVO notifies relevant stakeholders, farmers, general public, neighboring countries as well as trading partners through a veterinary public notification or any appropriate means of communication. In the notification, the CVO describes the FMD outbreak situation and control measures that have been implemented. The CVO further notifies the World Organization for Animal Health as prescribed in the Terrestrial Animal Health Code.

It must however be noted that an incursion or sighting of African Buffaloes in any part of Namibia’s FMD infected zone or a laboratory confirmed presence of the FMD virus in these animals while located in this zone does not warrant the activation of the FMD Contingency Plan, due to the fact that these animals are natural resident and or free roaming in this part of the country.

### **1.38 Control measures when facing a higher risk of FMD to Namibia from a neighboring country or from any of Namibian’s FMD control zones.**

The CVO announces the implementation of measures aimed at preventing and early detection of the infection in areas mostly at risk:

- a) Intensified FMD surveillance (clinical, Sero-surveillance, movement control) in high-risk areas;
- b) Stakeholder engagement, mobilization of resources (financial, materials and personnel resources),
- c) Awareness creation among farmers, stakeholders and general public about the disease and their expected roles in outbreak prevention;
- d) Staff capacitation on the disease and on measures being implemented.
- e) Mobilize vaccine (with correct FMD strain) and conduct vaccination when necessary.
- f) Ensure biosecurity measures along the international borders and at all points of entry if risk is in neighboring country;
- g) Ensure biosecurity measures along the veterinary cordon fence and any other veterinary fences to prevent the outbreak between Namibian FMD zones,
- h) After incursion of African Buffaloes or other potentially infected animals, institute timely search, their appropriate disposal and testing whenever necessary;
- i) Impose appropriate movement restrictions based on the situation at hand,
- j) Other appropriate measures to be carried out as outlined in the FMD contingency plan;

### **139 Further Control measures to be carried out after FMD suspicion or confirmation in any of the FMD control zones.**

- a. Institute appropriate movement restrictions to prevent possible further spread including tracing back and forward of all movement in the past 30 days;
- b. Institute outbreak investigation to confirm the existence of the outbreak, including intensified surveillance, more sample collection aimed at viral isolation and serotyping at reference laboratory;
- c. The CVO notifies WOA, neighboring countries and trading partners;
- d. Control measures will be uplifted upon confirmation of the absence of the infection,
- e. Should the existence of the outbreak be confirmed, control measures as per this contingency plan will be instituted.

## **14 Namibia's Current FMD Status**

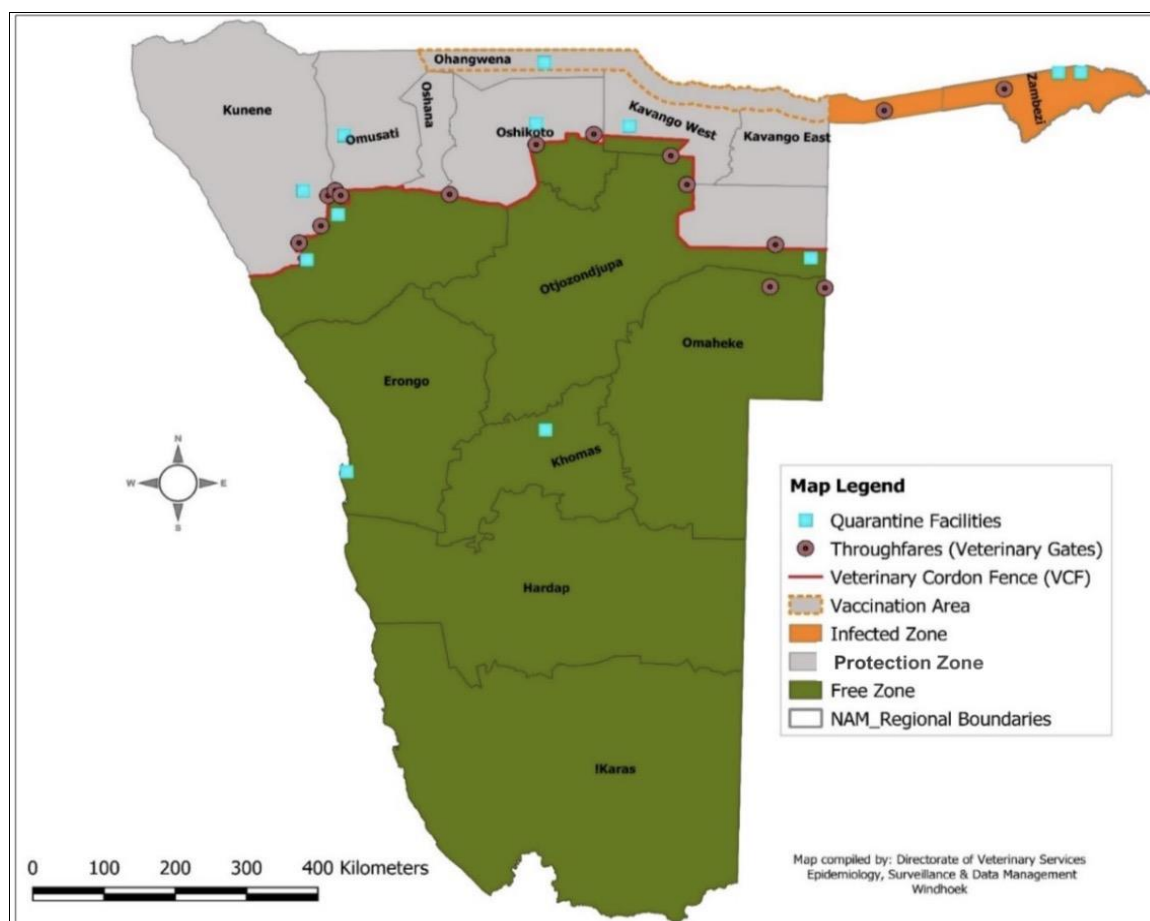
Namibia has a WOA recognized Foot and Mouth Disease (FMD) free zone where vaccination is not practiced which allows her to export animals and animal products to other countries with the minimum sanitary restrictions. The FMD zoning is central to the prevention and control of FMD in the event of an outbreak. Please refer to map in Figure 1.

The country is a major exporter of livestock and livestock products which would be adversely affected by an outbreak of foot and mouth disease. Namibia is divided into the following FMD control zones:

### **141 Infected zone**

The infected zone is the entire Zambezi region and the Mukwe Constituency of Kavango East region, ending specifically at Shamagorwa fence. This zone is referred to as an infected zone because of the high risk of Foot and Mouth Disease (FMD) outbreaks due to the presence of free-roaming African buffaloes in the zone.

**Foot and Mouth Disease vaccination** in cattle is carried out tri-annually in the infected zone using the trivalent (SAT 1, 2 & 3) vaccine as well as the monovalent FMD type O vaccine. Movement of live cloven - hoofed animals out of the zone is prohibited. Animal products such as meat from abattoirs that are under supervision of DVS as per the Commodity Based Trade (CBT) Protocol are allowed to move out of the region. Abattoir by-products (blood meal, meat and bone meal) and hides are allowed to move out of the region after they undergo the required acceptable procedures. Game trophies processed under supervision of DVS in accordance with relevant circulars and WOA standards are allowed to move out of the zone. Regular animal disease surveillance is done during vaccination, community visits, at quarantine stations, as well as at the abattoir. Post vaccination sero - monitoring is done annually. The zone acquired the FMD and CBPP endorsed Control Programme in 2014 aimed at reducing the occurrence of the disease in the zone.



**Figure 1: FMD Control Zones**

## 142 Protection Zone

This zone is free of free-roaming buffalo and borders the infected zone and areas bordering neighboring countries considered as high risk. The southern boundary of this zone is formed by a game and stock-proof double fenced corridor (veterinary cordon fence). The eastern boundary of this zone is by Shamangorwa fence in the Kavango East region.

**Bi-annual FMD vaccination** using trivalent purified SAT 1,2 & 3 is done in the vaccination area sometimes referred to as high - risk areas of the protection zone which are all areas within 30 KM radius of the Namibia and Angola Border line including such areas in Ohangwena, Kavango West and Kavango East regions until at the end of the protection zone at Shamangorwa Cordon Fence in the Kavango East region.

Animal products such as meat from abattoirs that are under supervision of DVS as per WOAHO Teterrestrial Code Article.8.8.24 and produced as per the CBT protocol are allowed to move out of the zone. Abattoir by-products (blood meal, meat and bone meal) and hides are allowed to move out of the zone in compliance with relevant DVS Circulars and the Government Notice No. 155, Gazetted in July 2015. Trophies processed under supervision of DVS in accordance to DVS relevant protocols and WOAHO standards are allowed to move out of the zone. Surveillance is carried through regular inspections, during vaccination, community visits, at quarantine stations, auctions, at the abattoir and during disease investigations. The zone acquired the FMD and CBPP endorsed Control Programme in 2014.

### **143 FMD Free Zone (without vaccination)**

This is an area south of the Veterinary Cordon Fence (VCF) where no FMD vaccination is permitted and is free of wild African buffaloes (except for the FMD free buffaloes in Otjozondjupa region on Waterberg Plateau national park which are tested for FMD virus every four years.

FMD Surveillance is carried out through regular farm inspections, at auctions; export and import inspections, ante - mortem and post - mortem inspection at abattoirs, during sample collection and testing for certain diseases as well as during disease investigations. Because of the strict controls in other zones, relatively free marketing is allowed. The FMD-free zone without vaccination is recognized by WOAHP since 1997.

### **144 “Surveillance area”**

This is a sub-zone of the free zone. Technically the zone no longer exists according to WOAHP standards, but as a precautionary measure, DVS maintains the measures that were enforced in the area before the amendments by WOAHP. This is a buffalo free area in the FMD-free area which is at least 10 km wide or a width of two (2) farms south of the Veterinary Cordon Fence (VCF). There are regular livestock inspections and no FMD vaccination is permitted. Movement of livestock from this zone is permitted for direct slaughter at quarantine abattoirs or after 30 days quarantine for movement to farms in the rest of the free zone.

## **15 Vaccination against Foot and Mouth Disease**

Vaccination against Foot and Mouth Disease is strictly by the state. The vaccine is imported into the country and administered only by the state. Illegal importation of FMD vaccine is punishable by law. Namibia's FMD zonal freedom is without vaccination. All illegally vaccinated animals in the free zone will be destroyed without compensation.

## **16 Recovery of FMD free status (in the FMD free zone):**

In the case of an FMD outbreak in the FMD free zone, the following strategic options are available if the declared free zone is to regain its FMD free status within a reasonable period of time.

### **a) Stamping out; b) vaccination c) a combination of a and b.**

The application of any of these strategic options will depend on the severity and extent of an outbreak. Stamping out will be feasible where the outbreak is limited and well demarcated and therefore can easily be contained and eliminated. Please refer to chapter 3 on compensation on details of sizes of outbreaks.

**1.6.1 When a case of FMD occurs in the free zone, one of the following waiting periods will be adopted to regain free status (WOAH Article.8.8.11, 2024):**

- a. three months after the disposal of the last animal killed where a stamping-out policy, without emergency vaccination, and surveillance are applied in accordance with Articles 8.8.43. to 8.8.45.; or
- b. three months after the disposal of the last animal killed or the slaughter of all vaccinated animals, whichever occurred last, where a stamping-out policy, emergency vaccination and surveillance in accordance with Articles 8.8.43. to 8.8.45. are applied; or
- c. six months after the disposal of the last animal killed or the last vaccination, whichever occurred last, where a stamping-out policy, emergency vaccination not followed by the slaughtering of all vaccinated animals, and surveillance in accordance with Articles 8.8.43. to 8.8.45. are applied. However, this requires a serological survey based on the detection of antibodies to NSP of FMDV to demonstrate no transmission of FMDV in the vaccinated population. This period can be reduced to a minimum of three months if a country can submit sufficient evidence demonstrating absence of infection in the non-vaccinated population, and absence of transmission in the emergency vaccinated population based on the provisions of point 7 of Article 8.8.43.

The country or zone will regain its free status only after the submitted evidence, based on the provisions of Chapter 1.11., has been accepted by WOAH.

The time periods in points 1 a) to 1 c) are not affected if official emergency vaccination of zoological collections has been carried out following the relevant provisions of Article 8.8.3.

Where a stamping-out policy is not practiced, the above waiting periods do not apply, and Article 8.8.3. applies.

2. Member Countries applying for the recovery of status should do so only when the respective requirements for the recovery of status are met. When a containment zone has been established, the restrictions within the containment zone should be lifted only when FMD has been successfully eradicated within the containment zone and status has been regained following the provisions in this article.

For Member Countries not applying for recovery within 24 months after suspension of status, the provisions of Article 8.8.3. apply.

## **1.6.2 Establishment of a containment zone within a zone previously free from FMD.**

In the event of outbreaks, the FMD free zone, a containment zone, which includes all epidemiologically linked outbreaks, may be established, in accordance with Article 4.4.7., to minimize the impact on the zone.

For this to be achieved and for the Member Country to take full advantage of this process, the Veterinary Authority should submit as soon as possible to WOAH, in addition to the requirements of Article 4.4.7. documented evidence that:

1. on suspicion, a standstill has been imposed on the suspected establishments and effective controls on the movement of animals and other commodities are in place in the free zone;
2. on confirmation, the standstill and movement controls described in point 1 have been reinforced;
3. epidemiological investigations into the likely source of the outbreaks have been carried out;
4. *surveillance* in accordance with Articles 8.8.43. to 8.8.45. is in place in the containment zone and in the rest of the free zone;
5. measures that prevent the spread of FMDV to the rest of the free zone, taking into consideration physical and geographical barriers are in place.
6. The free status of the areas outside the containment zone is suspended while the containment zone is being established. The free status of these areas may be reinstated irrespective of the provisions of Article 8.8.11., once the containment zone has been approved by WOAH as complying with points 1 to 5 above.
7. In the event of recurrence of infection with FMDV in unvaccinated animals or transmission of FMDV in vaccinated animals in the containment zone, established in accordance with point 4 a) of Article 4.4.7., the approval of the containment zone is withdrawn and the free status of the whole free zone is suspended until the relevant requirements of Article 8.8.11. are fulfilled.
8. In the event of occurrence of infection with FMDV in unvaccinated animals or transmission of FMDV in vaccinated animals in the outer zone (rest of free zone) of a containment zone established in accordance with point 4 b) of Article 4.4.7., the approval of the containment zone is withdrawn and the free status of the whole free zone is suspended until the relevant requirements of Article 8.8.11. are fulfilled.
9. The recovery of the free status of the containment zone should be achieved within 24 months of its approval and follow the provisions of Article 8.8.11., otherwise the status of the rest of the free zone is suspended.

## 17 Removal of FMD restrictions in the protection and infected zones.

The minimum period to uplift the restrictions following an outbreak of FMD in the Infected Zones shall be a minimum of three (3) months. The outbreak management actions for FMD are summarized in the table below.

**Table 2. Outbreak management actions for FMD**

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | DVS declares occurrence of an FMD event and reports the relevant details to the WOA. H.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 2  | Restriction placed on cloven-hoofed domestic animal movement. The reasonable area of restriction should be determined as depending on the extent of the outbreak. Initially the entire zone will be put under restrictions and once the infected area and the containment area are established (the Disease Management Area), movement restrictions can be relaxed for the rest of the zone.                                                                                                                                                                                                                                                                                            |
| 3  | Active surveillance around the focus or foci (minimum 30 km radius) to determine the extent of the FMD event; this has to continue throughout the duration of the event.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 4  | Immediate vaccination of cattle within the containment area or DMA using high potency vaccine (whenever available), starting at the periphery of the DMA, moving inwards towards the affected crushpens (all vaccinated cattle to be identified using NamLITS). In the infected and protection zones, purified vaccine to be used), it is imperative to collect epithelium and probang samples collected for testing however, blood/ serum samples may be collected for testing in case of healing lesions.<br><br>In localized outbreaks (as established by surveillance), ring vaccination within 30 km radius of the infected focus should be conducted starting from the periphery. |
| 5  | Vaccination of cattle at crushpens with clinically diseased herds applied to ensure that immunity is developed by cattle that may not have acquired infection naturally during the outbreak / this is also done to suppress the viral load in the infected cattle herds                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 6  | Three to four weeks (3 – 4) after the initial vaccination, revaccination of all cattle within the DMA.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 7  | Four weeks later (after number 6 has been fulfilled), a statistically determined sample of cattle in the DMA to be bled and tested using structural protein tests (e.g. blocking or solid-phase ELISA) to confirm attainment of at least 70% herd immunity)                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 8  | In the event of a successful result (> 70% herd immunity), all further restriction withdrawn and the event declared resolved and reported as such to the WOA. H.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 9  | In case of unsatisfactory herd immunity generated (< 70% herd immunity), then steps 6 & 7 need to be repeated.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 10 | In the absence of testing or delayed lab results, then 100 % of cattle in the DMA will be clinically inspected with negative results twice at the interval of 3 – 4 weeks, with the first inspection starting after 4 weeks from the last day of re-vaccination (total restriction period will be not more than 4 months).                                                                                                                                                                                                                                                                                                                                                              |

**This whole process should not take longer than 3 - 4 months and involves only a limited area. In this case, movement restrictions are reduced from six months to a minimum of three months, however restrictions will be confined within the disease management area as soon as the extent of the infection has been established.**

## 18 Summarized risk analysis for Foot and Mouth Disease

Namibia is a net exporter of livestock and livestock products. An outbreak of FMD in the FMD- free zone will result in the immediate suspension of all such exports and its effects on the economy will depend on how quickly the situation returns to normal.

The country is zoned for FMD control and the current FMD status depends on the maintenance of the integrity of the zoning system as well as other factors aimed at reducing risk of disease introduction into the free zone. These include vaccination in the protection zone, movement control as well as strict import controls.

If the integrity of the zones is compromised through illegal movement of livestock or products from high-risk areas, disruption of the current barriers or from illegal import of infected animals or products, FMD may break out in the free zone. The risk will remain fairly low if the surveillance system remains intact, movement and import controls are strictly enforced.

### 18.1 Threat from within the country

There has been no outbreak of FMD in the free zone since 1965. The last outbreaks of FMD in the Protection Zone occurred in August and December 2020 in Kavango East, Kavango West, Ohangwena, Oshikoto and Oshana regions and were resolved in April 2021. The outbreak was caused by serotypes SAT 1 and SAT 2.

The latest outbreak of FMD in Namibia was detected in October 2022 in the infected zone in the Kabbe South constituency of the Zambezi Region and was resolved in March 2023. The Outbreak was caused by FMD SAT 2.

The FMD virus is known to occur in the wild buffalo populations in the infected zone. The disease is thus likely to break out in the infected zone with possible spread to the protection zone and finally to the free zone. The smuggling of animals or products from the infected zone poses the greatest risk to an outbreak south of the veterinary cordon fence. This threat is however mitigated by the presence of permanent check points across the VCF and at Kongola and Divundu check points in the infected zone and at Eros airport in Windhoek and Hosea Kutako international airport.

The speed of detection of an outbreak in the free zone will depend on the effectiveness of the surveillance system and knowledge of the disease by farmers and other role players. Once in the free zone, the main route of spread will be through movement of cloven-hoofed animals but possibly also through the movement of humans (farmers, vets, inseminators, farm workers etc.). Another notable threat to the free zone is from activists/pressure groups that constantly call for the removal of the veterinary cordon fence. However, plans are underway to conduct intensive awareness to farmers, general public and concerned stakeholders about the importance of zoning using the veterinary cordon fences for the purposes of FMD control.

**Table 3: Commodity risk analysis conducted in February 2014 by DVS (un-published)**

| COMMODITY                         | RESULT          |
|-----------------------------------|-----------------|
| Matured Deboned beef              | Negligible risk |
| Processed Abattoir by-products    | Negligible risk |
| Processed Bones                   | Negligible risk |
| Treated Hides and skins           | Negligible Risk |
| Treated Trophies                  | Negligible risk |
| Sour Milk and other milk products | Very Low risk   |
| Quarantined Plant materials       | Very Low Risk   |
| Fomites                           | Low risk        |
| Diagnostic Lab samples            | Low risk        |

## 1.8.2 Threat of FMD to Namibia from neighboring countries

The Namibian FMD-free zone is separated from South Africa and Botswana by border fences as physical barriers. Botswana also has Zoning using veterinary cordon fences as demarcation for FMD and are therefore perceived to pose minimal risk to Namibia's FMD free zone. The portion bordering Botswana's vaccination zone (infected zone) to the east is separated by double game and stock-proof fences most of which is electrified, whilst the area bordering Botswana's WOA-recognised FMD free zone is separated by a game and stock-proof fence.

The Foot and Mouth Disease situation in neighboring countries may change from time to time. South Africa lost its FMD free zone status after reporting an FMD outbreak on 23 May 2018 in the FMD protection zone, which later spilled to the free zone on 07 January 2019, resulting in the loss of the free status. To date the disease has spread to several provinces, including Northern Cape Province which is bordering Namibia, creating a serious threat to Namibia's free zone. Furthermore, Botswana has also reported FMD outbreak early 2026 in their free zone including some zones bordering Namibia.

To the north of the protection zone, Namibia borders with Angola and Zambia with the infected zone. These two countries are not recognized by WOA as FMD free. The potential threat from these two countries derives from illegal movement and straying susceptible animals from infected zones of those countries. Illegal imports from these countries and other neighbouring countries could also endanger the FMD status of the FMD free zone of Namibia.

There are designated border posts where movements of animals and animal products is controlled by veterinary personnel. In the northern part of Namibia the border points are: Oronditi, Swartbooidrift, Ruacana, Mahenene, Kashamane, Oshikango, Katwitwi, Muhembo, Dobe, Wenela and Ngoma border points.

The border points in the southern part of the country are: Ariamsvlei, Noordoewer, Trans-Kalahari/ Buitepos, Hosea Kutako International Airport, Orajemund and Walvisbay harbour.

In a disease surveillance exercise done in 1995 to move the veterinary cordon fence further north to the 20th parallel, fifty-four free-roaming buffalo in Tsumkwe area were tested for FMD with negative results. The animals are now confined in a fenced camp in the Tsumkwe area. The animals were last tested in March 2023 with negative results with a total number of 27 buffaloes that were tested. The Waterberg buffalo population is estimated at 800 animals. A sample in the populations of buffalo in Tsumkwe and Waterberg are tested at four years interval as well as during opportunistic sampling events (i.e., sampling after hunting, mass capturing for export purposes and others etc.). More recently, a representative sample of the African buffaloes were tested in 2009, 2010, 2011, 2014, 2018, 2019, 2023 and 2025 with negative results.

The Ministry of Environment, Forestry and Tourism (MEFT), Department of Natural Resource management, keeps records of all game captured and translocate. All activities are done under veterinary supervision and the animals are certified as clinically free of disease before movement. The wildlife in the protection zone is thus believed to pose an insignificant risk for an FMD outbreak.

A number of game farms exist in the free zone but none of them have free-roaming African buffalo, the natural carrier of FMD virus. There are four farms with Asian water buffalo. The presence of game in the free zone may be a significant factor in the event of an FMD outbreak. If the disease spills over into the game animals this may make any consideration of a stamping out policy unviable.

### **1.8.3 The threat of FMD from wildlife in the free zone and protection zones**

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## **1.9 Current Policies, Strategies and Protocols for preventing the introduction of FMD**

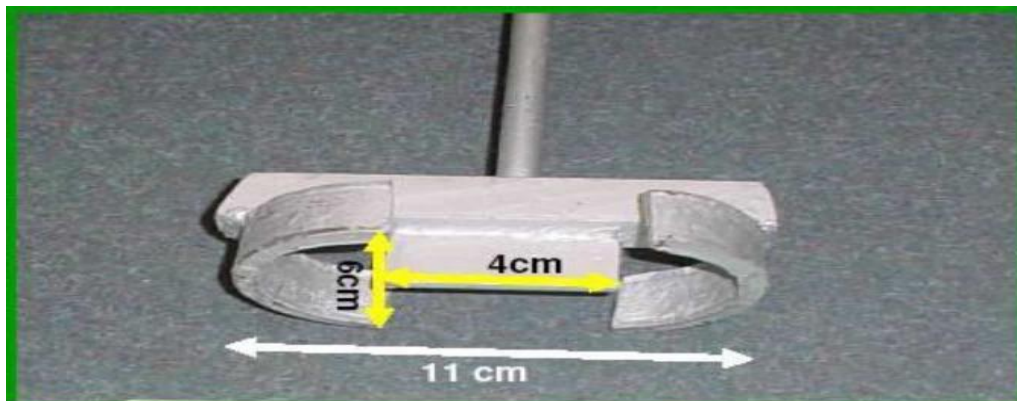
### **1.9.1 Annual vaccination**

Tri-annual vaccination of cattle against FMD is implemented in the infected zone (Zambezi region and Mukwe constituency in the Kavango east region). The bi-annual vaccination is implemented in vaccination areas of the Protection Zone which includes areas within the 30KM of Namibia and Angola's border line in Ohangwena, Kavango West and Kavango East regions.

### **1.9.2 Import Control**

Animal and animal products are imported into the country through specified entry points. These are manned permanently by DVS staff that ensures that documentation and products comply with veterinary requirements before they are allowed into the country. Imports are controlled centrally through a permit system. The import permits specify the conditions under which the animals or animal product may be imported. The conditions are based on WOA standards and designed to minimize the risk of introduction of diseases, particularly FMD, through imports.

Imported cattle are required to be branded by a clearly recognizable brand on the left neck (—) before arrival. In addition, the animals are identified by means of a set of official tamperproof red RFID/visual ear-tags for individual identification. The tags display a unique black identification code and the DVS logo on a red RFID tags background. The movement of imported animals will be traced but they are not allowed to be slaughtered at EU approved export abattoirs. The dimensions of the branding iron for cattle are shown on the figure below:



**Fig 2: Branding iron for imported livestock**

In the case of imported small stock, they are required to be identified by branding on the left cheek using a hot branding iron which is smaller in dimensions than the one for cattle. In addition, they are to be individually identified by double tags of which one is an RFID. Their identification marks will disqualify them from being slaughtered at export abattoirs.

#### **The feeding of domestic animals with swill from foreign vessels is prohibited.**

The disposal of garbage from ships is handled by Port Health which falls under the Ministry of Health and Social Services. At the main port of Walvis Bay, leftover food and other waste from the vessels are incinerated. Regulations under the Animal Health Act, 2011 (Act No. 1 of 2011) prohibit the feeding of un-cooked animal derived products or un-boiled food.

#### **Handling of wastes at Airports, bus stations, railway stations:**

During outbreaks, there will be staff deployed at all airports and develop an SOP addressed to the relevant stakeholders directing how wastes are to be handled at airports, bus and train stations.

Private contractors are responsible for handling waste from planes, buses and trains in Windhoek. Waste from the main airport is taken to a dumpsite within the airport complex where it is burnt. Elsewhere, the waste products are taken to a general dump where it is covered with soil. DVS maintains permanent staff at the airport and any illegal material imported by passengers is confiscated and destroyed by incineration. DVS engages with the Local authority and visits them on an annual basis to ensure that disposal is done properly.

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### **193 Livestock identification and traceability**

#### **Movement permit control**

All movement of cloven-hoofed animals requires veterinary movement permit in term of the Stock Brand Act no. 24 of 1995 and the Animal Health Act no. 1 of 2011. Veterinary officials and the police are authorized to ask for a movement permit from anyone moving cloven hoofed animals from one place to another. Animals are not allowed to move to and from establishments unless they have a valid movement permit. Veterinary movement permits are issued by veterinary officials.

The implementation of the Namibia Livestock Identification and Traceability System (NamLITS) in all farming areas south of the veterinary cordon fence commenced on the 1st of February 2006. NamLITS was extended to the north of the veterinary cordon fence in 2011. Cattle are required to be tagged according to the Animal Identification Regulations of 2013 by six months of age. NamLITS can be used to verify the vaccination status of individual cattle including those that are admitted to pre-slaughter quarantine stations.

### **Ownership Identification**

The Stock Brands Act 24 of 1995 requires owners of livestock (cattle, sheep and goats) to register stock brand symbols with which they imprint on the animals and/or on ear tags to identify ownership. In cattle, the stock brand symbols are marked on the bodies of the animals using hot irons. Identification of ownership in sheep and goats is done using approved ear tags bearing the owner's stock brand symbols or, alternatively, the symbols are tattooed inside the pinnae of the ears. This identification system is mandatory from the age of six months in cattle and three months in sheep and goats. However, if a producer intends to remove livestock from any holding before they reach the prescribed age for marking, it is mandatory to mark with the owner's registered stock brand symbols before the intended removal. This identification is also used to verify the herd or flock of origin.

### **Individual Identification of Cattle**

All Namibian-born cattle are individually identified by the age of six month or when moving to another establishment, using a set officially-approved tamper-evident visual electronic ear tags and Radio Frequency Identification Devices (RFID) bearing a unique eight-digit number comprising of a seven (7) digit serial number and a check digit. All imported cattle are individually identified by means of a set of official red ear tags. Within 14 days from applying the identification devices, cattle have to be registered on the database NamLITS by submission of completed Animal Registration Cards.

#### **a) Identification of Small Stock (Sheep and Goats)**

The sheep and goats in Namibia are largely identified by means of a group identification system based on the owner's registered stock brands as described above. However, imported sheep and goats are individually identified. Protocols exist for future individual identification of sheep and goats from the FMD protection zone. Individual identification of small stock is done by means of a brass tag bearing a unique set of numbers.

### **Holding registers and animal movement documents**

#### **a) Holdings Database**

The computerized NamLITS database has an extensive database of all holdings where livestock can possibly be kept either on a permanent or a temporary basis. The database includes holdings where animals are kept such as farms, communal areas, feedlots and transit locations such as auctions, exhibition grounds, slaughter and export collection centers, cordon entry points, border posts, quarantine camps, auctions, abattoirs and other slaughtering facilities. Basic information about all these holdings includes name, location number, GPS readings, a unique

NamLITS property code, owner/manager, contact details, the veterinary office carrying out routine inspections, state veterinary district, magisterial district and the political region. These details ensure that the holding is located within a short time when a need arises. All livestock owners are linked in the NamLITS system to the holding or holdings where they keep livestock. This ensures accountability for all animal health reports and movement transactions.

### b) Animal Movement Control Documentation

All animals leaving any holding are required by law to be accompanied by a valid and properly-endorsed veterinary movement permit. The permits are obtained from any DVS office or from any authorized DVS official. The permit is strictly valid for a period of 7 days from the date of issue. Cattle leaving the holding must be accompanied by a cattle movement notice where the ear tag numbers of all cattle being moved are clearly and accurately recorded by the producer. The recipient will have to tick off the animals received and submit the original permit together with the livestock movement notice to the Veterinary Office within 14 days. The generic flowchart of animal movements and reporting requirements is presented in Fig 3.

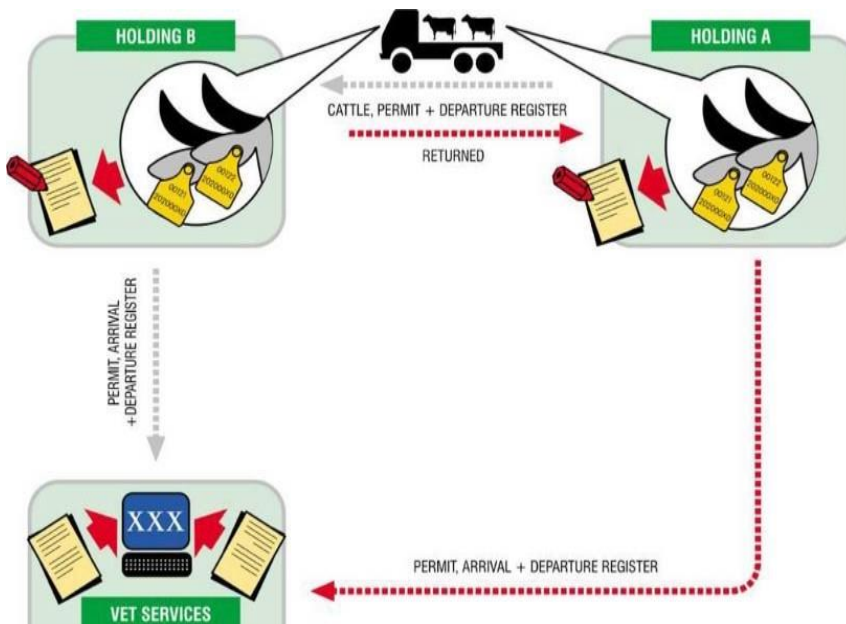


Fig 3: - Generic Flowchart of Animal Movements and Reporting Requirements

## **Game compartment definition and FMD Zonation map**

The country has been divided into game compartments by use of game proof fences. This will allow the country to be divided into different control zones should an outbreak of foot and mouth disease occur in any one of the compartments. The map below shows how the country is divided into the various FMD control zones and game compartments.

## **Other Restrictions**

Regulations specify the products and the conditions under which specified products are allowed to move from north of the VCF to the south. This is strictly enforced at veterinary check-points leading out of the protection zone.

Movement of potentially infectious things originating from animals susceptible to FMD from the areas north of the VCF (infected and protection zones) to the free zone are guided by circulars V10/2007, V12/2013, V19/2013, V13/2015, V28/2015 and other relevant circulars controlled by veterinary movement permits and at VCF check points. All these documents are enforceable under the Animal Health Act No. 1 of 2011.

Circular V10/2007 which is titled: "Movement of animals /animal products and infectious things through veterinary cordon gates," makes it mandatory for the movement of these commodities to be under a veterinary permit. The veterinary permit is issued centrally at the permits office in Windhoek in terms of circular V12/2013 for local movement and V19/2013 which provides guidelines for compliance with requirements of European Commission Directive EC142/2011 and Directive EC 1069/2009 for export to that market. This ensures central control of the commodities.

Raw meat except from abattoirs under veterinary supervision and under cover of a veterinary permit is not allowed south of the VCF.

## **Movement to abattoirs**

All movements of animals to abattoirs are controlled through a permit system used in conjunction with a unique owner-specific branding/tagging system to trace the origin and owner of animals brought for slaughter.

On arrival at an export abattoir, the cattle are inspected for clinical signs of illness by veterinary staff. All animals also undergo an ante-mortem inspection during which they are specifically checked for signs or lesions suggestive of FMD. At post mortem, the feet and mouth are inspected for FMD lesions. Records are kept to enable trace-back when necessary.

## 2. LEGAL BASIS

### 21 National Statute Law

The execution of this Contingency Plan is supported by national animal health legislation namely:

- Animal Health Act (Act No. 1 of 2011)
- Stock Brands Act (Act No. 24 of 1995)
- Livestock and Livestock Products Act, 2023 (Act 15 of 2023)

#### 21.1 Animal Health Act, 2011 (Act No. 1 of 2011)

The Animal Health Act and its regulations are operational. The Animal Health Act provides for the prevention, detection and control of animal disease, to provide for the maintenance and improvement of animal health; and to provide for incidental matters. It is the main act dealing with animal Health in Namibia.

#### 21.2 Livestock and Livestock Products Act, 15 of 2023

To provide for the continual existence of the Meat Board of Namibia as Livestock and Livestock Product Board of Namibia. To define its objectives, powers, duties and functions; to provide control over the grading, classification, sale, import and export of and composition of levies in respect of livestock and livestock products; and to provide for other incidental matters.

#### 21.3 The Stock Brands Act, 1995 (Act No. 24 of 1995)

The Stock Brands Act (Act No. 24 of 1995) gives powers to the Minister Responsible for Agriculture to lay the rules concerning the identification and traceability of animals in the country.

### 22 International Legislations, Standards & Guidelines

The below legislation, standards and guidelines lay ground rules for the registration of red meat abattoirs, hygienic slaughter of livestock, ante- and post-mortem meat inspection, processing of meat as well as meat import and export regulations.

- a. South African legislation
- b. European Union Legislation
- c. United Kingdom Legislation
- d. China trade requirements / trade protocol
- e. Food Safety Inspection
- f. Service of the United States Government guidelines.
- g. WOAHP Terrestrial Animal Health Code
- h. WOAHP Terrestrial Manual (for laboratory testing)
- i. Codex Alimentarius
- j. Other relevant legislation or requirements of trading partners

### 23 Arrangements with Namibian Police Force

The Ministry of Agriculture, Fisheries, Water and Land Reform, through the Directorate of Veterinary Services has a standing agreement with the Ministry of Home Affairs, Immigration, Safety and Security, acting through the Namibian Police Force in form of an MOU. The MOU establishes an understanding for cooperation to strengthen, consolidate and formalise collaboration in the areas of animal disease control, livestock movement management, enforcement of veterinary legislation, and prevention of illegal livestock trade, with a view to institutionalise a sustainable partnership arrangement between the Directorate of Veterinary Services and the Namibia Police Force.

### 3. FINANCIAL PROVISIONS

#### 31 General Provisions

The immediate reaction expenditure will be covered in the recurrent budget of the Directorate of Veterinary Services. An outbreak of Foot and Mouth Disease is considered as a national emergency and qualifies for emergency funding. DVS may approach The Office of the Prime Minister for emergency funds in case of FMD outbreak. The fund is needed to purchase materials and equipment for immediate needs such as vaccines, fencing materials, disinfectants, camping equipment etc. Early 2026, the Minister launched an FMD support fund aimed at sponsoring resources for prevention, response and control of FMD events in Namibia.

Procurement of materials needs to be expedited to enable an immediate response to an FMD emergency. In outbreak situation, all procurement should be done according to the public procurement act (Act 15 of 2015, Section 33 (Sub)). Procurement must follow the normal ministerial procurement procedure for replenishing materials in the FMD Stores at designated state veterinary offices.

Compensation for slaughtered animals will be in accordance with the Animal Health Act, 2011 (Act No. 1 of 2011), Section 30, subsection 183.

#### 32 Costing of Outbreaks

For the purposes of planning, outbreaks are hereby classified as small, medium or large.

##### 321 Small / localized Outbreak in the Free zone

A small or localized outbreak is defined as an occurrence of FMD cases in a confined locality in which stamping out/culling of infected and in-contact susceptible animals (after trace back and trace forward) can be done for the purposes of eradicating the virus. This confined infected area can be a few commercial farms or well demarcated and isolated locations in the communal area that have been established after conducting intensive surveillance.

The estimated costs of containing an outbreak are expected to be in a region of **N\$ 57,100,318.00**. In this scenario it is expected that about 5 000 cattle will be stamped out as was estimated by a recent risk analysis (Thomson and Venter, 2012). Stamping out will be considered after considering the financial implications including other susceptible animal species. The breakdown of the costs is as follows.

**Table 4: Small outbreak costs**

| ITEM                                                                                  | COST (N\$)           |
|---------------------------------------------------------------------------------------|----------------------|
| Surveillance (involves disease investigation, farms inspections, abattoir             | 1,591,931.00         |
| Vaccination with oil-based vaccine (if needed to suppress viral transmission)         | 2,764,575.00         |
| Movement Controls (check points and patrols, Ambits, Driveways)                       | 4,692,204.00         |
| Destruction of restricted materials (livestock & Livestock products) and compensation | 46,524,808.00        |
| Communication, awareness and Reporting                                                | 1,430,000.00         |
| Specialist Investigation                                                              | 41,800.00            |
| Administration                                                                        | 55,000.00            |
| <b>Total</b>                                                                          | <b>57,100,318.00</b> |

### 322 Large Outbreak Commercial in the free zone.

Any FMD occurrence greater than the small/localized outbreaks should be considered large outbreak. No stamping out will be done, (Thomson and Venter 2012). This type of an outbreak is expected to cover an area the size of a large state veterinary district like Gobabis. Costs here come down significantly because there are no compensation costs due to the fact that stamping out will not be applied as too many animals are affected (sick and in-contacts).

**Table 5: Large outbreak in the FMD cost**

| ITEM                                                                                 | COST (N\$)           |
|--------------------------------------------------------------------------------------|----------------------|
| Surveillance (involves disease investigation, farms inspections, laboratory testing) | 3,500,000.00         |
| Emergency Vaccination (needed to suppress viral transmission)                        | 20,298,640.00        |
| Movement Controls (check points and patrols)                                         | 13,913,765.00        |
| Destruction of livestock and Compensation                                            | -                    |
| Communication, awareness and reporting                                               | 2,800,000.00         |
| Specialist Investigation                                                             | 144,000.00           |
| Administration                                                                       | 55,000.00            |
| <b>Total</b>                                                                         | <b>40,711,405.00</b> |

Please note: Details of the calculations are in a spreadsheet that stored on the MAFWLR server under the divisional folder of DVS under the folder called Contingency Plans. The spreadsheet will be updated from time to time as circumstances change.

### 323 Small outbreak in the Infected or Protection zones.

A small outbreak in the infected or protection zone is one affecting one region. The outbreak of FMD in Zambezi Region during the period 2001 to 2008 can be classified a small. The outbreak costed some **N\$ 11,799,158.62** to control. The cost breakdown is shown in Table 6.

**Table 6. Small outbreak costs in the Infected or Protection Zones.**

| ITEM                                                                     | AMOUNT SPENT (N\$)   |
|--------------------------------------------------------------------------|----------------------|
| DSA                                                                      | 4,525,036.70         |
| Overtime                                                                 | 541,032.75           |
| Transport GRN hire and Private                                           | 767,624.17           |
| Salary for casual labourers                                              | 748,224.00           |
| Emergency Vaccination                                                    | 2,991,969.00         |
| Communication, awareness and Reporting                                   | 200 000              |
| Movement Controls (checkpoints, roadblocks, NAMLITS, border inspections) | 2 000 000            |
| Materials and Equipment                                                  | 25,272.00            |
| <b>Total</b>                                                             | <b>11,799,158.62</b> |

### 324 Large Outbreak in the infected and protection zones.

A large sized outbreak in the infected and protection zones can be exemplified by the one which occurred in 2015 covering Ohangwena, Oshikoto, Kavango West and Omusati Regions. Preliminary costs incurred during this outbreak were about \$175,601,203.59, the breakdown is shown in Table 7.

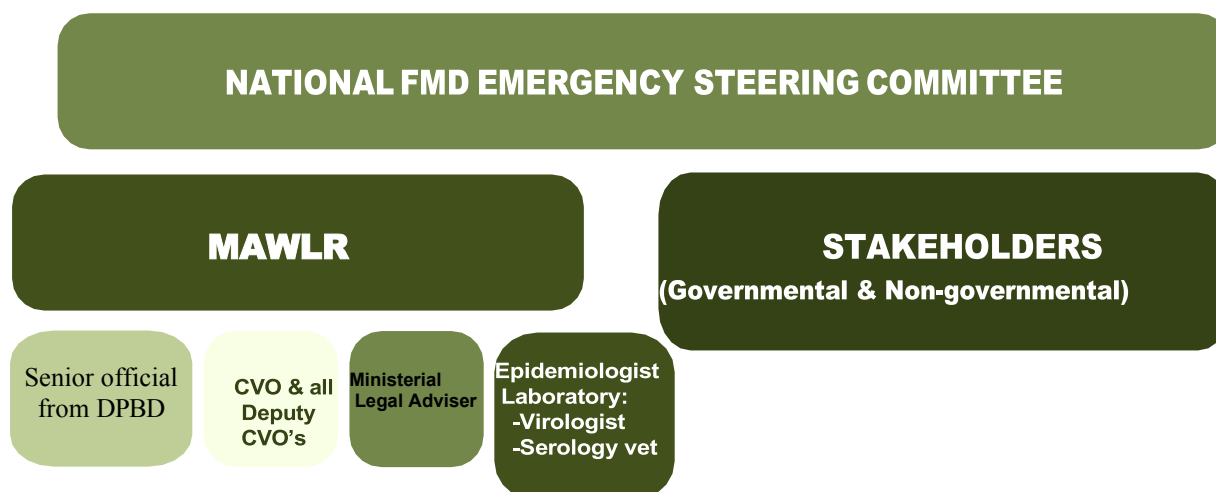
**Table7. Expenditure on the outbreak of 2015 in Northern communal areas**

| ITEM                                    | AMOUNT SPENT          |
|-----------------------------------------|-----------------------|
| DSA                                     | 3,372,673.66          |
| Overtime                                | 5,165,691.85          |
| Transport GRN hire and Private          | 19,122,655.00         |
| Casual labourers                        | 8,568,438.50          |
| Vaccines                                | 113,995,572.00        |
| Materials and Equipment                 | 24,256,869.97         |
| FMD diagnostic test kits                | 250,000.00            |
| FMD post vaccination monitoring samples | 869,302.61            |
| <b>Total</b>                            | <b>175,601,203.59</b> |

## 4. CHAIN OF COMMAND AND ESTABLISHMENT OF NATIONAL DISEASE CONTROL CENTRES

### 31 Establishment of National FMD Emergency Steering Committee (NFEC)

National FMD Emergency Steering Committee will be set up to direct operations during the period of higher threat or confirmed FMD outbreak. This committee will be constituted as shown in the figure below and chaired by the Chief Veterinary Officer.



**Fig 4: National FMD Emergency Steering Committee**

#### Composition of the National FMD Emergency Steering Committee (NFEC)

1. Chief Veterinary Officer shall be responsible for setting up the committee as follows:
  - i. MAFWLR [ (DVS: CVO (Chairperson), all DCVOs, Epidemiologists, Virologist and Serology Vet), Ministerial Legal Adviser and a senior official from Directorate of Planning & Bussiness Development],
  - ii. Governmental stakeholders: Senior officials from MEFT, OPM, NamPol, NDF
  - iii. No-Governmental Stakeholders: Heads or senior representatives from LLPBN, Farmers Unions and Associations, Academic institutions (Veterinary School), Abattoir Associations.
  - iv. Other relevant institutions or individuals may be co-opted to NFEC whenever necessary,
2. Duties of NFEC include but not limited to the following:
  - i. High-level-decision-making, strategic oversight, multi-agency coordination and monitoring of activities aimed at prevention, preparedness and response to FMD outbreaks.
  - ii. Setting goals by ensuring that a short or long-term road map/action plan for operational activities has been established and continuous monitoring of its implementation, direct review of the FMD contingency plan whenever necessary,
  - iii. Coordinate resource and human mobilization, information disseminations and others.
3. The CVO to give regular updates to the Minister and Ministerial management on FMD activities,
4. On the recommendation of NFEC, the Minister establishes and appoints the National FMD Task Force.
5. National FMD Task Force to present and update the NFEC on strategic FMD preventative, preparedness and response activities at least every three months,
6. NFEC shall give tasks and directives to the FMD National Task Force,
7. NFEC shall meet at least four (4) times a year during FMD threat/outbreak or once during peace time.

## FMD Task Force's Terms of Reference (ToR)

### 32 National Foot and Mouth Disease Task Force

#### 321 Establishment

The National Foot and Mouth Disease (FMD) Task Force is established by the Honorable Minister of Agriculture, Fisheries, Water and Land Reform to provide technical coordination, planning, and advisory support for the prevention, preparedness, and response to Foot and Mouth Disease in Namibia.

The Task Force operates under the authority of the Chief Veterinary Officer (CVO) and reports to the National FMD Steering Committee.

#### 322 Purpose

The purpose of the National FMD Task Force is to provide scientific, technical, and operational guidance to ensure effective prevention, early detection, containment, control, and recovery from FMD outbreaks, and to safeguard Namibia's livestock industry, trade status, and national economy.

#### 323 Composition

##### a) Chairperson

The Task Force shall be chaired by the Deputy Chief Veterinary Officer responsible for: Epidemiology, Import and Export Control, Traceability, Veterinary Medicines Control, Veterinary Advisory Services

##### b) Members

The Task Force shall comprise representatives from the following institutions:

##### c) Directorate of Veterinary Services (DVS):

- All other Deputy Chief Veterinary Officers (4)
- Chief Veterinarian: Epidemiology, Surveillance and Data Management (Epidemiologist)
- Relevant technical and operational veterinary officials

#### 324 Livestock Industry and other Stakeholder Representatives

- a. Two (2) representatives from the Livestock and Livestock Products Board of Namibia (LLPBN),
- b. Representative (1) from the Ministry of Fisheries, Water and Land Reform,
- c. Representative (1) from the Namibia National Farmers Union (NNFU),
- d. Representative (1) from the Namibia Agricultural Union (NAU),
- e. Representative (1) from the Namibia Emerging Commercial Farmers Union (NECFU),
- f. Representative (2) from abattoir operators,
- g. Representative (1) from LABTA (Livestock Auctioneers, Brokers and Traders Association),
- h. Representative (1) NALETA Namibia Livestock Exporters and Traders Association
- i. Representative (1) Agriculture input suppliers
- j. Representative (2) from the Veterinary Association of Namibia,
- k. Representative (1) from academic institutions,
- l. Representative (1) from the FMD Support Fund (Representing the livestock feed processors, input suppliers, financial institutions, livestock transporters and farmer unions),

## **325 Appointment of additional members to the FMD Task Force by the Minister**

The Honorable Minister, upon recommendation by the Chief Veterinary Officer, may appoint additional members with relevant expertise for a specified period.

## **326 Reporting Lines**

The Task Force shall report to the National FMD Steering Committee and provide technical recommendations to the Chief Veterinary Officer.

## **327 Roles and Responsibilities**

The Task Force shall be responsible for the following:

### **4.2.7.1 Strategic Planning and Preparedness**

- a. Develop scientifically based strategies for FMD prevention, preparedness, response, and recovery in line with national policies and international standards.
- b. Develop and monitor operational action plans to implement FMD control strategies,
- c. Develop and implement action plans for the maintenance and restoration of Namibia's FMD-free status, including re-zoning where applicable.
- d. Ensure alignment with national FMD contingency plans and international standards.

### **4.2.7.2 Technical Advisory Function**

- a. Provide expert technical advice to the Chief Veterinary Officer during periods of threat or outbreak.
- b. Conduct epidemiological investigations and provide risk assessments.
- c. Produce comprehensive epidemiological analyses and situation reports.
- d. Provide recommendations on surveillance, movement control, vaccination, biosecurity, and containment measures.

### **4.2.7.3 Surveillance, Reporting, and Epidemiology**

- a. Oversee epidemiological investigations and analysis.
- b. Produce epidemiological and technical reports for national, regional, and international reporting requirements.
- c. Support compliance with international reporting obligations.

### **4.2.7.4 Operational Coordination and Implementation Support**

- a. Monitor implementation of FMD control measures.
- b. Conduct field visits to affected or at-risk areas to evaluate response effectiveness.
- c. Evaluate control strategies and recommend improvements.

### **4.2.7.5 Resource Mobilisation and Logistics Support**

- a. Support mobilisation of financial and technical resources.
- b. Facilitate procurement, stock management, and distribution of essential FMD control supplies.
- c. Ensure readiness and maintenance of FMD emergency stores.

### **4.2.7.6 Capacity Building and Awareness**

- a. Facilitate training of veterinary personnel and stakeholders.
- b. Promote awareness among farmers, industry stakeholders, and the public.
- c. Support implementation of biosecurity and disease prevention measures.

#### **4.2.7.7 Collaboration and Stakeholder Engagement**

- a. Facilitate coordination among government, industry, and stakeholders.
- b. Liaise with regional and international technical experts and organizations when required.
- c. Promote a coordinated national response approach.

### **4.2.8 Authority**

The Task Force shall function as an additional technical advisory body to the Chief Veterinary Officer on all matters relating to Foot and Mouth Disease preparedness, prevention, and control. The Task Force may establish sub-committees within itself to support the execution of its mandate.

### **4.2.9 Meetings**

#### **4.2.9.1 Routine Meetings**

- a. The Task Force shall meet quarterly during peacetime.
- b. The Task Force shall meet as often as needed during the outbreak or time of high threat.

#### **4.2.9.2 Emergency Meetings**

The Task Force shall convene as frequently as required during periods of heightened risk, suspected outbreaks, or confirmed outbreaks.

#### **4.2.9.3 Quorum**

A quorum shall consist of at least 50% of members, including the Chairperson or designated alternate and at least three (3) members from the Directorate of Veterinary Services.

#### **4.2.10 Duration of Appointment**

Members shall serve for a period determined by the Honorable Minister. Membership may be reviewed and revised based on operational needs.

#### **4.2.11 Secretariat**

The Directorate of Veterinary Services shall provide secretariat support to the Task Force, including:

- a. Coordination of meetings
- b. Preparation and circulation of agendas and reports
- c. Record keeping
- d. Communication and coordination support

#### **4.2.12 Review of Terms of Reference**

These Terms of Reference shall be reviewed periodically and updated as necessary to reflect evolving risks, national priorities, and international standards.

### 4.3 The regional FMD Emergency Committee



**Fig 5: Regional FMD Emergency Committee**

To be set up and headed by the DCVO of the area(s) concerned. It will be responsible for the execution of control efforts at the regional or sub-regional level and will comprise of:

- i. The Chief Veterinarian responsible for deploying of human and material resources for the control effort, designating control zones, making arrangements for compensation.
- ii. Key staff members in the region (State Veterinarians, Control AHT, Chief Animal Health Technicians) Relevant stakeholder representatives from the Police, Army, Farmers, regional council, and Traditional authorities, NAU, NNFU.
- iii. A list of stakeholders that need to be informed in the area shall be maintained by the Chief Veterinarian. This list may include: Customs officials, auctioneers, abattoir operators, transporters, hunters, feed companies, providers of services such as private veterinarians, artificial inseminators, sales representatives, extension staff, local leadership (governors, councilors, and chiefs etc). It is the duty of the Chief Veterinarian to draw up the list and contact details of the organizations or individuals that need to be informed and to contact them in the event of a FMD emergency. This shall be updated annually.

### 4.4 Support team /Expert group

Other technical personnel shall be appointed by the CVO to travel to the outbreak area to lead thematic groups to cover the following aspects of the control measures:

- **Logistics:** responsible for recruitment of personnel, acquisition and deployment of vehicles, materials and equipment for the control and containment of the outbreak.
- **Information Management:** responsible for collecting, analyzing data, archiving and producing reports and minute taking.
- **Surveillance and Vaccination:** responsible for drafting surveillance, vaccination and post-vaccination protocols and monitoring activities.
- **Movement Control:** responsible for implementing movement control for animals, animal products and other infectious things.

## 5. PERSONNEL RESOURCES

In the event of an outbreak, the CVO will mobilize on personnel within the Directorate and recommend to Minister the mobilization of staff members from other Directorates and Ministries, where necessary. All DVS staff shall be on high alert and ready to be deployed at relatively short notice when required. The CVO shall ensure that the entire DVS management is available during outbreaks and those on leave shall be recalled.

Private veterinarians may be appointed by the Minister on recommendation of the CVO, to perform specific disease control measures under conditions specified by the CVO.

There is a standing arrangement in form of a Memorandum of Understanding (MoU) between Ministry of Agriculture, Fisheries, Water and Land Reform and the Ministry of Home Affairs, Immigration, Safety and Security. The MoU establishes framework for cooperation between the two Ministries in the prevention, control and eradication of animal diseases of economic and public health importance including FMD.

Additional to the MoU with NAMPOL, the CVO may determine to initiate collaboration with the National Youth Services.

Personnel organized by stakeholders and individual volunteers would be considered to work, under supervision of veterinary officials.

## 6. EQUIPMENT AND FACILITIES

### 6.1 Field Equipment

Field equipment of different types will be needed for disease investigation and to implement various control measures. This equipment listed below should be kept and maintained at strategic State Veterinary Offices: Katima Mulilo, Rundu, Okalongo, Eenhana, Okakarara, and Keetmanshoop, Gobabis State Veterinary Offices.

FMD stores are put under Chief Veterinarian offices (NW, NE, Central & South) for administration and management and not under SV office, however minimum equipment & materials must be kept at all SV offices and ports of entry/ border posts.

The following teams will need equipment consistent with their functions: surveillance, vaccination, road block and airport teams.

#### 6.1.1 Surveillance team

The surveillance team shall be composed of two to four staff members including a State Veterinarian, or Animal Health Technician as a team leader, Data Capturers and Animal Restrainers.

##### Surveillance team equipment

- 1X Double Cabin, 4x4 vehicle
- 1x nose tong
- 2 x 10m restraining ropes (cotton)
- 1 x box of surgical glove
- 8 x pairs of rubber gloves
- 1x 20kg washing soda
- 2x cup for measuring washing soda
- 1x 16L knapsack sprayer
- 1x 10L bucket (metal)
- 2 x 25L water containers
- 2 x each protective clothing
- 1 x GPS
- Cellphone/air time for team leader
- Network booster
- 1 x table
- 1x a chair per staff
- 1x shade net
- 10 x heavy duty refusal bags
- 50 x disposable clothing
- 1 x hard brush
- 1x tough book & reader

### 6.1.2 Vaccination team

The vaccination team shall be composed six staff members including an Animal Health Technician (team leader), NamLITS Data Capturer, Tagging staff (two) and Animal Restrainers (one).

### 6.1.3 Vaccination team equipment

- 1 x Vehicles 4x4 (Single Cabin & Double Cabin)
- 4 x 30ml Roux Syringes
- 30 x 14G1/2 needles
- 1 x 75L metal cooler box
- 1 x 105L cool box
- 2 x nose tong
- 2 x 10L buckets
- 20kg x washing soda
- 2 x cup for measuring washing soda
- 1 x table
- 1 x chair per staff
- 4 x ear tag applicators
- 2 x 10m restraining ropes
- 1 x box of Vacutainer
- 5 x vacutainer-needle holders
- 100 x vacutainer-needles
- 100 x 23G needles disposable
- 100 x 18G needles disposable
- 20 x 10ml disposable syringes
- 50 x 2ml disposable syringes
- 1 x tough book & reader
- 2 x prodder & batteries
- 1 x cast iron pot
- 1 x GPS & batteries
- 1 x Sharp away boxes

### 6.1.4 Road block team

The road block teams shall consist of nine to fifteen staff members depending on the workload. There will be three 8-hour shifts in order to operate for 24 hours. The team leader shall be a permanent staff member, while the overall supervisor for each road block shall be of rank not lower than Animal Health Technician. MOUs should be drawn up with the Directorate of Water Supply Sanitation Coordination (DWSSC) and NAWATER for the supply of bulk water to the roadblocks. Training of staff in use of equipment, mixing of disinfectants, spraying and customer care is required before deployment.

#### **The road block team shall have the following documents and equipment:**

- Circular V13/2015: SOP for Road blocks
- Circular V28/2015: SOP for movement of plant materials
- Press release and Memorandum with specific instructions to offices
- Copy of the Animal Health Act 1 of 2011 and Regulations
- Transgression register
- Register of items confiscated/destroyed
- Attendance register
- Shift plan
- Register for visiting supervisors

#### **Road block team equipment**

- 1x Water resistant cabinet
- Registers
- 2 x light poles solar powered

- X1 Traffic warning solar powered light
- 1 x torch per staff
- 1 x reflectors per staff
- 1 x big tent
- 5 x folding chairs
- 2 x folding table
- 1 x 1000L bowser tank
- 2 x high pressure sprayers
- 10 x 16L knack sack sprayers
- 2 x set of road signs
- 10 x speed cones
- 1 x official cellphone
- 1 x set of disease control signs
- 4 x 25L fuel cans
- 2 x mobile toilets
- 2 x mobile showers
- 50 x refusal bags
- 4 x 25L water cans
- 4 x cast iron pots
- 2 x goggles per staff
- 1 x 100pcs face masks
- 1 x 500ml betadine (disinfectant)
- Electrical cables and cable protectors
- Sniffer dogs at major road blocks
- Rain coats with head cover x1 per staff
- Protective clothing (gumboots, overall x2, safety boots)
- Examination gloves x2 boxes
- X 2 Feet bath blanket/Mat
- Designated disposable sites (Mobile incinerators)
- 20kg Washing Soda
- X2 20L Bucket
- X2 Cups 750ml
- X2 Scrubbing brushes

### 6.1.5 Airport team

The Airports inspection teams will consist of a minimum of four staff members and will operate two 8-hour shifts. They will be based at the following airports: Katima Mulilo, Rundu, Ondangwa, Walvis Bay and Eros Keetmanshoop, Oranjemund and Luderitz. They will search for prohibited items and ensure safe disposal of feed leftovers from planes. The equipment for airport team is as follows.

#### Circular V13/2015: SOP for Road blocks

- Circular V28/2015: SOP for movement of plant materials
- Press release and Memorandum with specific instructions to offices
- Copy of the Animal Health Act 1 of 2011 and Regulations
- Transgression register
- Register of items confiscated/destroyed
- Attendance register
- Shift plan
- Register for visiting supervisors

#### Airports team equipment

- registers
- 1x Rechargeable torch
- 1 x reflectors per staff
- 10 x 16L knack sack sprayers
- 1 x official cellphone
- 1 x set of disease control signs

- 50 x refusal bags
- 1 x 500ml betadine (disinfectant)
- 4x feet baths
- 2 x 20L buckets
- 20kg x washing soda
- 2 x cup for measuring washing soda
- 2x scrubs brushes
- Portable incinerator
- Examination gloves

### **6.1.6 Railway Station team**

The Railway Station inspection team will consist of a minimum of four staff members and will operate two 8-hour shifts. They will have similar equipment like the airport teams.

### **6.1.7 Harbour team**

The Harbour team will comprise of a minimum of six staff members and will operate two 8-hour shifts. The strategic harbours to be monitored are Walvis Bay and Luderitz. They will have similar equipment like the airport teams. They will carry out inspections to ensure safe disposal of leftover food and confiscated items.

### **6.1.8 Sampling equipment**

The following is the minimum equipment needed in order to sample suspect animals during an outbreak.

#### **Equipment for sampling from suspect animals**

- a. 20 Disposable syringes (20 ml) + needles (16-18gauge) - sterile packing.
- b. 4 Bottles FMD Transport Medium (Note: it will have expired if the colour has changed from red to pink)
- c. 4 Bottles FMD Transport Media for probang samples.
- c. Liquid Nitrogen or dry ice to be kept at CVL only
- d. 1 Pair tissue forceps
- e. 1 Pair thumb forceps (serrated)
- f. Pair rat tooth thumb forceps
- g. 1 Pair of scissors
- h. 1 Probang cup
- i. 1 Box of surgical gloves (All three sizes-small, medium & large to be included +/-50)
- j. 1 Cool box
- k. 5 kg washing soda (bicarbonate of soda) packaged into 500g sachets/1kg Virkon-S/500g citric acid powder.
- l. 2 Bio-secure specimen transport box
- m. 2 Nose Tongs
- n. 2x 10 metre restraining rope
- o. Sterilising equipment (1x portable gas stove and 1x wide open pot)
- p. 2x20 litre plastic containers
- q. 2x25 litre buckets (metal)
- r. Stirrup pump (sprinkaanpomp)
- s. Maps (1:50 000) of the regions
- t. Vehicles
- u. Protective clothing (overalls, gumboots, plastic aprons), Tyvek disposable coveralls are available at Ondangwa, Rundu, Katima Mulilo, Otjiwarongo and Head Office state veterinary offices.
- v. Each Chief Veterinarian Office and State Veterinarian Office is expected at all times to have functional communication equipment such as telephones, faxes and email facilities including photocopiers and stationery (e.g. permits, disease report forms etc). Airtime for cell phones will be purchased centrally-N\$500 per month per individual for key staffs involved in the response.

### 6.1.9 FMD stores equipment

The equipment listed below should be kept at Eenhana, Okalongo, Rundu and Katima Mulilo State Veterinary Offices north of the Veterinary Cordon Fence, while south of the Veterinary Cordon Fence at Okakarara, Gobabis, Keetmanshoop and Windhoek State Veterinary offices, checked quarterly and reported on by the State Veterinarian responsible for that office. The Deputy Chief Veterinary Officer of the Division (Animal disease control – North and south) should be responsible for the FMD stores by ensuring that they are stocked with necessary items at all times. Management and administration will work under the instructor of the chief Veterinarian

**Table 8: FMD control materials at each FMD store**

| S/N | MATERIAL                   | SPECIFICATIONS                                                                                                                                                                                                                                                                         | QUANTITY |
|-----|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| 1   | Zinc baths                 |                                                                                                                                                                                                                                                                                        | 5        |
| 2   | Buckets                    | 5 of each size 5L, 10L, 25L                                                                                                                                                                                                                                                            | 15       |
| 3   | Washing soda               | 50 kg                                                                                                                                                                                                                                                                                  | 5        |
| 4   | Gumboots                   | 5 pairs of each Sizes 5, 6, 7, 8, 9                                                                                                                                                                                                                                                    | 25       |
| 5   | Scrubbing brushes          | Surgical scrub brushes for hands, non-disposable, nylon stiff bristle                                                                                                                                                                                                                  | 20       |
| 6   | Rubber (surgical) gloves   | 25 of each size (M, L)                                                                                                                                                                                                                                                                 | 50       |
| 7   | Latex examination gloves,  | M (100s), L (100s)                                                                                                                                                                                                                                                                     | 200      |
| 8   | Overalls                   | Overall Green 2 pc long sleeve, 20% Cotton and 80% Polyester with DVS Logo embroidered; 6 each of Sizes 92 - 122                                                                                                                                                                       | 180      |
| 9   | Tyvek disposable coveralls | Standard Tyvek @400; flash-spun high-density polyethylene fabric, elasticated wrists and ankles, a front zipper with a storm flap, a hooded design, and an elasticated waist. 125 each of M, L, XL, XXL                                                                                | 500      |
| 10  | Rain coats                 | Durable, waterproof materials like PVC/polyester or polyester PU, a detachable hood with a drawstring or snaps, a snap or zipper front with a storm flap, and practical additions like ventilated back cape, pockets, and underarm eyelets for breathability; 6 each of Sizes 92 - 122 | 180      |
| 11  | TM 3-leg Cast iron pots    | 5 of each No 2 and 3                                                                                                                                                                                                                                                                   | 10       |
| 12  | Ear tags                   |                                                                                                                                                                                                                                                                                        | 2 000    |
| 13  | Snapback pumps             | Manual Knapsack Agricultural Sprayer, 16L                                                                                                                                                                                                                                              | 12       |
| 14  | Camping tents              | Green sport camping tent 2.1M x 2.1M x 1.8 m or 2.5mx2.5mx1.95m                                                                                                                                                                                                                        | 10       |
| 15  | Folding mattress           | Three division folding single mattress; Material: Pipstop Poly- Cotton canvas, Size: 195 x 70x 7 cm                                                                                                                                                                                    | 10       |
| 16  | Strecher beds              | Stretcher bed; Steel legs: aluminum frame; Material: 600D polyester; Size: 193 x 80 x 42 cm                                                                                                                                                                                            | 10       |
| 17  | Sleeping bags              | Sleeping bag; Size: 200 + 30 x 80 cm; Outer fabric: Flannel; Filling Weight: 250 10gr/m2; Filling: Hollow Fibre including bag                                                                                                                                                          | 10       |
| 18  | Gazebo                     | Gazebo Steel Legs 3 x 4.3m                                                                                                                                                                                                                                                             | 5        |
| 19  | Mobile toilets             | 1080mm wide x 1165mm deep/long x 2045mm high, 70kg pit toilet hut with ventilation, a lockable door, toilet seat and flap, and                                                                                                                                                         | 5        |

|    |                                      |                                                            |              |
|----|--------------------------------------|------------------------------------------------------------|--------------|
|    |                                      | drum                                                       |              |
| 20 | Portable shower                      | Tent Shower Turbo Greensport                               | 5            |
| 21 | Camping tables                       | Plastic, foldable, 122x61x74cm                             | 5            |
| 22 | Camping chairs                       | Folding camping chair; Material: canvas;<br>Weight: 150 kg | 10           |
| 23 | Spades                               | Spade Digging Steel Shaft                                  | 5            |
| 24 | Spades                               | Spade Steel Shaft, Round Nose                              | 5            |
| 25 | Axes and handles                     | No. 4                                                      | 5            |
| 26 | Torches                              | 5 of each solar and rechargeable LED flush lights          | 10           |
| 27 | High intensity lights<br>(roadblock) | 300w Solar LED flood lights                                | 5            |
| 28 | Reflective clothing                  | Reflector jacket 10 sizes each of M, L, XL                 | 30           |
| 29 | Diesel/Petrol Generators             |                                                            | 5            |
| 30 | Jerry cans 20L or 25L<br>(empty)     | Metal Jerry can, 10 of each 20L, 25 L                      | 20           |
| 31 | Water tanks                          | 100L                                                       | 2            |
| 32 | Firefighter generator                |                                                            | 2            |
| 33 | Mobile crush-pens                    | one (1) at each FMD store                                  | 1            |
| 34 | GPS                                  |                                                            | 5            |
| 35 | First Aid Kit (emergency<br>kit)     |                                                            | 2            |
| 36 | Black refuse plastic<br>bags 100s    |                                                            | 1            |
| 37 | Cooler box                           | Romer 65 L or Cooler 58L Xtreme Blue                       |              |
| 38 | Hats                                 | Safari hats M (20); S (20)                                 | 40           |
| 39 | Sampling Kit                         |                                                            | 2            |
| 40 | Cool box                             | (30 - 45L)                                                 | 2            |
| 41 | Three-layer Sample<br>packaging      |                                                            | 2            |
| 42 | Probang                              |                                                            | 1            |
| 43 | Veterinary Road-Block<br>signs       |                                                            |              |
| 44 | FMD vaccine doses                    | FMD: SAT 1,2,3                                             | 20 000 doses |

**Table 9: FMD items for the borders**

| ITEM                            | SPECIFICATIONS                                                                                                                | QUANTITY (PER BORDER POST) |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| Zinc Baths (Vehicle Wheel Dips) | Galvanized steel bath; size $\geq 3.5 \text{ m} \times 0.8 \text{ m} \times 0.25 \text{ m}$ ; anti-slip; corrosion-resistant. | 10                         |
| Buckets                         | Industrial-grade plastic/metal; 20L; chemical-resistant.                                                                      | 30                         |
| Washing Soda (Sodium Carbonate) | $\geq 99\%$ purity; 25–50 kg bags.                                                                                            | 400 kg stock               |
| Gumboots                        | PVC/nitrile; knee-high; chemical-resistant; size 5.                                                                           | 10 pairs                   |
| Gumboots                        | PVC/nitrile; knee-high; chemical-resistant; size 6.                                                                           | 10 pairs                   |
| Gumboots                        | PVC/nitrile; knee-high; chemical-resistant; size 7.                                                                           | 10 pairs                   |
| Gumboots                        | PVC/nitrile; knee-high; chemical-resistant; size 8.                                                                           | 10 pairs                   |
| Gumboots                        | PVC/nitrile; knee-high; chemical-resistant; size 9.                                                                           | 10 pairs                   |
| Gumboots                        | PVC/nitrile; knee-high; chemical-resistant; size 10.                                                                          | 5 pairs                    |
| Gumboots                        | PVC/nitrile; knee-high; chemical-resistant; size 11.                                                                          | 5 pairs                    |
| Gumboots                        | PVC/nitrile; knee-high; chemical-resistant; size 12.                                                                          | 5 pairs                    |
| Scrubbing Brushes               | Long-handle & handheld; hard bristles; chemical-resistant.                                                                    | 15                         |
| Scrubbing Brushes               | Short-handle and handheld; hard bristles; chemical-resistant.                                                                 | 15                         |
| Rubber (Surgical) Gloves        | Disposable latex/nitrile; powder-free; assorted sizes; box of 100.                                                            | 20 boxes                   |
| Rubber (Surgical) Gloves        | Disposable latex/nitrile; powder-free; size small; box of 100.                                                                | 20 boxes                   |
| Rubber (Surgical) Gloves        | Disposable latex/nitrile; powder-free; size medium; box of 100.                                                               | 20 boxes                   |
| Rubber (Surgical) Gloves        | Disposable latex/nitrile; powder-free; size large; box of 100.                                                                | 20 boxes                   |
| Rubber (Surgical) Gloves        | Disposable latex/nitrile; powder-free; size XL; box of 100.                                                                   | 20 boxes                   |
| Rubber (Surgical) Gloves        | Disposable latex/nitrile; powder-free; Size XXL; box of 100.                                                                  | 20 boxes                   |
| Overalls (Reusable)             | Cotton/polyester blend; washable; durable; size Small.                                                                        | 30                         |
| Overalls (Reusable)             | Cotton/polyester blend; washable; durable; size Medium.                                                                       | 30                         |
| Overalls (Reusable)             | Cotton/polyester blend; washable; durable; size Large.                                                                        | 30                         |
| Overalls (Reusable)             | Cotton/polyester blend; washable; durable; size XL.                                                                           | 30                         |
| Overalls (Reusable)             | Cotton/polyester blend; washable; durable; size XXL.                                                                          | 30                         |
| Overalls (Reusable)             | Cotton/polyester blend; washable; durable; size XXXL.                                                                         | 30                         |
| Overalls (Reusable)             | Cotton/polyester blend; washable; durable; sizes XXXL.                                                                        | 30                         |
| Tyvek Disposable Coveralls      | Lightweight, hooded; fluid-resistant; EN 14126 standard; sizes M–XXL.                                                         | 50                         |

|                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                      |
|---------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| Knapsack Pumps (Snapsack)                               | Backpack sprayer, 15L; HDPE tank; chemical-resistant seals; adjustable nozzle.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 40                   |
| Hand Sprayers (Portable)                                | Handheld sprayers, 1–2L; chemical-resistant; for small-scale disinfection.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 10                   |
| Disinfectant (Approved for FMD)                         | Sodium carbonate / citric acid / FAO-approved virucidal disinfectants; 20L drums or 25–50 kg bags.                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Stock: 200L + 100 kg |
| Portable Incinerator (Waste Disposal)                   | Mobile, skid-mounted; diesel/LPG-fired; 50–100 kg/hr; dual-chamber $\geq 850^{\circ}\text{C}$ & $1100^{\circ}\text{C}$ ; smokeless; trailer-mountable.                                                                                                                                                                                                                                                                                                                                                                                                                      | 10                   |
| Biohazard Waste Bins                                    | Heavy-duty, color-coded (yellow/red) pedal bins; $\geq 50\text{L}$ ; UN-standard for infectious waste.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 15                   |
| Sharps Containers                                       | Puncture-proof containers; 5–10L; UN3291 compliant.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 20                   |
| Heavy-duty Waste Bags                                   | Color-coded (red/yellow) infectious waste bags; 50–70L; $\geq 200$ microns thick.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 200                  |
| Cold Box / Vaccine Carriers                             | WHO PQS compliant; 20–40L; $\geq 48\text{h}$ cold life.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 10                   |
| Refrigerator (Vaccine Grade)                            | $2-8^{\circ}\text{C}$ ; $\geq 300\text{L}$ ; digital temp monitor; lockable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1                    |
| Animal Restraining Equipment                            | Ropes, halters, crush pen (portable if available), gloves.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 10 sets              |
| Sampling Kits                                           | Sterile swabs, sample tubes, viral transport medium, ice packs, labels.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 50 kits              |
| Record Books & Forms                                    | Border movement registers, inspection forms, biosecurity checklists.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 50                   |
| Biosecurity Signage                                     | Weatherproof reflective signs ("FMD Control Zone", "Disinfection Point", ); $\geq \text{A2}$ size; English,                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 25 sets              |
| Biosecurity Signage                                     | Weatherproof reflective signs ("FMD Control Zone", "Disinfection Point", ); $\geq \text{A2}$ size; Afrikaans,                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 25 sets              |
| Biosecurity Signage                                     | Weatherproof reflective signs ("FMD Control Zone", "Disinfection Point", ); $\geq \text{A2}$ size; Damara,                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 25 sets              |
| Biosecurity Signage                                     | Weatherproof reflective signs ("FMD Control Zone", "Disinfection Point", ); $\geq \text{A2}$ size; Oshiwambo,                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 25 sets              |
| Biosecurity Signage                                     | Weatherproof reflective signs ("FMD Control Zone", "Disinfection Point", ); $\geq \text{A2}$ size; Lozi,                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 25 sets              |
| Biosecurity Signage                                     | Weatherproof reflective signs ("FMD Control Zone", "Disinfection Point", ); $\geq \text{A2}$ size; Herero,                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 25 sets              |
| Drive-through Vehicle Wash Bay (100 Truck Capacity/Day) | Industrial-grade automated vehicle disinfection unit; reinforced concrete base with non-slip finish; high-pressure spray arches with $\geq 20$ nozzles (side + undercarriage coverage); flow rate $\geq 100$ liters/minute; integrated disinfectant mixing & dosing system (0.5–2% solution adjustable); water recycling & filtration system ( $\geq 80\%$ reuse); corrosion-resistant piping; control booth with automatic sensors (motion or axle count); drainage system with lime-treated soak-away pit; designed for $\geq 100$ heavy trucks/day continuous operation. | 3                    |
| Footbaths (Disinfection Trays)                          | Clear or white heavy-duty PVC, fiberglass, or rubber trays; minimum size $120 \times 60 \times 10$ cm (large enough for full boot immersion); non-slip base; chemical-resistant; easy to clean and refill;                                                                                                                                                                                                                                                                                                                                                                  | 20                   |
| Traffic Cones / Barriers                                | Orange Heavy-duty, weather-resistant cones & barriers for lane control; reflective for night visibility.                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 20                   |

|                                       |                                                                                                                                                                                                                                |         |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Portable Tents / Shade Sheds          | For staff protection during inspections; UV-resistant, waterproof; 3 × 3 m minimum.                                                                                                                                            | 2       |
| First Aid Kits                        | Standard kits with PPE for staff injuries; biohazard spill kits included.                                                                                                                                                      | 2       |
| Fire Extinguishers                    | ABC dry powder type; 5–10 kg; for chemical or electrical fires in wash bay and storage.                                                                                                                                        | 4       |
| Measuring Cylinders / Dosing Pumps    | For accurate disinfectant preparation; chemical-resistant; 1 Liter.                                                                                                                                                            | 15      |
| Measuring Cylinders / Dosing Pumps    | For accurate disinfectant preparation; chemical-resistant; 5 liter.                                                                                                                                                            | 15      |
| Measuring Cylinders / Dosing Pumps    | For accurate disinfectant preparation; chemical-resistant; 10 Liter.                                                                                                                                                           | 15      |
| Water Tanks                           | For wash bay and footbath top-up; 5,000 L; corrosion-resistant; lockable.                                                                                                                                                      | 10      |
| Portable Lighting / Floodlights       | LED floodlights for night operations; battery or solar-powered; weatherproof.                                                                                                                                                  | 15      |
| Spray Nozzles / Hoses                 | Spare nozzles & hoses for wash bay and knapsack pumps; chemical-resistant.                                                                                                                                                     | 30 sets |
| Hoses, seals, nozzles, pistons        |                                                                                                                                                                                                                                |         |
| Disinfectant Test Strips              | Chemical-specific strips to measure concentration of sodium carbonate, citric acid, or other approved FMD disinfectants; rapid colorimetric reading; durable; waterproof packaging; shelf-life ≥ 12 months, 50 strips per pack | 10 sets |
| Raincoats                             | Blue Waterproof, lightweight, and durable; full-length with hood; chemical-resistant coating (PVC or similar); size Small                                                                                                      | 10      |
| Raincoats                             | Blue Waterproof, lightweight, and durable; full-length with hood; chemical-resistant coating (PVC or similar); Size Medium                                                                                                     | 10      |
| Raincoats                             | Blue Waterproof, lightweight, and durable; full-length with hood; chemical-resistant coating (PVC or similar); Size Large                                                                                                      | 10      |
| Raincoats                             | Blue Waterproof, lightweight, and durable; full-length with hood; chemical-resistant coating (PVC or similar); Size XXL                                                                                                        | 10      |
| Raincoats                             | Blue Waterproof, lightweight, and durable; full-length with hood; chemical-resistant coating (PVC or similar); Size XXXL                                                                                                       | 10      |
| Hats                                  | Blue Wide-brim or peak cap; lightweight, breathable fabric; UV-resistant; adjustable size; durable for outdoor use.                                                                                                            | 40      |
| Protective Eye Goggles / Face Shields | Chemical-resistant; for spray operations.                                                                                                                                                                                      | 20      |
| Emergency Spill Kits                  | Absorbent pads, containment booms, neutralizers for chemical spills.                                                                                                                                                           | 10      |
| Barcoding / Labelling Materials       | For sample labelling in outbreak investigations; waterproof labels. 200 labels per roll                                                                                                                                        | 2 rolls |
| Portable Generator Fuel Storage       | Lockable tank; 200–500 L capacity; for backup generator re-fuelling.                                                                                                                                                           | 5       |

|                              |                                                                                                                                                                                                                                                                                                                                         |     |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Posters                      | Laminated, weatherproof PVC, size A1 (59.4 × 84.1 cm); full-color; UV-resistant ink; reinforced holes for hanging                                                                                                                                                                                                                       | 50  |
| Leaflets / Pamphlets         | A5 size (14.8 × 21 cm); printed on 200 gsm glossy paper; double-sided; foldable; moisture-resistant coating                                                                                                                                                                                                                             | 500 |
| Banners / Roll-up Stands     | Outdoor vinyl banners; size 2 × 3 m; full-color; UV- and water-resistant; reinforced hem with grommets for easy mounting;                                                                                                                                                                                                               | 5   |
| Probang for Cattle and Sheep | Multi species probang<br>Flexible, Stainless steel, Length 1.5-2 meters,<br>Diameters 10-15mm,<br>Handle is rounded and fixed at one end for grip,<br>Distal end is a cup or probang head<br>Durable for repeated use                                                                                                                   | 2   |
| FMD Sampling kit             | Sampling kits content<br>Scalpel Blade<br>Probang cup<br>Sterile syringes<br>Vacutainer tubes plain Yellow/Red for serum collection<br>EDTA (Purple top) for Whole blood<br>Sterile Swabs with Viral Transport medium<br>Sterile Containers/ cryotubes 15ml for vesicular fluid or tissues<br>Ready to use Viral Transport Medium (VTM) | 50  |
| 3-layer package container    | UN 2900 Infectious Substance Category A<br>P620 for Category A for Infectious Substances<br>Complete with 1 X canister<br>As per international transport regulations (WOAH/IATA)<br><br>Width 11cm<br>Length 11cm<br>Height 18.5cm                                                                                                      | 50  |
| 3-layer package container    | UN 2900 Infectious Substance Category A P620<br>for Infectious substances Category A Complete<br>with 1 X 500ml canister and space for<br>Approximately 3kg ice<br><br>Width 23cm<br>Length 23cm<br>Height 27.5 cm                                                                                                                      | 50  |
| 3-layer package container    | UN 3373 Biological Substance Category B<br>P650 for Category B infectious substances assigned to<br>UN3373<br>Complete with 1 X 500ml canister and space for<br>Approximately 3kg ice<br><br>Width 23cm<br>Length 23cm<br>Height 27.5 cm                                                                                                | 50  |
| Canisters                    | Pressure Canister (0.95Kpa) 1.5L, Round Red top and white container with Foam insert for 1.5l pressure canister                                                                                                                                                                                                                         | 100 |

## 7. INSTRUCTIONS FOR DEALING WITH A PONTENTIAL MAJOR THREAT / SUSPECTED CASE AND OR CONFIRMED OUTBREAK OF FMD

Potential major threats in this context refer to any circumstances that may potentially cause an outbreak such as:

- i. An incursion or sighting of potentially infected African buffaloes into the FMD protection or FMD free zone
- ii. The illegal movement or straying of susceptible animals or potentially infected material from an infected zone or country into the FMD protection zone or FMD free zone.
- iii. The illegal movement/importation or straying of susceptible animals or potentially infected material from a protection zone into the free zone
- iv. An FMD outbreak in a neighbouring country where there is potential for spread into Namibia
- v. Any other circumstances which DVS will consider to constitute a potential risk of an outbreak.
- vi. A suspect case or confirmed outbreak is defined in terms of the case definition in chapter 1 of this plan. Not all the guidelines outlined below will be applied every time such a threat occurs. The response will be measured according to the size of the threat.

### 7.1 Communication hierarchy

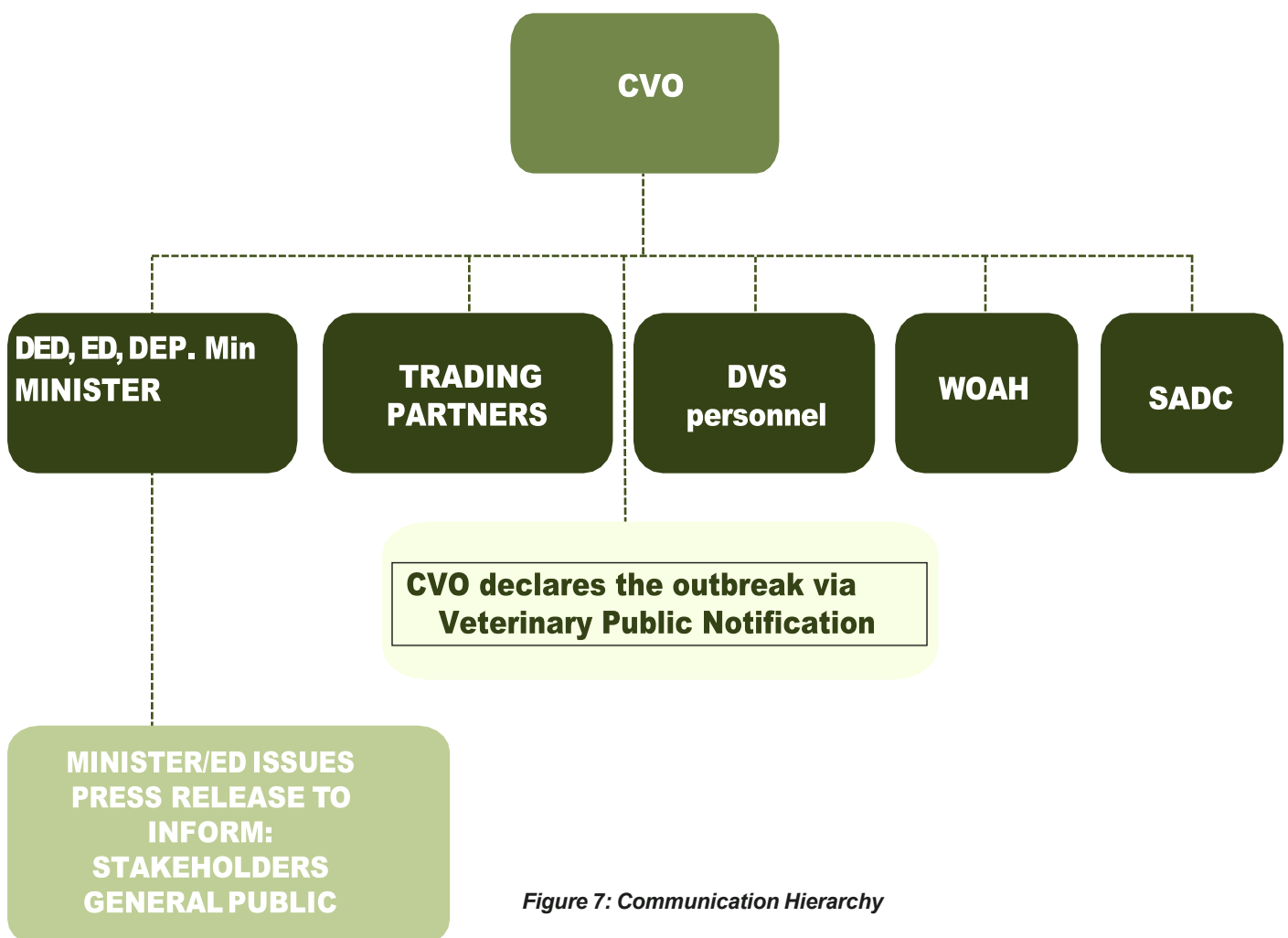


Figure 7: Communication Hierarchy

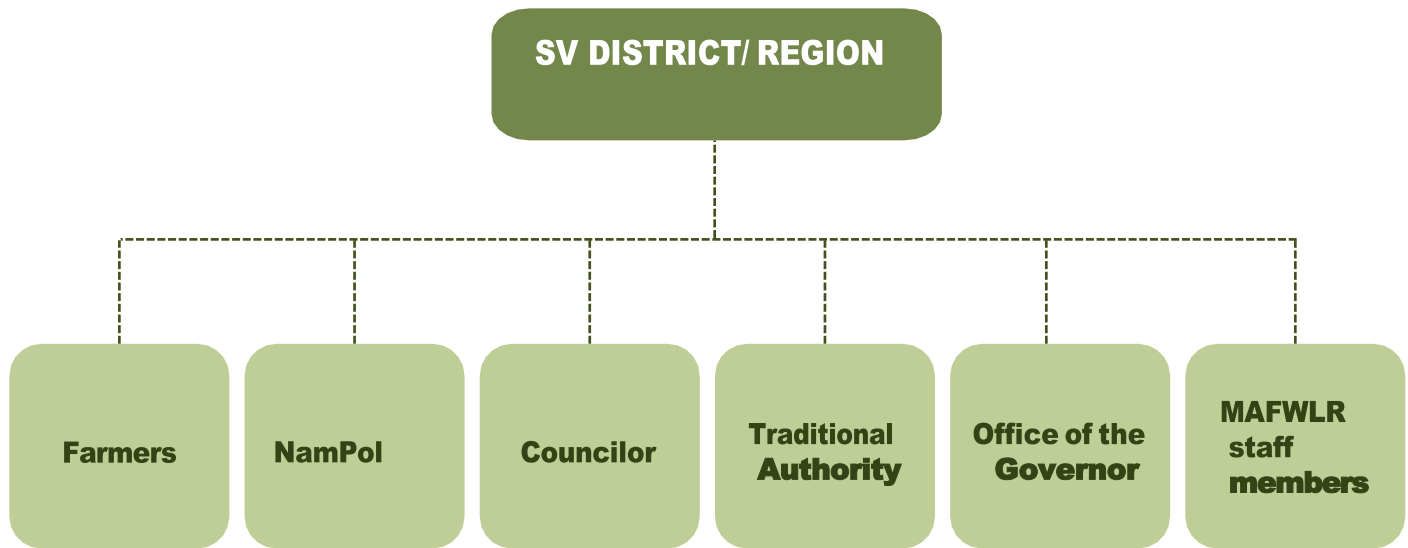
## 7.1.1 Reporting

- i. Foot and Mouth Disease is a notifiable disease, under the Animal Health Act No 1 of 2011. In the event that the disease is suspected, the State Veterinarian carrying out the investigation shall notify the Chief Veterinary Officer through his/her Chief Veterinarian and the Deputy Chief Veterinary Office. In the case of a private veterinarian or person responsible for the animals, he/she shall within 24 hours report his/her suspicion to the nearest State Veterinarian to the Chief Veterinarian responsible for the area.
- ii. The Chief Veterinary Officer shall inform the Minister through the Executive Director.
- iii. Press Release/Public Notification: -The CVO or the Minister of Agriculture, Fisheries, Water and Land Reform on the recommendation of the CVO, will be responsible for the release of press release. This press release will of necessity announce inter alia - the suspension of all movements of cloven-hoofed animals and/ or products as well as other potentially infectious things, including the cancellation of permits or certificates already issued for imports, internal movements of livestock, potentially infectious things, export permits for animals or animal products); laboratory results; announcement of restriction zones. The content of the press release shall be sent to all Veterinary Offices through an internal memorandum first before it is made available to the public.
- iv. The CVO prepares the Government Gazette in which the restricted/quarantine areas are clearly indicated including all other control measures for the outbreak.
- v. The Chief Veterinary Officer shall inform other government O/M/A whose assistance may be required (e.g., the MEFT, police, customs), through the Executive Director and the Minister.
- vi. The CVO shall inform CVOs of SADC - countries - Contact details are
- vii. The Chief Veterinary Officer shall inform the WOAAH - First notice of suspicion - then confirmation - Fortnightly reporting afterwards.

Example: Refer to WOAAH format

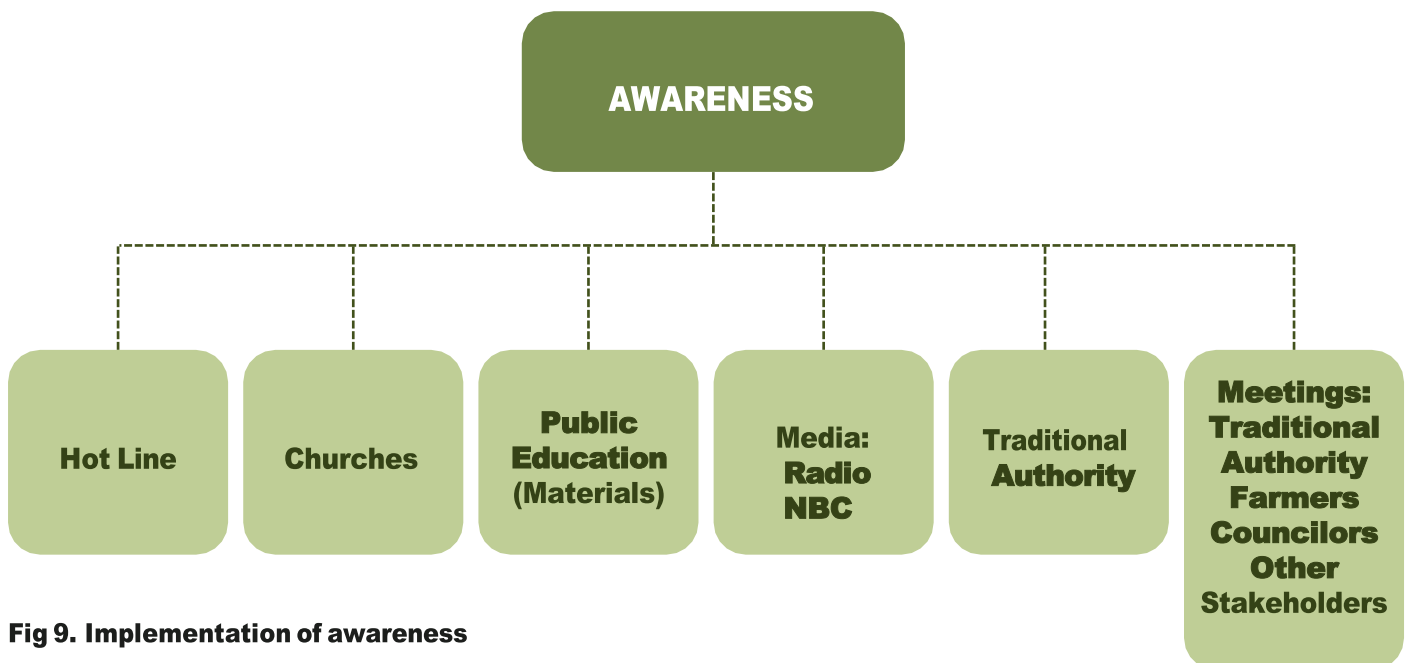
- Outbreak or case - Disease - Affected species - Number of affected animals (per species)
- Clinical diagnosis - Laboratory diagnosis - Identified type (s) of virus
- Geographical localization: farm, village, district, province, etc., or geographical co-ordinates (longitude - latitude)
- Seriousness - Measures applied (sanitary and/or veterinary)
- Signature (code telegraphic address)

- viii. Veterinary directorates in neighbouring RSA/Botswana/Angola/Zambia/Zimbabwe are to be informed immediately telephonically - to allow them for protection of their borders.
- ix. European Commission (local office) / Switzerland / Norway and any other trading partners
- x. Follow-up reports shall be done in accordance with WOAAH guidelines.
- xi. The affected State Veterinary Offices shall provide to the CVO through their respective Chief Veterinarians/DCVOs during the first two weeks a daily report and subsequently a weekly report during the course of the outbreak.
- xii. The Chief Veterinary Officer shall at least on a monthly basis update State Veterinary office, farmers and the general public as well as all relevant stakeholders including the Animal Health Consultative Forum, Farmers Unions, LLPBN, MeatCo, FM, auctioneers and transporters as well as the general public,
- xiii. At regional level the local State Veterinarian shall convene meetings after the public notification / press release has been communicated. The meetings shall be attended by all relevant stakeholders in the region which include, but not limited to the following: Regional Governor, Regional Council, MAFWLR Directorates, Farmers Unions, Meat Processors, Auctioneers, Customs and Excise, Namibian Police, Traditional Authorities and others.



**Figure 8. Communication at Regional level**

Awareness at all levels is critical in order to get cooperation from stakeholders who are necessary for control measures and the passive surveillance system.



**Fig 9. Implementation of awareness**

Communication of laboratory results shall be to the following: Chief Veterinary Officer, Chief Veterinarian, State Veterinarian and FMD Emergency Unit. The FMD Emergency Unit consists of the following thematic groups: Logistics, Information Management, Surveillance and Vaccination and Movement Control.

Communication of the FMD results to the farmer, especially at the beginning of the outbreak should be intensified amongst farmers and general public.



**Fig 10. Communication of Laboratory results**

## 72 Sampling Method

The State Veterinarian (SV) carrying out the initial investigation is responsible for sampling. It is imperative to serotype the FMD virus at the beginning of the outbreak, thus state veterinarians shall ensure that adequate tissue samples have been collected and sent to CVL.

Sampling for FMD serotyping should be conducted from the new cases that are at least 10 - 20 km from the already typed cases.

### 721 Samples types

Suitable samples for virus isolation are epithelium and vesicular fluid from unruptured and ruptured vesicles (a suggested minimum of 2 cm<sup>2</sup> of fresh tissue from recently affected areas), (Transport buffer pH 7.2.-7.6), probang and whole blood.

Tissues such as muscle and lymph nodes from infected animals may contain virus but the amount of infectivity may be insufficient to isolate virus or identify antigen by in vitro procedures and, as negative results may be misleading, such specimens are not accepted for investigation.

Sera only should be sent for estimation of virus antibody levels.

#### 721.1 Epithelium/vesicular fluid

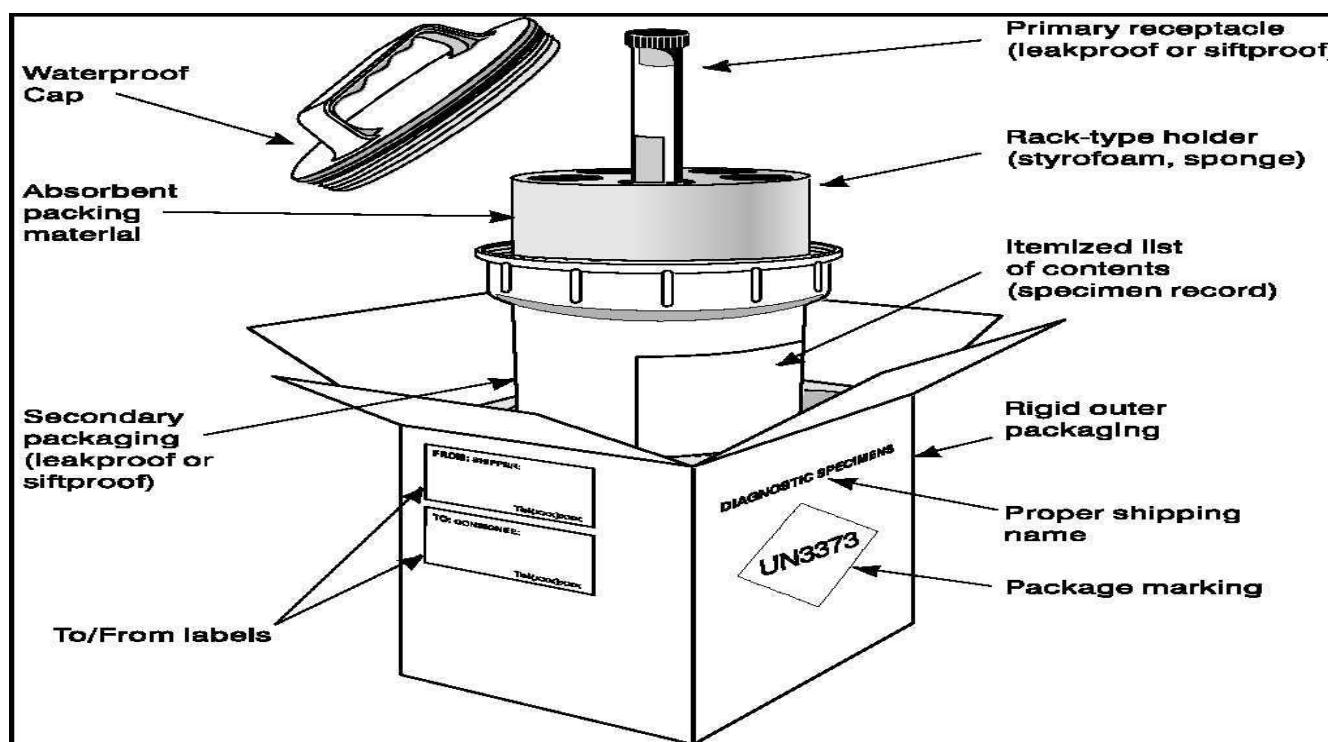
##### a. Collection

Specimens should be suspended immediately in a mixture of equal amounts of transport medium with pH 7.2-7.6 to prevent loss of infectivity of samples. Specimens should be kept refrigerated or on ice until received by the laboratory

## b. Packaging

Specimens should always be packaged and transported to protect the integrity of the specimens. The basic principle of the three-layer system should be used. The three-layer system consists of the following elements:

- a leak-proof primary receptacle(s) (avoid glass containers);
- a leak-proof secondary packaging (e.g. plastic container or tight plastic bag); and
- an outer packaging of adequate strength for its capacity, mass and intended use, and with at least one surface having minimum dimensions of 10 cm x 10 cm; (e.g. plastic envelope or box, cardboard box, plasticised paper envelope). Paper envelopes for letters are not considered as suitable outer packaging.



**Figure 11. Category B, "650 package" UN 3373**

For liquids, absorbent material in sufficient quantity to absorb the entire contents should be placed between the primary receptacle(s) and the secondary packaging so that, during transport, any release or leak of a liquid substance will not reach the outer packaging and will not compromise the integrity of the cushioning material. Different types of absorbent material can be used (e.g. paper towels, household paper, toilet paper or any other suitable material).

## 7212 Probang samples

### a. Collection

Prior to sampling, a 2 ml amount of transport medium (TM) should be added to one falcon tube or similar container for each of the animals to be sampled. Each falcon tube should be identified with a waterproof label. After collection, the sample should be poured from the "probang" cup into a wide-necked bottle and examined visually for quality. Two (2) ml, which should contain some visible cellular material, should then be added to the previously prepared falcon tube containing an equal volume of TM and thoroughly mixed by gentle shaking.



**Figure 12: Collection of Probang Samples**

Samples taken from some animals may be heavily contaminated with ruminal contents – these should be discarded and the animal's mouth should be flushed with water or physiological saline solution before repeat sampling.

Between collections from each animal, probangs should be disinfected in a bucket containing 4% Sodium carbonate (also known as washing soda,  $\text{Na}_2\text{CO}_3$ ) or 0.2% citric acid.

After disinfection, the probang should be thoroughly rinsed in running tap water or at least three separate buckets of clean water placed in series.



**Figure 13: Buckets for Cleaning Probang Cups**



**Figure 14: Cryo-Shipper**

## **b. Packaging**

It is important to avoid refreezing and thawing at any stage, so packing should be done quickly and complete packages should be kept at -70°C or lower.

The outside of the tube with probang sample should be disinfected by immersion in 4% Na<sub>2</sub>CO<sub>3</sub> or 0.2% citric acid, dried off, labelled and then frozen immediately. For shipment Liquid Nitrogen tank/Dry Shipper or Dry Ice can be used.

### **7213 Whole blood (EDTA) and Serum**

## **c. Collection**

2x EDTA blood and 2x Serum and x2 probang samples. The outside of the vacutainer tube should be disinfected by immersion in 4% Na<sub>2</sub>CO<sub>3</sub> or 0.2% citric acid, dried off and labelled. Specimens should be kept refrigerated or on ice until received by the laboratory

## **d. Packaging**

Specimens should always be packaged and transported to protect the integrity of the specimens. The basic principle of the three-layer system should be used as described above.

### **7214 Documentation and labeling**

The submission form, with information and case history, sent with the specimens should be placed in a plastic bag between the secondary and the outer packaging and on the outside of the consignment. Individual specimens should be clearly identified using appropriate methods:

- a. The animal identification (ID) should be indicated on the leak-proof primary receptacle.
- b. The specimens on the outer packaging must be clearly labelled "URGENT RED!"
- c. Instruct not to be opened

NB!! Urgent red means suspected FMD specimens!

Labelling should withstand the condition of use, i.e, being wet or frozen.

NB! Package must be sealed with appropriate seals and accompany by a red cross permit.

## **73 Dispatch of specimens to Laboratories**

### **(i) Communication**

Prior sending the specimens to the Central Veterinary Laboratory, the State Veterinarian (SV) will notify the Chief Veterinarian (CV) responsible for Diagnostic Services and Research. The head of CVL (DCVO), will be informed by the CV. The SV should arrange to drive or fly in the specimens to CVL. CV responsible will ensure that the specimen will be received and or collected timely.

Initial epithelium, vesicular fluid, probang and whole blood specimens to confirm the disease outbreak will be immediately forwarded to Botswana Vaccine Institute (BVI) and subsequent samples will be forwarded to Onderstepoort Veterinary Institute (OVI). Tissue samples for vaccine matching will be sent to the World Reference Laboratory in Pirbright Institute, UK. Sera samples will be subjected to NSP-ELISA at CVL. All the NSP-ELISA positive at CVL and suspicious specimens will be sent for further confirmation with LPBE/ VNT to OVI only (Laboratories must be notified in advance).

Central Veterinary Lab  
24 Goethe St  
P/Bag 13187  
Windhoek

Tel +26461-237684/5/6, Fax +26461221099/  
Cell: +264 81 129 4066 or +264 81 127 6561  
Email: Juliet.Kabajani@mawlr.gov.na or  
Georgina.Zaireg@mawlr.gov.na

Botswana Vaccine Institute  
Private Bag 0031  
Gaborone  
Botswana

Tel. + 267 - 312711  
Onderstepoort Veterinary Institute  
Private Bag X05  
Onderstepoort 0110  
Tel. + 27-12-5299111

## 74 Disinfection Procedures

Disinfection must be done before leaving each inspection site. Disinfection should always be done thoroughly, since staff may visit a number of establishments/holdings during a single day.

Proper disinfection of all utensils/equipment, protective clothing, boots hands etc and wheels of vehicles depending on where they were parked before departure is required. Disinfection procedures for vehicles transporting animals are to be done according to instructions in the DVS circular no. V11/2004.

First clean all the equipment and vehicles by removing organic and inorganic materials followed by liberal application of disinfectant.

Note: Dissolve 500 gram washing soda in 10 litres of water for disinfection after samples have been taken. If one does not have the recommended disinfectant (washing soda) at the time of initial tentative clinical diagnosis, household chemicals such as 0.2% citric acid acetic acid (2%) and Sodium Hypochlorite 3 % solution (household bleach) can be used.

### Other Suitable Disinfectants:

Inactivated by sodium hydroxide (2%), sodium carbonate (4%), citric acid (0.2%), acetic acid (2%), sodium hypochlorite (3%), potassium peroxymonosulphate/sodium chloride (1%), and chlorine dioxide.

**Table 10: Other Disinfectants Suitable to inactivate FMDv**

| PRODUCT                                                          | DILUTION | MIXING INSTRUCTIONS                                                           | NOTES                                     |
|------------------------------------------------------------------|----------|-------------------------------------------------------------------------------|-------------------------------------------|
| 5.25% Sodium Hypochlorite (NaOCl) (household bleach)             | 3%       | Mix at a ratio of 3:2 i.e. 3 litres of household bleach to 2 litres of water. |                                           |
| Citric acid                                                      | 0.2%     | Use plain household vinegar                                                   | Vinegar is a 4-5% solution of acetic acid |
| Acetic acid                                                      | 2%       |                                                                               |                                           |
| Potassium Peroxymonosulphate and Sodium Chloride (i.e. Virkon-S) | 1%       | Follow label directions.                                                      | Virkon-S                                  |

Source: [hMp://www.oie.int/animal-health-in-the-world/technical-disease-cards/](http://www.oie.int/animal-health-in-the-world/technical-disease-cards/): accessed on 7 October 2014.

The FMD virus is resistant to iodophores, quaternary ammonium compounds, and phenol, especially in the presence of organic matter, and should therefore not be used.

If one is unable to get any of the above, it is advised to clean up the vehicle, shoes, utensils etc using lots of water removing all animal excretions and secretions. Water temperature of above 60°C is recommended. One then proceeds to the office using the shortest possible route but avoiding livestock populated areas as much as possible. Upon arrival at the office, one then proceeds to disinfect immediately using washing soda. Materials for this purpose must be assembled by those at the office.

## 75 Instructions

Following an outbreak (suspected, probable or confirmed) the CVO will immediately announce the designated restricted areas which include the infected property, containment zone and the game compartment (refer to map in fig 3 and fig 4 below for illustrations). Measures to be imposed in the respective restricted areas are provided in section 7.5.1 through to 7.5.14 below.

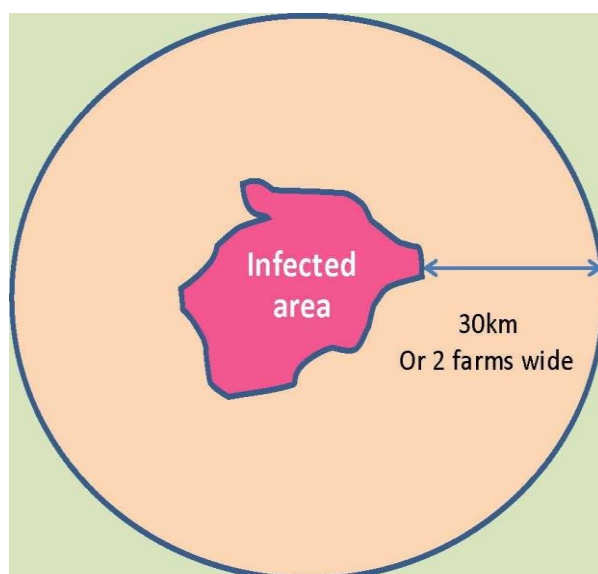
### 751 Surveillance

In the event of the suspicion of clinical FMD, active surveillance (case search and conduct tracing, sampling of the suspicious for laboratory diagnosis etc) must be implemented to determine the source and extent of the spread of the infection. Farmers and other stakeholders must be sensitized about the disease in order to feed into the passive surveillance system.

Two or more surveillance teams will operate separately towards the infected focus. Some teams will be closer while the other teams will operate from the outside perimeter of the focus. After the source and the extent of the spread of the infection has been determined, the CVO will immediately announce the designated restricted areas which include (refer to the diagram in fig 14 below for illustrations):

- The containment zone within which the infected focus is located (in case of Free and Protection zones);
- Containment area within which the infected focus is located (in case of the Infected Zone).

A containment zone / area can also be referred to as a Disease Management Area (DMA) or Disease control area. The demarcation for movement restriction on NamLITS will be done in such a way to restrict movements within 30KM radius from the periphery of the foci.



**Fig 15: Diagrammatic presentation of DMA following an FMD outbreak.**

- i. Free zone: In the event of an outbreak of Foot and Mouth Disease in the Free Zone (which includes the former surveillance zone) an immediate moratorium on all movements of cloven-hoofed animals will be imposed throughout the country initially.
  - ii. This is because movements from the Free Zone are permitted to all parts of the country. This ban will be announced through a Ministerial Press Release. Relaxation on movement restrictions will be effected in stages once the size and extent of the outbreak is established.
- In the event of limited outbreaks within a FMD Free Zone, including within a Protection Zone, with or a single containment zone, which includes all outbreaks, may be established for the purpose of minimizing the impact on the entire zone
- iii. Infected and Protection zones: If the outbreak is in the infected and protection zones movement restrictions will also be announced but will not necessarily cover the whole country but may involve the whole zone.
  - iv. Information on movements to and from the infected establishment/holdings must be compiled from the NamLITS database. This information must then be captured in the weekly update reports.
  - v. Implement permit control for other potentially infectious things. A permit system for commercial commodities shall be made available for movement of commodities.
  - vii. Enquire about all movement of products from the infected focus e.g. milk, meat, cream, hides, vehicles, people etc.
  - viii. Farms with bio-security features that meet compartmentalization guidelines must be

## 752 Trace Back Inspections

- (i) Trace back: Three inspections (day 0, day 14 and day 28) of all cloven-hoofed animals at an establishment/holding including auctions/ gathering points according to the procedure highlighted on point 7.5.14 14 days apart on all establishment/holding which moved animals to the infected property during the period of the previous month.
- (ii) In the free zone if both inspections are clinically negative, the movement restrictions are lifted.
- (iii) Trace back inspections should include all contact movements that occurred in the previous month in order to establish the source and time of first infection.
- (iv) Fortnightly hoof/mouth-inspections continue (with suspension of movements) on all such establishment/holding until one month has expired since the estimated time of initial outbreak.
- (v) If infection is detected the whole process is repeated with a new estimated date of first infection.

## 753 Trace Forward Inspections

- i. 100% inspection according to the procedure 7.5.14 on all establishment/holding of destination
  - i.e. 2nd and 3rd establishment/holding including auctions/gathering points of destination as well
  - if such movements have taken place during the said month.
- ii. Hoof inspections every week continue on all these establishment/holding for a month following the outbreak.

## 754 Actions at Focus (foci) of Infection

### **Focus of infection refers to establishment/holding (s) where:**

- Clinical disease or infection is detected or
- Direct contact occurred or
- Infected animals have moved

In the commercial farming areas, a farm is defined as an Establishment registered on the NamLITS database. For disease surveillance purposes it is regarded as an epidemiological unit.

In the communal areas, a Holding/Establishment shall be defined from epidemiological Ministry of Agriculture, Fisheries, Water and Land Reform | National FMD Contingency Plan | CIRCULAR: V3/2026

considerations following an outbreak. In general, focus of infection will be demarcated by natural boundaries such as rivers, mountains, forests, uninhabited, etc. In commercial and communal areas without natural boundaries main roads, fences will be used as a means of demarcation.

- i. The infected Holding/Establishment will be cordoned off by locking gates on all exit- roads from the farm(s) and movement in or out will be strictly controlled. Vehicles and people leaving the farm(s) will be properly disinfected. No infectious materials will be allowed to leave (see Animal Health Act, 2011 (Act No 1 of 2011))
- ii. In communal areas where possible, the use of rapidly deployable, temporary, portable electric fences may be used to cordon off/separate infected or potentially infected animals from the rest of the livestock population.
- iii. DVS in consultation with other government offices shall ensure that provision of water for animals restricted for the purpose of containment of the outbreak is available. This is particularly important in communal areas where animals share water and grazing resources. This may therefore entail the construction or rehabilitation of boreholes, transportation of water or fodder to ensure that pressure to move animals for these purposes is minimized.
- iv. All domestic cloven-hoofed animals from camps on the perimeter of the farm(s) will be moved to the central parts of the properties where possible. This will minimize the risks of contact between animals of neighbouring farms.
- v. If possible, personnel will be deployed every 2 km on the periphery of the infected properties as part of the cordon. At each spot 4 man will be deployed with camping equipment (tent, torches, water). In addition, casual labourers will be hired for the purposes of establishing a human cordon.
- vi. Follow-up visits to the infected holding/establishment will depend on strategies adopted whether stamping out is applied or not. If the outbreak is of a limited nature, then stamping out will be considered.
- vii. (vii) If the outbreak is extensive making stamping out unviable, then ring or mass vaccination will be considered as an alternative

### **755 Containment Zone/Area Around the Infected Focus (Foci)**

- Create temporary containment zone around the infected area with a radius of approximately a minimum 30-km or at least two farms wide from the periphery of the infected property/area.
- All exits on this perimeter will be controlled - same requirements as for clause 7.5.4 No movements of cloven-hoofed animals / restricted materials will be allowed within, into or out of this area until further notice.
- Factory processed products for personal use may be allowed without a permit: factory cheese, butter and pasteurized milk etc. For commercial purposes a special permit issued by DVS will be required  
- (refer to Annex 12). Movements of goods within the containment zone will be determined by CVO through a VPN.
- Movements across borders at official border posts or designated entry/exits points shall be controlled. Adequate staff levels are needed i.e., minimum of nine staff for 12-hour and minimum of 12 staff for 24-hour crossing points. The list of official border posts are appended in Annex 10, while the list of designated entry/exit points along the northern border with Angola are in Annex 11. Adequate Namibia Police officials need to be deployed at all Ports of entry to ensure enforcement during the outbreak.

### **756 Determination of Extent of infection**

#### **(i) Establish programme along the following lines:**

In commercial areas, determine the number of farms inside the circle (30km) – excluding infected area and calculate roughly 3 farms per AHT per day e.g.: 25 AHT: duration 4 days :300 farms. In communal areas the inspections should be done from kraal-to-kraal as far as possible. Where feasible solicit for the support of farmers in carrying out the inspections.

**(ii) Animals are to be mouthed from the perimeter of the containment zone towards the infected focus.** The "final" containment will be established with a minimum radius of 30 km for communal areas and or 2 farms for commercial areas, around the infected focus.

- a. Aim for 100% mouthing of cattle (attention to small stock & pigs where relevant)
- b. As soon as infection is detected, mouthing is stopped and the exercise is repeated again starting on the perimeter of the containment zone - so as to detect spread of the disease.

NB: Disinfection of personnel, overalls, vehicles etc each time prior to departing from holding/ establishment.

**(iii) Frequency of inspection in the containment zone: 7 Days interval for Foot inspection and mouthing when suspect animals are noticed.**

Frequency of Inspection in the Rest of the Game Compartment in which outbreak occurred. (Clarity needed as to why these are called game compartments).

Every two weeks to monthly (depending on risk from game movements) hoof inspections with mouthing for suspect animals.

[Rest of the country: as is normal for that area (annually)]

**757** Rest of the country (Inspection frequency "normal").

- Movement to other countries will be negotiated.
- Movements to Namibian quarantine / export abattoirs allowed
- Movements to areas under fortnightly inspections will be allowed subject to:
  - i. 100% mouthing of all animals moving
  - ii. Observation events to be created on the NamLITS for the animals not going for slaughter.
  - iii. 30 days restriction at destination with official uplifting. If this does not coincide with inspection it will be at owners' cost.
  - iv. SV destination telephonically or e-mail informed before movement takes place.

**758** Instructions for Abattoir State Veterinarians at Export Approved Abattoirs.

**The Abattoir State Veterinarian should:**

- Make sure that all vehicles coming in should have a valid cleaning disinfection certificate.
- Ensure that all staff involved in handling animals at the abattoir are informed to report any suspicion of vesicular disease.
- Investigate such a reported suspicion without delay, mouth all animals in the same consignment & make a tentative diagnosis.

**FMD suspicion by State veterinarian:**

- Stop all activities necessary to enable him/her to take samples etc.
- Alert the CVO through his/her Chief Veterinarian (for second opinion and if necessary to activate National Contingency plan).
- Inform the Establishment Manager about interim emergency measures.
- Inform the field State veterinarian of origin to investigate at farm of origin if "highly" suspicious.
- Suspend movement of all animal products, and waste material from the abattoir.
- As far as possible stop entry and offloading of animals into premises and must immediately inform livestock owners booked for slaughter not to bring animals.
- Create stations and ensure that disinfecting substances (e.g. washing soda) to disinfect shoes, protective clothing etc are readily available. (DVS staff supervising).
- Ensure proper cleaning and disinfection (washing soda) of slaughter facilities, equipment, lairages, etc. where and when necessary.
- Enforce strict movement restriction and disinfecting procedures for staff and people working with the animals (boots, hands, clothing etc).
- Identify all people who could have been in contact with suspicious animals (including agents, Ministry of Agriculture, Fisheries, Water and Land Reform | National FMD Contingency Plan | CIRCULAR: V3/2026

farmers, transporters, staff etc.) and instruct them to avoid handling of other animals (on farm etc.) for at least 72 hours.

- Call the Chief Veterinarian for assistance if necessary to expedite tracing or other procedures.

### **759 Vaccination and Clinical End Point (Inspections cease in containment/ infected areas during period of vaccination)**

- The area to be vaccinated must be defined after surveillance
- Animals in the Infected areas will be vaccinated
- In some instances, animals in the containment zone/ area if the risk is high must be vaccinated. Separate teams for Infected focus and Containment area can be used where appropriate but always vaccinate from the periphery inwards
- Implement primary vaccination at day zero and secondary vaccination four weeks later, followed by boosters every fourth month in high-risk areas
- Establish census of cattle from previous campaigns or NamLITS before vaccination
- All cattle must be vaccinated
- Vaccination programs must be distributed to all farmers
- All vaccinated cattle with ear tags must be recorded on the NamLITS and those without ear tags must be tagged and recorded on the NamLITS.
- Vaccinated cattle may be painted depending on the circumstances at hand to avoid duplication/confusion where appropriate
- Proof of vaccination with individual identification may be handed over to the owner after vaccination at the office on request.
- After vaccination and until clinical end point continue with inspections as before.
- In the infected and protection zones, the clinical end point is 1 month after 2nd vaccination with 100% mouthing.
- In the Free zone, the clinical end point is 1 month after 2nd vaccination with 100% mouthing and thereafter, inspection frequency then changes to fortnightly in the containment and infected areas and to monthly in the rest of the game compartments.
- The restrictions in the Infected and Protection zones may be lifted 2 months after 2nd vaccination,
- The restrictions in the free zone remain in place for 6 months after 2nd vaccination, with possible relaxation depending on circumstances.

### **7510 Post Vaccination Sero-monitoring**

Post vaccination sero-monitoring shall be done in order to assess response to vaccination and also determine herd immunity. It will be done at day 0, i.e., the date of vaccination, day 30 post vaccination and every 30 days until the day of the next booster. Sampling for post Vaccination monitoring can also be done at any interval in line with WOAH guidelines. The serum samples shall be sent to CVL for testing using Liquid Phase Blocking Elisa (LPBE).

### **7511 Livestock and Game Auctions/Shows**

- (i) When there is an outbreak in the FMD free zone there shall be a total embargo on all livestock and game auctions countrywide until further notice.
- (ii) After determination of containment and infected zones auctions may be allowed in those areas outside the affected game compartment - provided that no animals may be moved to or through the containment or infected zones. Route description is given where necessary.
- (iii) Discovery of infected animals at animal gatherings-All animals at the auction will have to be stamped out and buried/burned on site or where possible the animals may be sent to the nearest abattoir for slaughter and rendering. Stamped out animals will be compensated as per the provisions in the Animal Health Act 1 of 2011.

## 7512 Game

Total embargo on hunting is imposed until further notice except for trophy hunting which will only be allowed outside the containment zone/area. A veterinary movement permit is required for the movement of trophies and cloven-hoofed animals. These measures will also be carried out in consultation with Ministry of Environment, Forestry and Tourism.

A Ministerial decision will have to be made on what is to be done with FMD free buffalo at Waterberg National Park and Tsumkwe Research station in case there is FMD outbreak in the respective areas. (Also See Circular V11 of 2018)

## 7513 Animal Derived Products

Permit control immediately implemented for all products until further notice. Sterilized factory products and products originating from outside Namibia are exempted. Permit control may be exempted for certain areas following the determination of focus of infection.

## 7514 Inspection Procedure for FMD

### Field Inspection shall be carried out as follows:

- Owners of farms that are to be inspected shall be given prior notice of the inspection visit giving them adequate time to gather all their animals.
- Upon arrival at the farm discuss with the farmer the purpose of your visit and start your inspection by
  - i. obtaining detailed history in order to find out whether there were any clinical signs observed that are consistent with FMD.
  - ii. Before physical examination, observe the animals from a short distance-lookout for signs (limping, salivating, grinding teeth, dull, depressed). Observe the area around the hooves-are there any flies around that area. Start your inspection by first examining the suspicious animals. This will increase the chance of picking up the presence of the disease.
  - iii. Have the animals placed in a crush-pen and conduct the mouthing procedure-this should be done thoroughly with the animal under adequate restraint. Open the mouth of the animal and pull the tongue out and observe all buccal mucosal surfaces for FMD lesions-on top and under the tongue, on the gums and cheeks. Observe the feet concentrating on the interdigital spaces, the coronary band paying particular attention to the back of the hoof for the "sleeper effect." Clean the hoof if muddy to expose lesions.
  - iv. Beware that lesions are difficult to detect in small stock, therefore one has to be more thorough.
  - v. Estimate the age of the lesions. Estimating the Age of lesions is necessary in order to estimate the date of onset of the outbreak and to give insight into possible spread within the herd or to other properties. The table below is a guide to estimate the age of FMD lesions:

**Table 11: Ageing of FMD lesions**

| CHARACTERISTICS                                                                                               | APPROXIMATE AGE |
|---------------------------------------------------------------------------------------------------------------|-----------------|
| Un-ruptured vesicles, some fluid present, early signs of necrosis in overlying epithelium                     | 1 day           |
| Un-ruptured, fluid-filled vesicles, overlying epithelium necrotic                                             | 1-2 days        |
| Vesicles ruptured; erosions present with ragged portions of epithelium adherent to the margins of the lesions | 1-3 days        |
| Erosions with little epithelium attached, margins of lesions losing sharpness due to early healing            | <7-10 days      |
| Healing advanced with marked fibrous tissue in-filling                                                        | over 10 days    |

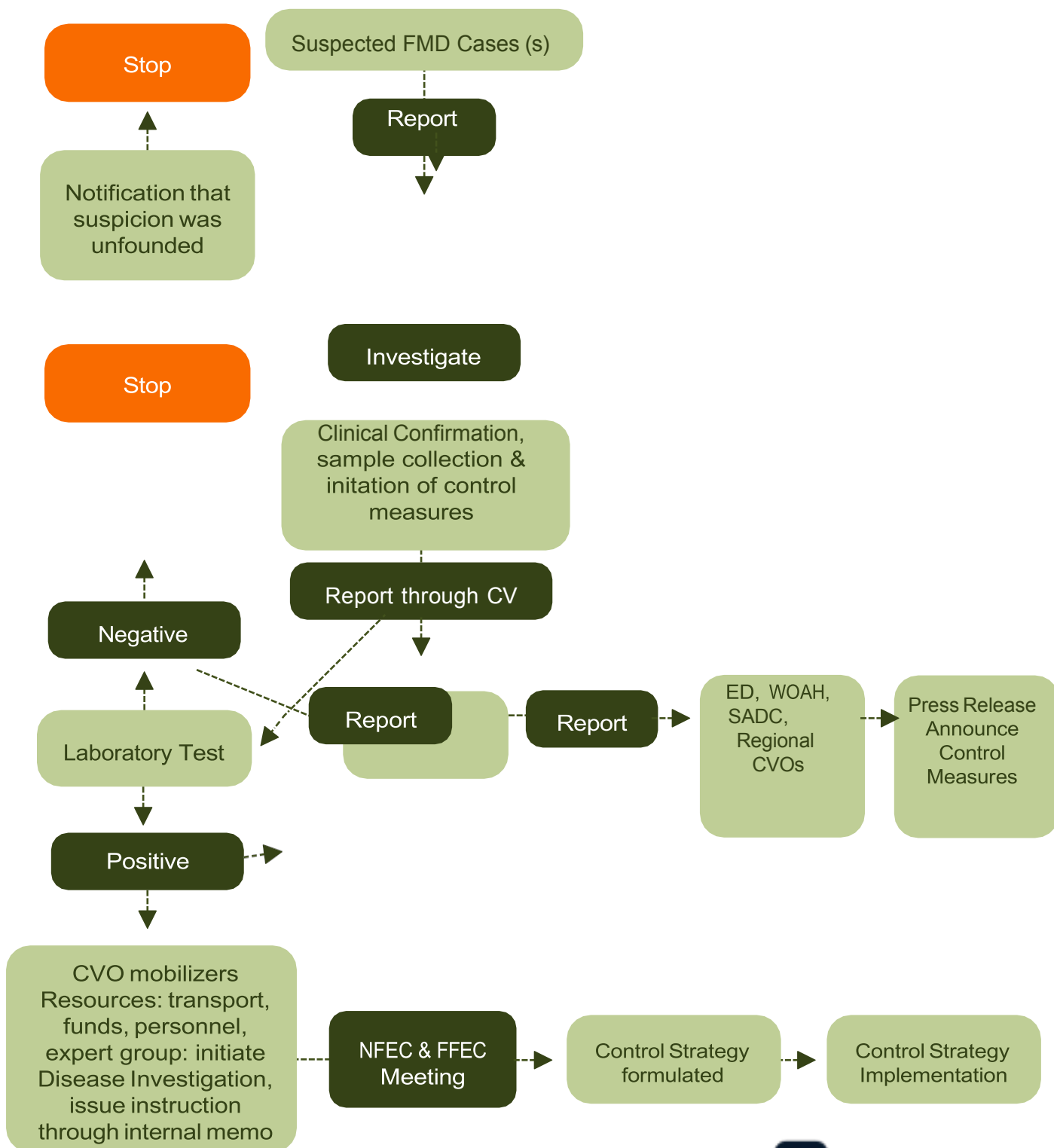
Source: [hMp://aleffgroup.com/avisfmd/A010-fmd/mod1/character.html](http://aleffgroup.com/avisfmd/A010-fmd/mod1/character.html)

- If clinical signs are evident count the number of animals that exhibit signs in order to estimate the prevalence of the clinical disease.
- If foot and mouth is suspected after the inspection-disinfect thoroughly and immediately inform the CVO through the Chief Veterinarian. The staff involved should not proceed to any other farm until after further instruction.

### 7515 Summary Flow Charts

The two figures below provide a summary of the flow of events that will follow a suspected case of FMD as well as a major potential threat.

**FMD Contingency Plan Flow Chart A** (Figure 16: FMD Contingency Plan Flow Chart for Suspected Cases)



## FMD Contingency Plan Flow Chart B

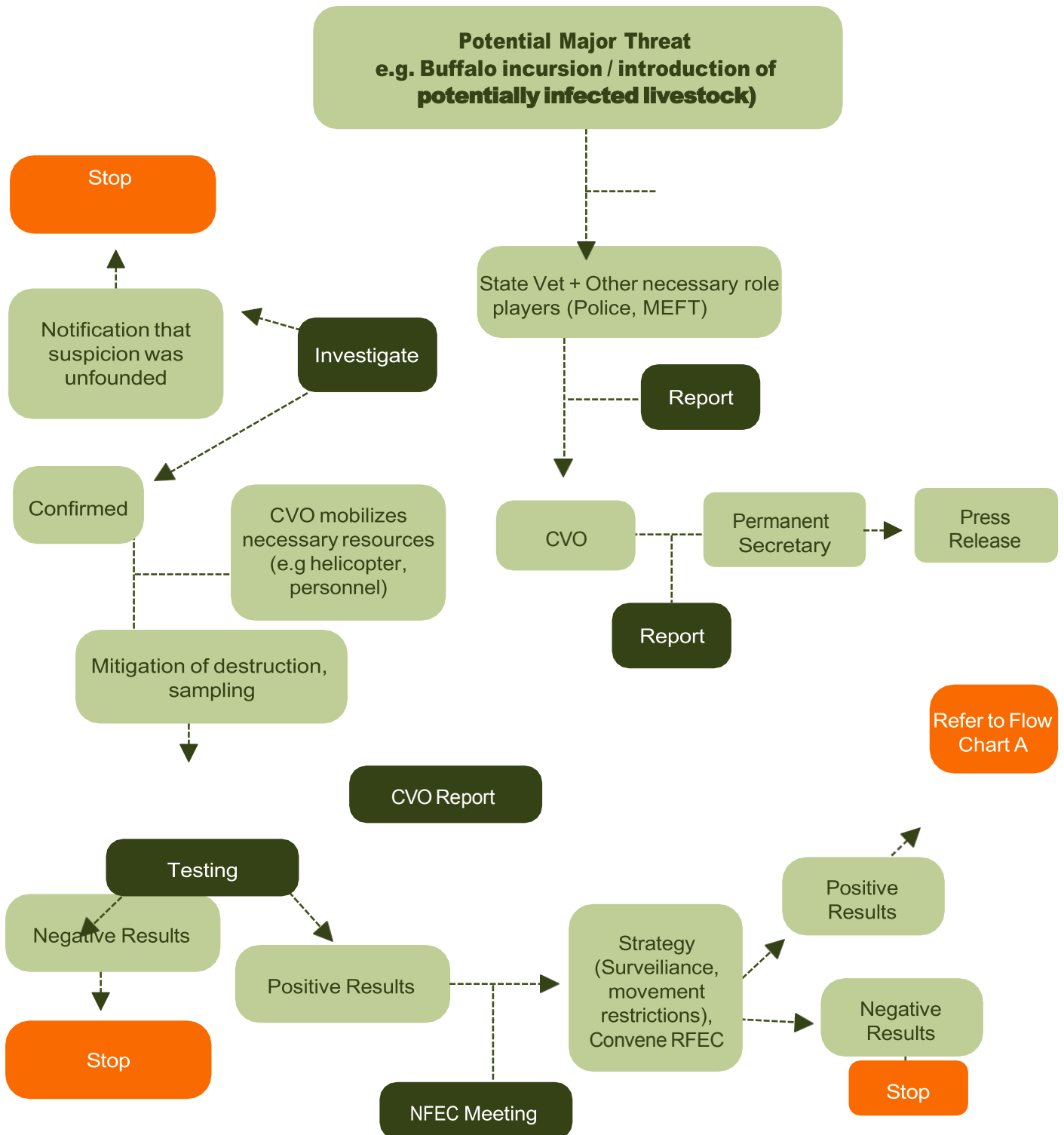


Figure 17: FMD Contingency Plan Flow Chart for Potential Major Threat

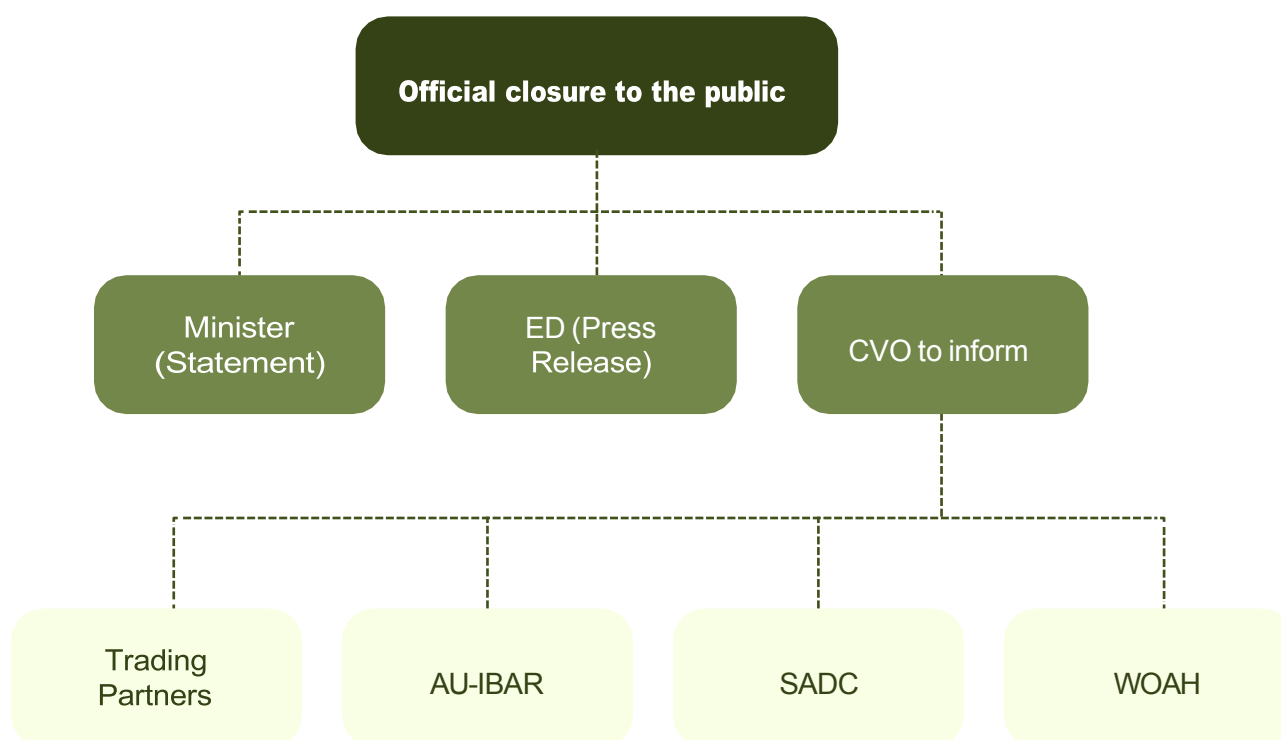
### 7.5.16 Summary Flow Charts

The stand-down phase occurs when the threat from a key notifiable animal disease (in this case FMD) is no longer present and/or most key notifiable animal disease investigation and operational activities cease. The stand down phase will be done in compliance with WOAH guidelines.

When investigations do not confirm the presence of FMD, the CVO ensures that those people and agencies contacted during the alert phase are notified that the disease has not been confirmed and that the emergency no longer exists. A debriefing will thus be conducted within 30 days of stand-down. All records are filed as a 'negative emergency disease alert' for reporting.

Towards the end of the emergency, activities on infected properties or dangerous contact premises and in the field, require fewer resources. Managers at all operational levels are to ensure that resources match operational requirements. In this process:

- a written plan will be developed
- there will be a systematic approach to winding-down operations;
- the wind-down will be official and managed by a Chief Veterinarian and Control Animal Health Technician;
- The wind-down will occur as soon as operational objectives are being achieved, rather than afterwards;
  - i. all records relating to the incident will be collected and filed;
  - ii. personnel will be involved in a debriefing;
  - iii. a final operational and financial report will be prepared; and
- Outstanding tasks will then be handed over to staff in normal operational positions.



*Figure 18: Official Closer of the Outbreak*

## 7.6 Final operational and financial report

These outbreak reports will be compiled within 30 days from closure of the outbreak.

## 7.7 Evaluation of the outbreak response

DVS organizes a workshop in which major stakeholders also participate. The workshop is held within 60 days from the date of closure of the outbreak and aimed at evaluating the measures instituted for the control of the just concluded outbreak. Evaluation of the outbreak response is crucial as it is aimed at identifying weaknesses and strengths of the outbreak response for the betterment of future outbreak responses.

## 8. COMPENSATION

Compensation will be done in accordance with section 30 of the Animal Health Act, (Act No. 1 of 2011).

## 9. CONTACT DETAILS

In the event of a suspicion of an outbreak of foot and mouth disease the offices that need to be informed are as follows. The Directorate of Veterinary Services must inform all its outlying offices. Relevant government departments should be contacted through pre-arranged contact persons or offices as well as relevant private sector stake-holders such as the Farmer Organisations, Meat Board, Agronomic Board, major importers and exporters of animals and animal products. The contact details are as shown below:

**Table 12: Contact details for DVS offices and officials and key stakeholders**

| OFFICE                                        | TITLE                          | CONTACT PERSON  | CONTACT DETAILS                                                          | EMAIL ADDRESS                                                                                               |
|-----------------------------------------------|--------------------------------|-----------------|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| <b>OFFICE OF THE CHIEF VETERINARY OFFICER</b> |                                |                 |                                                                          |                                                                                                             |
| Windhoek HQ                                   | Chief Veterinary Officer (CVO) | Dr. K. Shoombe  | Tel: +264 61 208 7513<br>Fax: +264 61 208 7779<br>Cell: +264 813 257 491 | <a href="mailto:Secretary.CVO@mawlr.gov.na">Secretary.CVO@mawlr.gov.na/</a><br>Kennedy.Shoombe@mawlr.gov.na |
|                                               | Chief Veterinarian             | Dr M. Hausiku   | Tel: 061-2087296<br>Cell: +264 812 155 434                               |                                                                                                             |
|                                               | Control Administration Officer | Ms. S. Nanyemba | Tel: 061-2087474<br>Cell: +264 812 277 970                               |                                                                                                             |

| OFFICE                                        | TITLE                            | CONTACT PERSON    | CONTACT DETAILS                                                                              |
|-----------------------------------------------|----------------------------------|-------------------|----------------------------------------------------------------------------------------------|
| <b>DIVISION: ANIMAL DISEASE CONTROL SOUTH</b> |                                  |                   |                                                                                              |
| Windhoek HQ                                   | Deputy CVO                       | Dr. J. Shoopala   | Tel: +264 61 208 7506<br>Fax: +264 61 208 7779<br>Cell: +264 811 246 275                     |
|                                               | Control Animal Health Technician | Mr. A. Liyali     | Tel: +264 61 208 7541<br>Fax: +264 61 208 7779<br>Cell: +264 812 304 653                     |
| <b>SUB-DIVISION: CENTRAL</b>                  |                                  |                   |                                                                                              |
| Windhoek                                      | Chief Veterinarian               | Dr N. Haindongo   | Tel: +264 61 208 7506<br>Fax: +264 61 208 7779<br>Cell: +264 811 447 626                     |
|                                               | State Veterinarian               | Dr. F. Alugongo   | Tel: +264 61 276580 / 1<br>Fax: +264 61 276582<br>Cell: +264 811 458 422<br>+264 815 684 870 |
|                                               | State Veterinarian               | Dr U. Murangi     | Tel: +264 61 276580 / 1<br>Fax: +264 61 276582<br>Cell: +264 816 603 048                     |
| Okahandja                                     | State Veterinarian               | Dr. M. Ndinoshiho | Tel: +264 62 501151<br>Fax: +264 62 502591<br>Cell: +264 812 366 638                         |
|                                               | State Veterinarian               | Dr. Amunyela      | Tel: +264 62 501151<br>Fax: +264 62 502591                                                   |
|                                               | Chief Animal Health Technician   | Ms. C. Kakambi    | Tel: +264 62 501151<br>Fax: +264 62 502591<br>Cell: 081 3165874                              |
| Omaruru                                       | State Veterinarian               | Dr. E. Oosthuysen | Tel: +264 64 570121/115<br>Fax: +264 64 570 496<br>Cell: +264 813 289 806                    |
|                                               | State Veterinarian               | Dr M. Kazarako    | Tel: +264 64 570121/115<br>Fax: +264 64 570 496<br>Cell: +264 817 065 413                    |
|                                               | Chief Animal Technician          | Mr J. Mvula       | Cell: +264 811 422 246                                                                       |
| Outjo                                         | State Veterinarian               | Dr S. Simasiku    | Tel: +264 67 312660<br>Fax: +264 67 313050<br>Cell: +264 811 650 109                         |
|                                               | Chief Animal Health Technician   | Mr. J. Hambo      | Tel: +264 67 312660<br>Fax: +264 67 313050<br>cell: +264 813 257 419                         |
|                                               | State Veterinarian               | Dr M. Katumbe     | Tel: +264 67 330014<br>Cell: +264 811 431 148                                                |

|                            |                                |                 |                                                                      |
|----------------------------|--------------------------------|-----------------|----------------------------------------------------------------------|
| KAMANJAB                   | Chief Animal Health Technician | Mr E. Ashuulu   | Tel: +264 67 330014<br>Cell: +264 818 022 219                        |
| Otjiwarongo                | State Veterinarian             | Dr S. Usiku     | Tel: +264 67 302131<br>Fax: +264 67 302978<br>Cell: +264 812 872 357 |
|                            | Chief Animal Technician        | Mr C. Tjitemisa | Tel: +264 67-302131<br>Cell: +264 814 626 524                        |
| Okakarara                  | State Veterinarian             | Dr RE. Paulus   | Tel: +264 67317901<br>Cell: +264 813 370 551                         |
| Walvisbay                  | State Veterinarian             | Dr A. Shigwedha | Tel: +264 64 203073<br>Fax: +264 64 203073<br>Cell: 0811623200       |
|                            | State Veterinarian             | Dr N. Hauwanga  | Tel: +264 64 203073<br>Fax: +264 64 203073<br>Cell: 0811431149       |
| <b>SUB-DIVISION: SOUTH</b> |                                |                 |                                                                      |
|                            | Chief Veterinarian             | Dr. S. Ekandjo  | Tel: +264 63 242171<br>Fax: +264 63 242578<br>Cell: +264 811 232 262 |
| Gobabis                    | State Veterinarian             | Dr. S. Gomxob   | Tel: +264 62 562441/2<br>Fax: +264 62 563533<br>Cell: 0811423824     |
|                            | State Veterinarian             | Dr. E. Junias   | Tel: +264 62 562441/2<br>Fax: +264 62 563533<br>Cell: 0811463418     |
|                            | Chief Animal Health Technician | Vacant          | Tel: +264 62 562441/2<br>Fax: +264 62 563533                         |
| Otjinene                   | State Veterinarian             | Dr. Kapimbua    | Tel: +264 62 562512<br>Fax: +264 62 562842<br>Cell: 0811432258       |
|                            | Chief Animal Health Technician | C. Kauami       | Tel: +264 62 562441/2<br>Fax: +264 62 563533<br>Cell: 0817510640     |
| Epukiro                    | State Veterinarian             | Dr. E. Veii     | Cell: +264-811458421                                                 |
| Mariental                  | State Veterinarian             | Dr. S. Nambinga | Cell: 0852208500<br>Emergency No: 0811415806                         |
|                            | State Veterinarian             | Dr. A. Iyambo   | Cell: 0816311527                                                     |
|                            | Control Animal Health          | Mr. J Shikongo  | Cell: 0856106099                                                     |

| Keetman-Shoop                                 | State Veterinarian               | Dr. A. Louwrens | Tel: +264 63 223003 /223635<br>Fax: +264 63 223190<br>Cell: 0811434562         |
|-----------------------------------------------|----------------------------------|-----------------|--------------------------------------------------------------------------------|
|                                               | State Veterinarian               | Dr. C. Grobler  | Tel: +264 63 223003 /223635<br>Fax: +264 63 223190<br>Cell: 0811610818         |
|                                               | State Veterinarian               | Dr. U. Ndjoze   | Cell: 08174542216                                                              |
| Karasburg                                     | State Veterinarian               | Dr. A. De Klerk | Tel: +264 63 270109<br>Cell: 0812167480<br>Emergency No: 0811432911            |
|                                               | Chief Animal Health Technician   | Mr. N. Tjizoo   | Tel: +264 63 270109<br>Fax: +264 63 270342<br>Cell: 0813990883                 |
| OFFICE                                        | TITLE                            | CONTACT PERSON  | CONTACT DETAILS                                                                |
| <b>DIVISION: ANIMAL DISEASE CONTROL NORTH</b> |                                  |                 |                                                                                |
| Ongwediva                                     | Deputy CVO                       | Vacant          | Tel: +264 67 243253<br>Fax: +264 67 243286<br>Cell: 0811424651 / 0812195453    |
| <b>SUB - DIVISION: NORTH WEST</b>             |                                  |                 |                                                                                |
| Ongwediva                                     | Chief Veterinarian               | Dr. R. Athingo  | Tel: +264 65 240 831/3<br>Fax: +264 65 240675<br>Cell: 0812235874 / 0811489183 |
|                                               | Control Animal Health Technician | Mr. N. Shaumbwa | Tel: +264 65 233854<br>Fax: +264 65 233853<br>Cell: 0812428164                 |
| Ondangwa                                      | State Veterinarian               | Dr. T. Haimbodi | Tel: +264 65 240 831/3<br>Fax: +264 65 240675<br>Cell: 0813699103              |
|                                               | State Veterinarian               | Dr. P. Ipinge   | Tel: +264 65 240 831/3<br>Fax: +264 65 240675<br>Cell: 0818450434              |
|                                               | State Veterinarian               | Dr. H. Nelson   | Tel: +264 65 240 831/3<br>Fax: +264 65 240675<br>Cell: 0811431157              |

|                                 |                                  |                     |                                                                             |
|---------------------------------|----------------------------------|---------------------|-----------------------------------------------------------------------------|
| Eenhana                         | State Veterinarian               | Dr. M. Naunyang     | Tel: +264 65 263203<br>Fax: +264 65<br>Cell: 0812728745                     |
|                                 | State Veterinarian               | Dr. M. Kephass      | Tel: +264 65 263104<br>Fax: +264 65 263164<br>Cell: 0812527485              |
| Outapi                          | State Veterinarian               | Dr. J. Peter        | Tel: +264 65 200000<br>Fax: +264 65 251649<br>Cell: 0812780808              |
|                                 | State Veterinarian               | Dr. L.K. Hango      | Tel: +264 65 200000<br>Fax: +264 65 251649<br>Cell: 0818829202              |
| Omuthiya                        | State Veterinarian               | Dr. P Junior        | Tel: +264 65 244263<br>Cell: 0811650107                                     |
|                                 | State Veterinarian               | Dr R. Haimbodi      | Tel: +264 65 244263<br>Fax: +264 65<br>Cell: 0811272928                     |
| Opuwo                           | State Veterinarian               | Dr. N. Hedimbi      | Tel: +264 65 273012<br>Fax: +264 65 273 145<br>Cell: 0812785314             |
|                                 | State Veterinarian               | Dr. A.Mungunda      | Tel: +264 65 273012<br>Fax: +264 65 273 145<br>Cell: +264 811622440         |
| <b>SUB-DIVISION: NORTH EAST</b> |                                  |                     |                                                                             |
| Grootfontein                    | Chief Veterinarian               | Dr. J. Kapapero     | Tel: +264 67 243253<br>Fax: +264 67 243286<br>Cell: 0811424651 / 0812195453 |
|                                 | State Veterinarian               | Dr. F. Mwetulundila | Tel: +264 67-242000<br>Fax: +264 67 243389<br>Cell: 0811489186              |
|                                 | State Veterinarian               | Dr. S.S.Lukas       | Tel: +264 67-242000<br>Fax: +264 67 243389<br>Cell: 0811431159              |
|                                 | State Veterinarian               | Dr. IN. Shinexuugi  | Tel: +264 67-242000<br>Fax: +264 67 243389<br>Cell: 0811431151              |
|                                 | Control Animal Health Technician | Mr. E. Ashipala     | Tel: +264 67-242000<br>Fax: +264 67 243389<br>Cell: 0811283418              |
|                                 | Chief Animal Health Technician   | Mr. K. Haufiku      | Tel: +264 67-242000<br>Fax: +264 67 243389<br>Cell: 081215055               |

| Katima Mulilo                                                                                                        | State Veterinarian             | Dr. J. Namusheshe | Tel: +264 66 253142<br>Fax: +264 66 253763<br>Cell: 0811415679          |
|----------------------------------------------------------------------------------------------------------------------|--------------------------------|-------------------|-------------------------------------------------------------------------|
|                                                                                                                      | State Veterinarian             | Dr. B.M. Shikongo | Tel: +264 66 253142<br>Fax: +264 66 253763<br>Cell: 0811626600          |
| Rundu                                                                                                                | State Veterinarian             | Dr. T. Shuro      | Tel: +264 66 255016<br>Fax: +264 66 254256<br>Cell: 0812754336          |
|                                                                                                                      | State Veterinarian             | Dr L Amushila     | Tel: +264 66 255016<br>Fax: +264 66 254256<br>Cell: 0814755845          |
|                                                                                                                      | Chief Animal Health Technician | Mr. V. M. Hausiku | Tel: +264 66 255616<br>Fax: +264 66 256252<br>Cell: 0812911257          |
| Nkurenkuru                                                                                                           | State Veterinarian             | Dr. S. Gottlieb   | Tel: +264 66 258075<br>Fax: +264 66 256251<br>Cell: 0811431152          |
| Otavi                                                                                                                | State Veterinarian             | Dr. K. David      | Tel: +264 67 234 037 /85<br>Fax: +264 67 234363<br>Cell: +264 813012669 |
| OFFICE                                                                                                               | TITLE                          | CONTACT PERSON    | CONTACT DETAILS                                                         |
| <b>DIVISION: EPIDEMIOLOGY, IMPORTS &amp; EXPORTS CONTROL, TRACEABILITY, MEDICINE CONTROL &amp; ADVISORY SERVICES</b> |                                |                   |                                                                         |
| Windhoek HQ                                                                                                          | Deputy CVO                     | Dr. N.S. Amuthenu | Tel: +264 61 208 7503<br>Fax: +264 61 208 7779<br>Cell: 0811279391      |
| <b>Subdivision: Epidemiology, Surveillance And Data Management</b>                                                   |                                |                   |                                                                         |
| Windhoek HQ                                                                                                          | Chief Veterinarian             | Dr. E. Hikufe     | Tel: +264 61 208 7503<br>Fax: +264 61 208 7779<br>Cell: 0811434386      |
|                                                                                                                      | State Veterinarian             | Dr. SAT Elago     | Tel: +264 61 208 7543<br>Fax: +264 61 276582<br>Cell: 081 162 6055      |
|                                                                                                                      | State Veterinarian             | Dr. T. Siteketa   | Tel: +264 61 208 7543<br>Fax: +264 61 208 7779<br>Cell: 0811458432      |
|                                                                                                                      | Chief Veterinary Technician    | Ms. A. Lilungwe   | Tel: 061-2087500<br>Cell: 0812910665                                    |

**SUBDIVISION: EPIDEMIOLOGY, SURVEILLANCE AND DATA MANAGEMENT**

|                  |                               |                |                                              |
|------------------|-------------------------------|----------------|----------------------------------------------|
| Windhoek Hq      | Chief Veterinarian            | Dr. J Erastus  | +2642087503<br>0811458430                    |
|                  | State Veterinarian            | Dr. P. Sitwala | 0612087324<br>0811457042                     |
|                  | State Veterinarian            | Dr. P. Set     | +264612087342<br>0811431154                  |
|                  | Control Veterinary Technician | Ms. H. Nambahu | +26412087755<br>0812300645                   |
| Ondangwa Namlits | State Veterinarian            | Dr. S. Luvala  | Tel: +264 65 240833<br>Cell: +264 811 489191 |

**Subdivision: Import & Export Control**

|             |                               |                  |                                                 |
|-------------|-------------------------------|------------------|-------------------------------------------------|
| Windhoek Hq | Chief Veterinarian            | Dr. V. Benhard   | Tel: +264 61 303150<br>Cell: 0814038589         |
|             | State Veterinarian            | Dr. M. Liyemo    | Tel: 061-2087891<br>Cell: 081                   |
|             | State Veterinarian            | Dr. T. Nzehengwa | Tel: 264<br>Cell: 0811247525                    |
|             | Chief Veterinary Technician   | Ms. E. Iithete   | Cell: +264 81 400 6464<br>Tell +264 61 208 7892 |
|             | Control Veterinary Technician | Mr. R. Ngenda    | Cell: +264 81 122 3701<br>Tell +264 61 208 7213 |
| Walvis Bay  | Veterinarian                  | Dr. N. Hawanga   | Cell: +264 81 143 1149<br>Tell +264 64 20 5313  |
|             | Veterinarian                  | Dr. R. Paulus    | Cell: +264 81 165 3530<br>Tell +264 64 205313   |

| OFFICE                                          | TITLE                  | CONTACT PERSON     | CONTACT DETAILS                         |
|-------------------------------------------------|------------------------|--------------------|-----------------------------------------|
| <b>DIVISION: DIAGNOSTIC SERVICES</b>            |                        |                    |                                         |
| Central Veterinary Laboratory (CVL)<br>Windhoek | Deputy CVO             | Dr. J. Kabajani    | Tel: +264 61 23768<br>Cell: 0811434561  |
|                                                 | Chief Veterinarian     | Dr. H. Vaino       | Tel: +264 61 237684<br>Cell: 0818725776 |
|                                                 | Chief Veterinarian     | Dr. C Hansen       | Tel: +264 61 237684<br>Cell: 0811602809 |
|                                                 | State Veterinarian     | Dr. M. Kasaona     | Tel: +264 61 2376<br>Cell: 0811432912   |
|                                                 | State Veterinarian     | Dr. M. Muluti      | Tel: +264 61 2376<br>Cell: 0811458429   |
|                                                 | State Veterinarian     | Dr. R. Tshivolo    | Tel: +264 61 237684<br>Cell: 0812203901 |
|                                                 | State Veterinarian     | Dr. LM. Anderson   | Tel: +264 61 237<br>Cell: 0817677278    |
|                                                 | State Veterinarian     | E. Hamunyela       | Tel: +264 61 23<br>Cell: 0811602808     |
|                                                 | State Veterinarian     | Dr. J. Kambonde    | Tel: +264 61 2376<br>Cell: 0811431151   |
|                                                 | State Veterinarian     | Dr. K. Tjiroze     | Tel: +264 61 237684<br>Cell: 0811432258 |
|                                                 | Scientific Officer     | Dr. R. Shilangale  | Tel: +264 61 23768<br>Cell: 0812946018  |
|                                                 | Scientific Officer     | Mrs. E. Hilundutah | Tel: +264 61 237684<br>Cell: 0811434564 |
|                                                 | Acting Quality Manager | Ms. A. Hamundjebo  | Tel: +264 61 237684<br>Cell: 0813174248 |
| CVL - Ondangwa                                  | State Veterinarian     | Dr P. Shilongo     | Cell: +264-811287488<br>+264-811434556  |

| OFFICE                                    | TITLE                                | CONTACT PERSON    | CONTACT DETAILS                                             |
|-------------------------------------------|--------------------------------------|-------------------|-------------------------------------------------------------|
| <b>DIVISION: VETERINARY PUBLIC HEALTH</b> |                                      |                   |                                                             |
| Windhoek HQ                               | Deputy CVO                           | Dr. J. Kamwi      | Tel: +264 61 208 7509<br>Cell: +264 814793001               |
|                                           | Chief Veterinarian                   | Dr. F. Kandongo   | Tel: 061-2087547<br>Cell: +264 811489174                    |
|                                           | Chief Veterinarian                   | Dr. S. Shilongo   | Tel: 061-2087545<br>Cell: +264-811489178                    |
|                                           | Control Veterinary Hygiene Inspector | Mrs L.G. Kamati   | Tel: +264 61 208 75<br>Cell: +264 812033710                 |
| Reho Processor                            | State Veterinarian                   | Dr. E. Garusoas   | Cell: +264 812654061                                        |
| Meatco Windhoek                           | State Veterinarian                   | Dr. N. Silume     | Tel: +264 61 213650<br>Cell: 264-811602810                  |
|                                           | State Veterinarian                   | Dr. M. Nghinaunje | Tel: 264-61 213650<br>+264 816799893                        |
| Meatco Okahandja                          | State Veterinarian                   | Dr. V. Amunyela   | Tel: +264 62 502 097 / 505 700<br>Cell: 0817882239          |
| Beefcor Okahandja                         | State Veterinarian                   | Dr. A. Homateni   | Cell: 0811431154                                            |
| Meatco Oshakati                           | State Veterinarian                   | Dr. A. Kandombo   | Tel: +264 65 224<br>Cell: 0812770844                        |
|                                           | State Veterinarian                   | Dr. H. Nelson     | Tel: +264 65 224014<br>Cell: 0811431157                     |
| Katima Muli-Lo Abattoir                   | State Veterinarian                   |                   | +264-66253142                                               |
| Farmer's Meat                             | State Veterinarian                   | Dr. B.S. Kanutus  | Tel: +264 63 242972<br>Cell: +264 811427326/ +264 814652855 |
| Namibia Nat-Ural Meat Producers           | State Veterinarian                   | Dr. U. Ndjoze     | Cell: +264 817454216                                        |
| Rundu Abattoir                            | State Veterinarian                   | Dr. P. Hausiku    | Cell: +264 810399200 /+264 811415655                        |

| NAME/LOCALITY                            | POST ADDRESS           | TELEPHONE      | FAX            |
|------------------------------------------|------------------------|----------------|----------------|
| Key Stakeholders                         |                        |                |                |
| Namibia National Farmers Union           | PO Box 3117 Windhoek   | +264-612711117 | +264-61271155  |
| Namibia Agricultural Union               | PO Box 13255, Windhoek | +264-61237838  | +264-61237838  |
| LABTA                                    | Box 12011, Windhoek    | +264-612909111 | +264-612909277 |
| Livestock and Livestock Board of Namibia | PO Box 38 Windhoek     | +264-61275830  | +264-61228310  |

## 10. TRAINING AND COMMUNICATION

When there are no outbreaks, CVO will ensure that the contents of the contingency plan are communicated to all relevant stakeholders. A clear communication strategy with clear activities will be drawn up to ensure that messages do reach the intended audiences ensuring that they reach the majority of them, are relevant to their needs and can be understood by them. The Training section of the Directorate of Veterinary Services will take a lead in this endeavor.

- i. State Veterinary offices through their extension activities such as scheduled farm visits, disease investigations, community visits, meetings with farmers, field days are expected to publicize and make the farmers aware of the dangers of foot and mouth disease and signs and symptoms of the disease. Where possible stockman (employees) who look after the animals on a regular basis must also be targeted for training
- ii. Artificial Insemination Personnel, Auctioneers, livestock transporters, community animal health workers etc who regularly visit farms and interact with farmers must also be trained.
- iii. Advantage should be taken of radio programs, agricultural shows to disseminate information.

**Table 13: Non-Governmental Target Audience**

| TARGET GROUP                                                                                                                    | MEANS OF COMMUNICATION                                                                                                    | CONTENT                                                                                                   | BY WHO                                   | WHEN        |
|---------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|------------------------------------------|-------------|
| Animal Health & Marketing Consultative Forum, Abattoir Operators, Farmer's unions Organizations, LLPBN, Auctioneers, LABTA, VAN | Meetings                                                                                                                  | Animal Health issues of concern to the livestock and meat industry<br>Contingency Plan                    | CVO / LLPBN                              | Quarterly   |
| Private Veterinarians                                                                                                           | Meetings, Written material, Seminars & workshops                                                                          | Their role in the Contingency Plan<br>Recognition of FMD, FMD Diagnosis, Sampling                         | DVS Advisory Services Section            | Annually    |
| Farmers and Farmers representatives                                                                                             | Meeting, extension visits, pamphlets, web-sites, Reports, press releases, road signs/ notices, posters, radio, television | Their role in the Contingency Plan, Recognition of the disease, control measures, compensation, reporting | DVS: Advisory Service Section            | Annually    |
| Livestock transporters, NALETA, Truck drivers                                                                                   | Meeting, Extension, Materials                                                                                             | Their role in the Contingency Plan, Recognition of the disease, control measures, reporting               | DVS Animal disease control and VPH staff | Annually    |
| Traditional Authorities                                                                                                         | Meetings, Extension Material                                                                                              | Their role in the Contingency Plan, Recognition of the disease, control measures, reporting               | DVS Animal Disease Control Division      | Annually    |
| General public                                                                                                                  | Public Notices, signs, posters, radio, television                                                                         | Control measures                                                                                          | All DVS staff                            | Continu-ous |
| Agricultural and Veterinary Students                                                                                            | Ensure FMD is well covered in the curriculum                                                                              | All aspects of FMD as a disease, Contingency plan                                                         | DVS and Training Institutions            | Continuous  |

**Table 14: Governmental Target Audience**

| TARGET GROUP                                     | MEANS OF COMMUNICATION                                                                                   | CONTENT                                                                                                    | BY WHO                                                                 | WHEN                                    |
|--------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|-----------------------------------------|
| Veterinary Staff (State Veterinarians)           | Induction course, workshops, meetings, training sessions, show video/DVD for FMD                         | Contingency plan, recognition of the disease, control measures, diagnosis, sampling, biosecurity measures  | DVS Epidemiology and advisory Sections, Chief Veterinarian Laboratory, | On induction, Annually                  |
| Veterinary Staff (AHT)                           | Induction course, workshops, meetings, training sessions. Show videos, participation in outbreak control | Contingency plan, recognition of the disease, control measures, diagnosis, sampling, bio-security measures | State Veterinarians, Epidemiology and advisory Sections, Lab           | On induction, Annually                  |
| Ministry Of Agriculture top management           | Meetings                                                                                                 | Their role in the contingency plan-funding arrangements, liaison with other ministries                     | CVO                                                                    | Ad-Hoc                                  |
| Office of the Prime-Minister                     | Meetings                                                                                                 | Their role in the contingency plan-funding arrangements, liaison with other ministries                     | ED                                                                     | Ad-Hoc                                  |
| Ministry of Safety and Security - Namibia Police | Meetings, letters, MOU                                                                                   | Their role in the contingency plan                                                                         | CVO through ED office                                                  | Annually: ensure MOU is still effective |
| Namibia Defence Force                            | Meetings, letters, MOU                                                                                   | Their role in the contingency plan                                                                         | CVO through ED office                                                  | Annually: ensure MOU is still effective |
| Ministry of Environment, Forestry and Tourism    | Meetings, workshop                                                                                       | Their role in the contingency plan, recognition of FMD in game animals, Control measures                   | CVO through ED office                                                  | Annually                                |
| Regional Emergency Management Unit               | Meetings, workshop                                                                                       | Their role in the contingency plan, recognition of FMD in game animals, Control measures                   | Regional State Veterinarians                                           | Annually                                |
| Ministry of Finance -Customs                     | Meetings, training workshops                                                                             | Their role in contingency plan, Biosecurity at points of entry and, water and air                          | Regional State Veterinarians                                           | Annually                                |

### **Key messages to farmers/traditional authorities/public.**

The messages that will be developed by Advisory Section must contain information covering the following topics:

- Recognition of FMD
- FMD: means of transmission/spread and importance of humans in spread; role of game, especially African buffaloes
- Importance of reporting buffalo sightings
- Difference between Water buffalo and African buffaloes
- FMD-free buffaloes - Waterberg & Tsumkwe
- What causes FMD?
- FMD control zones
- Which animals are affected?
- How is FMD controlled? Zoning, vaccination, movement control...
- Reporting: what, where, when, to whom.
- Importance/reasons for movement restrictions and biosecurity
- Zoonotic implications
- Marketing: why not?
- Consequences for international trade
- Economic importance

# 11. ANNEXURES

## Annex 1: Disinfection of Vehicles



**REPUBLIC OF NAMIBIA**  
**MINISTRY OF AGRICULTURE, WATER AND FORESTRY**

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|                 |                     |                                    |
|-----------------|---------------------|------------------------------------|
| <b>Tel:</b>     | (+264) 61 2087509   | Directorate of Veterinary Services |
| <b>Fax:</b>     | (+264) 61 2087779   | Government Office Park             |
| <b>Enquiry:</b> | Dr. J.A. Kamwi      | Private Bag 12022                  |
| <b>Email:</b>   | kamwi@maurrd.gov.na | AUSSPANPLATZ                       |
| <b>Ref:</b>     | V13/2/4/2           |                                    |

**Date:** 25 September 2008

**Circular No.** V18/2008

**TO:** ALL STATE VETERINARY OFFICES

**RE:** NATIONAL PROCEDURE FOR CLEANING AND DISINFECTION OF VEHICLES (UPDATE)

**Purpose**  
It is a national requirement that all vehicles transporting animals to export abattoirs for slaughter from a farm/quarantine station/auction should be cleaned and disinfected prior to loading of livestock.

Disinfection is also required for trucks at Veterinary Cordon Fence gates for trucks moving southwards and at entrances of quarantine stations.

**Update of Circular V11/2004-Expiry date of the disinfection certificate**  
It has come to the attention of DVS that not everyone understands the validity of the disinfection certificates. There is thus a need to update circular V11/2004 with regards to the expiry date of the disinfection certificate. All disinfection certificates should have an application date and an expiry date i.e. valid from.....to.....

The certificate is valid from the date of application of the approved disinfectant and is valid for 8 (eight) days, day one is the date of application; that is the reason why transporters are allowed to load animals on the same day of disinfection, most disinfectants are effective immediately upon application or +/- 30 minutes after application depending on disinfectant used and manufacturers instructions.

**Instructions to Authorized Persons**

1. The disinfection of trucks can only be carried-out by the authorised person and shall not be delegated to any other person.
2. The authorised person has to ensure the cleanliness of the vehicle before disinfecting the vehicles.
3. The disinfection shall be carried out using 5% washing soda solution. (250gram = 1 big mug)/5 litres of water) or other approved disinfectants as outlined in the FMD (Foot and Mouth Disease) contingency plan.
4. A pressure pump or other spraying appliance with sufficient pressure must be used for applying the disinfectant paying particular attention to steel grids, corners, and, inside of sliding doors.
5. Certificates will be supplied to authorized persons, who must ensure they are not accessible to unauthorised persons. Certificates issued must be recorded in a

1



## Annex 2: Standard Operating Procedures for Sample Collection

### 1. SAMPLES COLLECTION AND PROCESSING PROTOCOL

#### DIAGNOSTIC PROTOCOL: Compiled by the Central Veterinary Laboratory

#### FOOT and MOUTH DISEASE

##### Aetiology

Foot and mouth disease (FMD) is the most contagious disease of mammals and has a great potential for causing severe economic loss in susceptible cloven-hoofed animals. There are seven serotypes of FMD virus, namely, O, A, C, SAT 1, SAT 2, SAT 3 and Asia 1. Infection with one serotype does not confer immunity against another. Laboratory diagnosis of any suspected FMD case is therefore a matter of urgency.

##### Diagnosis

Typical cases of FMD are characterized by a vesicular condition of the feet, buccal mucosa and, in females, the mammary glands. Clinical signs can vary from mild to severe and fatalities may occur, especially in young animals. In some species the infection may be sub clinical, e.g. African buffalo (*Syncerus coffer*). The preferred tissue for diagnosis is epithelium from unruptured or freshly ruptured vesicles or vesicular fluid. Where collecting this is not possible, blood and/or oesophageal-pharyngeal fluid samples taken by probang cup in ruminants or throat swabs from pigs provide an alternative source of virus. Myocardial tissue or blood can be submitted from fatal cases, but vesicles are again preferable if present. The confirmation must be related to isolation and serotyping of the virus. The samples must be properly identified by animal identification number and serial number. It is vital that samples from suspected cases be transported under secure conditions and according to international regulations. They should only be dispatched to authorized laboratories. Diagnosis of FMD is by virus isolation or by the demonstration of FMD viral antigen or nucleic acid in samples of tissue or fluid. Detection of virus-specific antibody can also be used for diagnosis and antibodies to viral non-structural proteins (NSPs) can be used as indicators of infection, irrespective of vaccination status.

#### SAMPLES TO TAKE

##### *Virus isolation and PCR*

In animals with a history of vesicular disease, the detection of FMD virus in samples of vesicular fluid, epithelial tissue, oesophageal-pharyngeal (OP) sample, milk, or blood is sufficient to establish a diagnosis. Diagnosis may also be established by the isolation of FMD virus from the blood, heart or other organs of fatal cases. A myocarditis may be seen macroscopically (the so-called "tiger heart") in a proportion of fatal cases.

##### *Epithelium or vesicular fluid*

For laboratory diagnosis, the tissue of choice is epithelium or vesicular fluid. Ideally, at least 1 g of epithelial tissue should be collected from an unruptured or recently ruptured vesicle, usually from the tongue, buccal mucosa or feet. To avoid injury to personnel collecting the samples, as well as for animal welfare reasons, it is recommended that animals be sedated before any samples are obtained.

##### *Quantity requested*

At least 1gr.

##### *Methods of conservations*

Epithelial samples should be placed in a transport medium composed of equal amounts of glycerol and 0.04 M phosphate buffer, pH 7.2-7.6, preferably with added antibiotics (penicillin [1000 International Units (IU)], neomycin sulphate [100 IU], polymyxin B sulphate [50 IU], mycostatin [100 IU]). If 0.04 M phosphate buffer is not available, tissue culture medium or phosphate buffered saline (PBS) can be used instead, but it is important that the final pH of the glycerol/buffer mixture be in the range pH 7.2-

7.6. FMD virus is extremely labile in low pH and buffering of the transport media is critical for successful sample collection. Samples should be kept refrigerated or on ice until received by the laboratory.



## PACKAGING

Write on jar animal identification number or brand or owner name.

### ***Please see general packaging paragraph***

Special precautions are required when sending perishable suspect FMD material both within and between countries. The International Air Transport Association (IATA), Dangerous Goods Regulations (DGR) has explicit requirements for packaging and shipment of diagnostic specimens by all commercial means of transport.

### ***Esophageal-pharyngeal fluid***

Where epithelial tissue is not available from ruminant animals, for example in advanced or convalescent cases, or where infection is suspected in the absence of clinical signs, samples of OP fluid can be collected by means of a probang (sputum) cup (or in pigs by swabbing the throat) for submission to a laboratory for virus isolation or reverse-transcription polymerase chain reaction (RT-PCR). For the collection of throat swabs from pigs, the animal should be

held on its back in a wooden cradle with the neck extended. Holding a swab in a suitable instrument, such as an artery forceps, the swab is pushed to the back of the mouth and into the pharynx. An OP sample is collected by inserting a probang over the tongue into the oropharyngeal area and then passing it vigorously backwards and forwards 5-10 times between the first portion of the oesophagus and the back of the pharynx. The purpose is to collect oropharyngeal fluid and especially superficial epithelial cells from these areas, including the proximal part of the oesophagus, the walls of the pharynx, the tonsillar crypts and the surfaces of the soft palate. If the sample does not contain adequate cellular debris the actions may be repeated.

### ***Quantity requested***

After collection of OP fluid by probang, the contents of the cup should be poured into a wide-necked transparent bottle of around 20 ml capacity. The fluid is examined, and should contain some visible cellular material. Of this, 2 ml is then added to the 2 ml of transport fluid, ensuring that cellular material is transferred; the mixture is shaken gently and should have a final pH of around pH 7.6.

### ***Methods of conservations***

Before the collection of OP samples from cattle or large ruminants (e.g. buffaloes), 2 ml transport fluid (composed of 0.08 M phosphate buffer containing 0.01% bovine serum albumin, 0.002% phenol red, antibiotics [1000 units/ml penicillin, 100 units/ml mycostatin, 100 units/ml neomycin, and 50 units/ml polymyxin], and adjusted to pH 7.2) should be added to a container of around 5 ml capacity capable of withstanding freezing above solid carbon dioxide (dry ice) or liquid nitrogen (38). Samples of OP fluid should be refrigerated or frozen immediately after collection. If they are to remain in transit for more than a few hours, they should preferably be frozen by being placed either above solid carbon dioxide or liquid nitrogen.

### **Packaging**

Write on jar animal identification number or brand or owner name.

### ***Caution***

Samples contaminated with ruminal contents may be unsuitable for culture. Samples seen to contain blood are not entirely satisfactory. Repeat sampling can be done after the mouth and throat of the animal have been rinsed with water or PBS. Where several animals are to be sampled the probang must be cleaned and disinfected between each animal. This is done by washing the probang in tap water, and then immersing it in a suitable disinfectant (e.g. 0.5% [w/v] citric acid in tap water) and then rinsing off the disinfectant well with water before sampling the next animal. Before freezing, the containers should be carefully sealed using airtight screw caps or silicone. This is particularly important when using solid carbon dioxide, as introduction of CO<sub>2</sub> into the OP sample will lower its pH, inactivating any FMD virus that may be in the samples. Glass containers should not be used because there is a risk that they will explode on defrosting in the event of liquid nitrogen leaking into them. Samples should reach the laboratory preferably in a frozen state or, if this is not feasible, under refrigeration. Special precautions are required when sending perishable suspect FMD material both within and between countries. The International Air Transport Association (IATA), Dangerous Goods Regulations (DGR) has explicit requirements for packaging and shipment of diagnostic specimen by all commercial means of transport.

These are summarized in OIE Terrestrial Animal Manual, Chapter 1.1.1 Sampling methods.

### **Blood**

Viraemia may also be detected by examining blood samples by means of RT-PCR or virus isolation. Blood with **EDTA** should be taken during the feverish state of the animal.

### **Quantity requested**

At least 10 ml.

Methods of conservations

At + 4°C for no more than 24-48 hours.

### **Packaging**

Write on vacutainer animal identification number. Place the vacutainer in a plastic envelope. Close tightly with stapler.

### **Caution**

See WOAHP Terrestrial Animal Manual, Chapter 1.1.1 Sampling methods.

### **Organs**

Heart, spleen, lung, mediastinal lymph nodes, head lymph nodes and mesenteric lymph nodes.

### **Quantity requested**

Organs, at least 10-15 cm<sup>3</sup>. Whole lymph nodes.

### **Methods of conservations**

+ 4°C and/or -70-80°C.

### **Packaging**

Place the single organ or lymph nodes in single plastic envelope and indicated animal identification number or brand or owner name and the material content. Close by stapler.

### **Caution**

Be careful to limit bacterial contamination while taking samples. Take the whole lymph nodes, do not try to cut and clean adipose tissue around the lymph nodes. See WOAHP Terrestrial Animal Manual, Chapter 1.1.1 Sampling methods.

### **Histopathological examination**

### **Organs**

Tongue and feed epithelium, spleen, lung, pulmonary lymph nodes, head lymph nodes, mesenteric lymph nodes, heart, pericardium and bladder

### **Quantity requested**

At least 2-3 cm<sup>3</sup> of tissue.

Methods of conservation

Put in to buffered formalin 10%, stored at room temperature.

## PACKAGING

Place the single organ or organs in jars containing formalin in the proportion 1 volume organs / 9 volumes of formalin. The lymph nodes are placed individually. Indicate on the jar the name of the organs and lymph nodes and animal identification number or brand or owner name.

### **Caution**

Samples should be taken from the edge of the lesions and include some macroscopically normal tissue as well as affected one.

See WOAHP Terrestrial Animal Manual, Chapter 1.1.1 Sampling methods.

## SEROLOGICAL TESTS

### **Blood**

The demonstration of specific antibodies to structural proteins in no vaccinated animals, where a vesicular condition is present, is sufficient for a positive diagnosis. This is particularly useful in mild cases or where epithelial tissue cannot be collected. Tests for antibodies to some Non Structural Proteins (NSPs) of FMD virus are useful in providing evidence of previous or current viral replication in the host, irrespective of vaccination status. NSPs, unlike structural proteins, are highly conserved and therefore are not serotype specific and as a consequence, the detection of these antibodies is not serotype restricted.

### **Quantity request**

At least 10 ml in red capped vacutainer.

### **Methods of conservation**

Sera must be stored at + 4°C for few days or at -20°C for many weeks.

### **Packaging**

Write on vacutainer the animal identification number or brand or owner name.

Place the vacutainer in a plastic envelope. Close tightly with staplers.

### **Caution**

Remove blood clot if the sample cannot reach the lab within 24 hours and before freezing sample. See WOAHP Terrestrial Animal Manual, Chapter 1.1.1 Sampling methods

### **Packaging**

### **Approval to ship specimens**

The laboratory that is going to receive the samples should be contacted to ensure that it has the capability to do the testing requested and to see if there are any special packaging or shipping requirements. A Master import permit is needed for samples sent outside Namibia. It must be obtained in advance. CVL has Master import permits to send samples to OVI and BVI.

The Master permit will be checked at the border, it should be placed in an envelope on the outside of the parcel.

### **Transportation of specimens**

The specimens should be forwarded to the laboratory by the fastest method available. They should be sent in a cool box on ice. If dry ice is used, special packaging requirements are needed. Note that some carriers do not want to transport dry ice.

### **Packaging**

The shipper should ensure that the specimens are packaged so they arrive at the laboratory in good condition and there is no leakage during shipment. The Dangerous Goods Regulations (DGR) have explicit requirements for packaging and shipment of diagnosis specimens by all commercial means of air transport. These requirements are covered in details in the IATA publication.

**To send samples to CVL:**

The samples must be packed in good quality packaging, which must be strong enough to withstand the shocks and loadings normally encountered during transport.

**The packaging should consist of three components:**

1. A leak-proof primary receptacle (e.g. Green Screw cap container, Falcon tubes covered by Parafilm). Absorbent material in sufficient quantity to absorb the entire contents must be placed between the primary receptacle(s) and the secondary packaging. When multiple fragile primary receptacles are placed in a single secondary packaging, they should be either individually wrapped or separated to prevent contact between them.
2. A leak-proof secondary packaging (eg. Thick plastic pouch with top folded and stapled). An itemized list of contents must be enclosed between the secondary packaging and the outer packaging. Prefrozen packs can be packed around the secondary receptacle. The primary and secondary packaging should be put inside the outer packaging with enough cushioning material
3. A rigid outer packaging of adequate strength for its capacity, mass and intended use (eg. Styrofoam cool box)

**For samples sent outside Namibia**

Diagnostic specimens for FMD are belonging to the category B according to the DGR and are assigned to UN 3373. This category does not need a Declaration of Dangerous

**DIRECT DIAGNOSIS**

**The laboratory diagnosis and serotype identification of the virus should be done in a laboratory that meets the OIE requirements for Containment Group 4 pathogens.**

**INDIRECT DIAGNOSIS**

Indirect diagnosis techniques available:

Serological tests

ELISA NSPs Done at CVL Time needed: 1 day.

**2. OESOPHAGEAL-PHARYNGEAL SAMPLE COLLECTION****FIELD EQUIPMENT****A. For probing sample collection**

1. 3 buckets - colour A (for water)
2. 1 bucket - colour B (for citric acid)
3. citric acid crystals
4. probing for bovine adults

**B. For samples**

1. Universal bottles containing 5mls M/12.5 phosphate buffer solution
2. TRIzol (cat #15596-018 from Invitrogen)
3. 2ml Nunc tubes
4. Marker pens (must be permanent type)
5. Note pad to record data as required

**C. For storage and transport**

The most practical method is to use a liquid N2 dry shipper as this can be sent by air to the laboratory. Airlines will not accept liquid N2 or dry ice. It is also easier to transport in a vehicle.

You require one dry shipper container and, if you are in the field for a lengthy period, one liquid N2 storage vessel from which to top up the dry shipper.

Liquid nitrogen storage flask

## REAGENTS

### Phenol Red (0.1% solution)

Phenol red 1.0g  
0.1M NaOH (4g/litre) 29.2 ml

Grind in pestle and mortar. Make to 1 litre with distilled water.  
Filter through Whatman No 1 filter paper.  
Autoclave

Dilute 1:100 for use (0.01%)

### M/12.5 phosphate buffer solution (for probing samples) - pH 7.2-7.4

Na<sub>2</sub>HPO<sub>4</sub>·2H<sub>2</sub>O 12.22 g  
KH<sub>2</sub>PO<sub>4</sub> 1.554g  
Phenol red (0.01%) 10 mls

Distilled water to 1 litre Sterilize by autoclaving

Penicillin  
Polymixin B  
Neomycin sulphate  
Mycostatin

### N.B. Check pH

Add antibiotic solution to final concentrations of:  
200 units  
200 units  
150pg/ml  
100pg/ml (Fungizone may be used as an alternative)

## SAMPLING PROCEDURE

### Equipment layout

1. Half fill 3 buckets (same colour) with the cleanest water available
2. Quarter fill one bucket (different colour) with water and add equivalent of one half of a Universal of citric acid crystals. Mix thoroughly to dissolve
3. Align buckets in a row starting with the single coloured bucket containing the citric acid (NB maintain this order throughout)
4. Place the probangs in the citric acid bucket and wash by swirling thoroughly. Then rinse the probangs in the water through each successive bucket. Leave the probangs in the 3rd bucket
5. Number the Universal bottles as required
6. Label Nunc tubes as required

### Sample collection

Virus persists in the pharynx and the dorsal surface of the soft palate

1. Take the correct size probing and introduce it into the mouth and push it gently over the bridge of the tongue into the pharynx
2. Scrape the side of the pharynx by gentle in and out movement of the probing cup pressing outwards and downwards so that the tonsils are scrapped. Continue for approx 2 minutes.
3. Withdraw the cup.
4. Pour the contents into the M/12.5 phosphate buffer in the Universal container and Pirbright recommend procedure 200 pl of the probang fluid into 1 ml of FIZOL
5. Frequently there is little saliva in the cup. In this case pour the contents of the Universal container

between the probing cup and the Universal several times to wash out all the pharyngeal cells into the buffer solution

6. Place the probing in the citric acid in the first bucket, rinse thoroughly and wash through the water in the other three buckets as before

#### **Storage and transport - Most important**

1. As soon as practical after collecting the samples they MUST be stored in either liquid N2 or in dryice
2. Pour aliquots of each sample into duplicate or triplicate labeled Nunc tubes
3. When all the samples have been dispensed rinse the tubes in clean citric acid solution in the citric acid bucket and dry
4. Place in the Liquid N2 dry shipper.

### **Annex 3: Vaccination Campaign Protocol with a focus on FMD emergency vaccination**

1. Vaccination will be carried out in accordance with the DVS vaccination protocol. Although this protocol is meant for routine vaccination campaigns, it can easily be adapted to vaccination in response to an outbreak / emergency or reactive vaccination.

#### **A. Budgeting and Work Plan**

2. A successful Vaccination Campaign starts with appropriate budgeting in the previous year. **During the annual** Budgeting and planning for the new financial year is being done, make sure that sufficient money is allocated to the vaccination campaign of the next financial year. Budgeting must also include funds for purchasing a vaccine to be reserved in case of a FMD outbreak or any need for emergency vaccination.
3. Ensure that the FMD store (if hosted at your office) is equipped with necessary items at all times for response to any FMD situation (as listed in the contingency plan).

#### **B. Planning and Implementation of emergency vaccination**

4. **In case of the need to conduct emergency vaccination,** the vaccination campaign program must be drawn with immediate effect. This should be done jointly with State veterinarian, Chief Animal Health Technician, Animal Health Technician and in prior consultation with the epidemiology subdivision.
5. Start immediate mobilization of resources such as personnel, material and all necessary items needed for the emergency response as described in the vaccination protocol.
6. Make use of the nearest camping places to ensure the living conform of the vaccinating personnel. No omissions of crush pens are acceptable in the targeted area. Teams may have to camp at the next crush pen if distance from the camping site is getting more and also when the next crush pen is a way ahead provided that basic camping necessities are available.
7. In order to avoid driving animals long distances and possibly spread the disease, consider setting up emergency vaccination facilities (crush-pens)/mobile crush-pens whenever necessary.
8. Ensure prompt delivery of vaccines and update vaccine registers. Follow up outstanding deliveries as a matter of urgency.

9. Carry out emergency sensitization of communities about FMD and the reason for the emergency vaccination, explain their responsibilities i.e. Bringing animals for vaccination and repairing of crush pens.
  10. Promptly finalize and distribute the vaccination program to schools, regional council offices, Headmen, churches, companies (fishing, mining etc) and Head office.
11. Conduct check on vehicles for the following list of items before embarking on vaccination campaign:
  - pump
  - jack
  - wheel spanners
  - spare wheels
  - patch and solution
  - Tyre levers
12. Inform Department of works to assign relevant technical personnel to be on standby in case of failure/ breakdown of vehicles, cool rooms and others.
13. Organize teams, their leaders and responsibilities.
14. Make sure participating staff members are well informed about the exercise. Do not include staff members with compromised health in the team line up.
15. Liaise with other offices and Chief Veterinarian if you need reinforcement from other offices.
16. Follow up vehicles still under repair and warn garages to be punctual through the Division of Plant and fleet.

### **C. Before departure for field work**

1. Issue all camping equipment and the vaccination equipment as outlined in section A (3). Only the vaccine and ice are to be issued just before departure to the field. Use vouchers to issue all the equipment to ensure accountability.
2. Also include a first aid kit for each team in the issue voucher.
3. Pre-vaccination campaign training: Gather all participating staff members for an update on the vaccination campaign protocol. Ensure that the following topics are covered:
  - The importance of vaccination campaigns
  - Vaccination handling, sterilisation of equipment and safety precautions.
  - Demonstration of the correct vaccination procedure and correct vaccination sites.
  - Cold chain maintenance and precautions to be taken during transportation of vaccines.
  - Government transport maintenance system. The need to maintain appropriate registers and to park after work and avoid night driving.
  - Public service staff rules and behavior as well as customer charter at the work place.
  - The need to liaise with farmers and convince them to assist with branding and driving cattle.
  - Surveillance system and new updates
  - The need to inform farmers about stock brand registration and the entire traceability system in order to increase off take.
4. Make all the participants to sign the Vaccination Technique Protocol as an undertaking that they have understood the contents and the implications of not abiding by the rule. (See section F (5))
5. Submit the vaccination campaign program to the local radio station for daily announcement of the crush pens to be vaccinated. It may be necessary to invite the television staff to attend the first day of vaccination for an effective awareness campaign of your undertakings.

### **E. During Vaccination**

1. CAHT must remind the radio station(s) on the need for daily announcement by phoning them every morning.
2. All vaccination teams must arrive at crush pen and commence vaccination early in the day to avoid a situation where farmers arrive and depart before the teams appear. This may cause vaccination to be a failure as they are likely to tell others on their way back that vaccination teams did not come.
3. Vaccination teams should begin the day by addressing farmers on important issues (see section D (3)).
4. Dogs should be vaccinated first as they are likely to escape soon after the cattle are vaccinated.
5. Vaccination teams should ensure that they keep appropriate records as listed below:
  - Livestock census as indicated on the prescribed form in annex B. Teams must ensure that they use census forms with pre-completed names to avoid variation of name spellings. This also enables teams to take note of those who abscond and those who are turning up for the first time.
  - Batch numbers and the expiry dates of the vaccines that are used annex C.
  - Record of all contaminated vials and the daily wastage as prescribed in annex C
  - Number of animals vaccinated for each type of vaccine as prescribed in annex A and B
  - Take note of change of ownership on the stock cards and update them appropriately.
  - Do proper inspection to avoid vaccination of sick animals. If a priority disease is suspected the AHT must complete a suspicion form and forwards it to the CAHT for delivery to the SV.
  - Teams should note that use of scruff and small pieces of paper during counting is prohibited. Each team must ensure that they have B18 books or A4 plain paper for recording the counting. Figures of each herd.  
must be recorded in the appropriate form before starting vaccinating for the next farmer.
  - Complete all overtime claim forms on prescribed forms and trip control form (annex E) on a daily.
  - All records must be kept very tidy and well protected from water and fire.
  - All DSA claims must be completed and submitted to the CAHT on the last day of the month or at the end of the vaccination campaign, whichever comes first.

### **F. After Vaccination Campaign**

1. All equipment received on vouchers from team leaders.
2. Check all equipment for condition and to plan for replacement.
3. Store equipment according to team numbers.
4. Hold meetings with all teams to discuss shortcomings of the campaign, and to suggest improvements for next vaccination. Minutes of such meetings have to be well documented for future reference.
5. Give a word of complement to the teams.
6. Complete Vaccination report in the prescribed format (annex F) and send it to the Chief Veterinarian within 14 days from day of completion

### Sub-annex 3.1 - Vaccination Techniques/Protocol

#### a. Handling of Vaccines

- The Vaccines we use are a combination of live and attenuated organisms and adjuvant; therefore, there are specific temperatures that would maintain their viability and effectiveness. Always keep vaccines and their diluents in cold temperatures (ice in cooler boxes)
- Do not expose vaccines to sun rays especially when drawing them into syringes.
- Make sure you draw vaccines whilst in shade
- Your body temperature may sometimes rise thus covering the syringe's barrel with your hand for longer period may cause adverse effect on the vaccine.

#### b. Administration of Vaccines

- It is always recommended to use sterile needles when drawing vaccines into syringes. Therefore, always change needles in this case.
- Use one needle only for one full crush then replace or after every 6-10 animals.
- Lift and pull the skin of the animal and at an angle of not more than 45<sup>0</sup>degrees or flat against the body and push in the needle next to your thumb before administer a vaccine. Make sure the needle does not protrude from the skin on the other side and is not into the muscle.
- Recommended sites for subcutaneous injection are the dewlap, neck, shoulder, and the chest. ***"But in the case of CBPP it is strongly recommended to inject behind the shoulder of the left forelimb."***
- Dosage: As per the vaccine manufacturer's instructions. State Veterinarians to ensure that staff members are informed accordingly.

#### c. Sterilization of Equipment

- Sterile means free from pathogens (germs). It is highly expected that each team keep a container for needle collection during vaccinations. Needles must be boiled in batches (groups) of 5 - 10 for periods ranging from 15 to 30 minutes depending on the degree of heat.
- After every working day syringes should also be cleaned, sterilized by boiling for a period of more than 15 minutes and packed well.

#### d. General

- It is the responsibility of each vaccinating team to make sure that they have all the necessary, sufficient vaccination equipment before reaching any crush pen. This includes needles, syringes and their spare parts, cooler boxes with sufficient ice blocks, shade nets, prodders if available, table and sterilization pots. Teams should be aware that keeping of food and meat together with vaccines might lower the level of hygiene and lead to the introduction of *undesirable antigens to our vaccines*. Therefore, refrain from this attitude! It is prohibited.
- It is against animal welfare to injure them, therefore do not force cattle to move by piercing them with needles elsewhere to their bodies. It is also your obligation to limit wound infliction on animals from farmers' sjamboking/beating hence we use prodders as a compulsory tool.

#### e. Branding

Animals should be branded at least (5) seconds to avoid hair-branding. This is necessary for export requirements. It is the responsibility for the team leaders to guard against this.

#### f. Agreement

I .....Rank....., have read and understood the content of this document and do hereby affirm that I will adhere to the guidelines.

Signature..... at .....date.....

Witnesses:

1 .....  
2 .....

#### SUPERVISOR

Name.....Rank .....

Signature.....Date.....

#### g. Supervisory Work

1. CAHT should supervise vaccination teams regularly to make sure things are going well. The CAHT should also give constant feed back to the State veterinarian.
2. Vaccination and livestock census registers should be send to office on a weekly basis for data capture. If allowed to pile up, this will result in erratic entries as there will be too much pressure on the clerk to enter the data in a limited time.
3. CAHT to replenish ice blocks and vaccine for all teams under his supervision.
4. State vet must also visit vaccination teams regularly to ensure things are all right and to keep up high staff morale.
5. The following is a checklist that should be used by supervisors when visiting teams at crush pen

### Sub-annex 3.2 - DIRECTORATE OF VETERINARY SERVICES VACCINATION REGISTER

Office/Team: \_\_\_\_\_ Date \_\_\_\_\_ Page No \_\_\_\_\_

Crush- pen/ Area \_\_\_\_\_ GPS: Long \_\_\_\_\_ Lat \_\_\_\_\_

| Stock Brand | Farmer's Name | Census by Species |       |       |          |      |        |        |      |      |         | Type of Vaccine |     |        |
|-------------|---------------|-------------------|-------|-------|----------|------|--------|--------|------|------|---------|-----------------|-----|--------|
|             |               | Cattle            | Goats | Sheep | Chickens | Pigs | Horses | Donkey | Dogs | Cats | Rabbits | CBPP            | FMD | Rabies |
|             |               |                   |       |       |          |      |        |        |      |      |         |                 |     |        |
|             |               |                   |       |       |          |      |        |        |      |      |         |                 |     |        |
|             |               |                   |       |       |          |      |        |        |      |      |         |                 |     |        |
|             |               |                   |       |       |          |      |        |        |      |      |         |                 |     |        |
|             |               |                   |       |       |          |      |        |        |      |      |         |                 |     |        |
|             |               |                   |       |       |          |      |        |        |      |      |         |                 |     |        |
|             |               |                   |       |       |          |      |        |        |      |      |         |                 |     |        |
|             |               |                   |       |       |          |      |        |        |      |      |         |                 |     |        |
|             |               |                   |       |       |          |      |        |        |      |      |         |                 |     |        |
|             |               |                   |       |       |          |      |        |        |      |      |         |                 |     |        |
|             |               |                   |       |       |          |      |        |        |      |      |         |                 |     |        |
|             |               |                   |       |       |          |      |        |        |      |      |         |                 |     |        |
|             |               |                   |       |       |          |      |        |        |      |      |         |                 |     |        |
|             |               |                   |       |       |          |      |        |        |      |      |         |                 |     |        |
|             |               |                   |       |       |          |      |        |        |      |      |         |                 |     |        |
|             |               |                   |       |       |          |      |        |        |      |      |         |                 |     |        |
|             |               |                   |       |       |          |      |        |        |      |      |         |                 |     |        |
|             |               |                   |       |       |          |      |        |        |      |      |         |                 |     |        |
|             |               |                   |       |       |          |      |        |        |      |      |         |                 |     |        |

\* Register must be updated on a daily basis

Key: S B - Stock Brand

Submit to SV on a monthly basis during monthly staff meeting or weekly during vaccination campaigns.

### Sub-annex 3.3 - VACCINE REPORT FOR VACCINATION TEAMS

Team leader: \_\_\_\_\_ Team Number \_\_\_\_\_

#### VACCINE BATCHES AND EXPIRING DATE

CBPP Batch No: \_\_\_\_\_ Expiry Date: \_\_\_\_\_  
 FMD Batch No: \_\_\_\_\_ Expiry Date: \_\_\_\_\_  
 Rabies Batch No: \_\_\_\_\_ Expiry Date: \_\_\_\_\_

| Date | Crush-<br>pen | Total Doses                |      |        |          |      |        |      |      |        |        |      |        |                      |      |        |
|------|---------------|----------------------------|------|--------|----------|------|--------|------|------|--------|--------|------|--------|----------------------|------|--------|
|      |               | On hand (Beginning of Day) |      |        | Received |      |        | Used |      |        | Wasted |      |        | On hand (End of Day) |      |        |
|      |               | FMD                        | CBPP | Rabies | FMD      | CBPP | Rabies | FMD  | CBPP | Rabies | FMD    | CBPP | Rabies | FMD                  | CBPP | Rabies |
|      |               |                            |      |        |          |      |        |      |      |        |        |      |        |                      |      |        |
|      |               |                            |      |        |          |      |        |      |      |        |        |      |        |                      |      |        |
|      |               |                            |      |        |          |      |        |      |      |        |        |      |        |                      |      |        |
|      |               |                            |      |        |          |      |        |      |      |        |        |      |        |                      |      |        |
|      |               |                            |      |        |          |      |        |      |      |        |        |      |        |                      |      |        |
|      |               |                            |      |        |          |      |        |      |      |        |        |      |        |                      |      |        |
|      |               |                            |      |        |          |      |        |      |      |        |        |      |        |                      |      |        |
|      |               |                            |      |        |          |      |        |      |      |        |        |      |        |                      |      |        |
|      |               |                            |      |        |          |      |        |      |      |        |        |      |        |                      |      |        |
|      |               |                            |      |        |          |      |        |      |      |        |        |      |        |                      |      |        |
|      |               |                            |      |        |          |      |        |      |      |        |        |      |        |                      |      |        |
|      |               |                            |      |        |          |      |        |      |      |        |        |      |        |                      |      |        |
|      |               |                            |      |        |          |      |        |      |      |        |        |      |        |                      |      |        |
|      |               |                            |      |        |          |      |        |      |      |        |        |      |        |                      |      |        |
|      |               |                            |      |        |          |      |        |      |      |        |        |      |        |                      |      |        |
|      |               |                            |      |        |          |      |        |      |      |        |        |      |        |                      |      |        |
|      |               |                            |      |        |          |      |        |      |      |        |        |      |        |                      |      |        |

\*TOTAL NB: UPDATE DAILY: TOTAL DOSES = TOTAL ANIMALS VACCINATED; \*TOTAL = WEEKLY TOTAL, INCLUDING CRUSHPENS

\_\_\_\_\_  
SIGNATURE

\_\_\_\_\_  
SIGNATURE

\_\_\_\_\_  
TEAM LEADER

\_\_\_\_\_  
CAHT

\_\_\_\_\_  
DATE

\_\_\_\_\_  
DATE

**Sub-annex 3.4 - VACCINATION CAMPAIGN CHECKLIST**

Team number

Team leader AHT:

DATE:

| ITEM                   | CRITERIA AREA                                                          | GOOD | SATIS-FACTORY | POOR | REMARKS |
|------------------------|------------------------------------------------------------------------|------|---------------|------|---------|
| Staff Welfare          | Health                                                                 |      |               |      |         |
|                        | Morale                                                                 |      |               |      |         |
|                        | Use of Uniforms                                                        |      |               |      |         |
|                        | Conduct at work                                                        |      |               |      |         |
|                        | Supplies given (repellents etc)                                        |      |               |      |         |
| Cold Chain Maintenance | Vaccine Storage                                                        |      |               |      |         |
|                        | Sufficient ice blocks in cooler box                                    |      |               |      |         |
|                        | Cool box condition                                                     |      |               |      |         |
|                        | Is cooler box kept closed?                                             |      |               |      |         |
|                        | Is extra cooler box used to avoid constant opening?                    |      |               |      |         |
|                        | Is there sufficient use of shading?                                    |      |               |      |         |
|                        | Is the vaccine mixed properly                                          |      |               |      |         |
|                        | Vaccine protected from sunlight during mixing and withdrawal?          |      |               |      |         |
|                        | Is the vaccine vial returned onto ice immediately after withdrawal?    |      |               |      |         |
| Vaccine viability      | Is the loaded syringe kept on ice when loading animals into crush pen? |      |               |      |         |
|                        | Colour                                                                 |      |               |      |         |
|                        | Consistency (precipitation/ frozen etc)                                |      |               |      |         |
|                        | Are there sediments or contaminants (Shake well)                       |      |               |      |         |
| Vaccination            | Are CBPP Pellets intact?                                               |      |               |      |         |
|                        | What is the condition of the crush-pen?                                |      |               |      |         |
|                        | Is the crush pen properly filled with animals?                         |      |               |      |         |
|                        | Does the vaccinator lift the skin before injection?                    |      |               |      |         |
|                        | Is the staff member vaccinating in the appropriate site?               |      |               |      |         |
|                        | Is there proper penetration of the skin?                               |      |               |      |         |
|                        | Are the vaccinated animals of correct age?                             |      |               |      |         |
| Vaccine equipment      | Are the needles replaced constantly as stipulated?                     |      |               |      |         |
|                        | Are the syringes calibrated correctly?                                 |      |               |      |         |

|                         |                                                                  |  |  |  |  |
|-------------------------|------------------------------------------------------------------|--|--|--|--|
|                         | Is there no leakage on syringes?                                 |  |  |  |  |
|                         | Are the moving part well lubricated and moving well?             |  |  |  |  |
|                         | Are there sufficient needles?                                    |  |  |  |  |
|                         | Are the needles sharp?                                           |  |  |  |  |
|                         | Are there sufficient spare parts?                                |  |  |  |  |
|                         | Are there sufficient disposable syringes and needles?            |  |  |  |  |
|                         | Are there sufficient branding irons in fire and spare ones?      |  |  |  |  |
|                         | Are the irons red-hot as expected?                               |  |  |  |  |
| Equipment Sterilisation | Is there sufficient fire for boiling water?                      |  |  |  |  |
|                         | Is the sterilizer on fire and with sufficient boiling water?     |  |  |  |  |
|                         | How clean is the water being used?                               |  |  |  |  |
|                         | Are roux syringes and their accessories apparently clean?        |  |  |  |  |
|                         | Are Roux syringes sterilized before commencement of vaccination? |  |  |  |  |
|                         | Are there needles being sterilized in the pot?                   |  |  |  |  |
|                         | Are the needles kept in boiling water for adequate time?         |  |  |  |  |
|                         | Are the needle boxes also sterilized?                            |  |  |  |  |
|                         | Is the storage of needles and roux syringe accessories hygienic? |  |  |  |  |
|                         | Is there proper use of disposable syringes and needles           |  |  |  |  |
| Camping equipment       | Does the sterilizer have a lead?                                 |  |  |  |  |
|                         | Are tents well pitched, kept and clean?                          |  |  |  |  |
|                         | Is the shade net not torn and well mounted?                      |  |  |  |  |
|                         | Are chairs & table used properly and in sound condition?         |  |  |  |  |
| Vehicle Condition       | Are water containers not leaking?                                |  |  |  |  |
|                         | Are all spares and emergency kits intact?                        |  |  |  |  |
| REPORTS                 | Are registers being kept?                                        |  |  |  |  |
|                         | Livestock census register filled?                                |  |  |  |  |
|                         | Vaccinated animals counting properly done and recorded           |  |  |  |  |
|                         | Vaccine register updated                                         |  |  |  |  |
|                         | Community Visit Form completed                                   |  |  |  |  |
|                         | Suspicion Forms completed                                        |  |  |  |  |
|                         | Monthly Activity reports filled                                  |  |  |  |  |

### Sub-annex 3.5 - DIRECTORATE OF VETERINARY SERVICES TRIP CONTROL FORM

Vehicle number :

Driver:

Period:

Page no:

| Date  | Time   |        | Odometer Reading |        | No KM | Place visited | Purpose/Remark |
|-------|--------|--------|------------------|--------|-------|---------------|----------------|
|       | Depart | Return | Start            | End Km |       |               |                |
|       |        |        |                  |        |       |               |                |
|       |        |        |                  |        |       |               |                |
|       |        |        |                  |        |       |               |                |
|       |        |        |                  |        |       |               |                |
|       |        |        |                  |        |       |               |                |
|       |        |        |                  |        |       |               |                |
|       |        |        |                  |        |       |               |                |
|       |        |        |                  |        |       |               |                |
|       |        |        |                  |        |       |               |                |
|       |        |        |                  |        |       |               |                |
|       |        |        |                  |        |       |               |                |
|       |        |        |                  |        |       |               |                |
|       |        |        |                  |        |       |               |                |
|       |        |        |                  |        |       |               |                |
| TOTAL |        |        |                  |        |       |               |                |

## Sub-annex 3.6 - Vaccination Campaign Report

### Organization Responsibility

|                                   |  |
|-----------------------------------|--|
| State Veterinary area             |  |
| Date of campaign                  |  |
| Responsible State Vet             |  |
| Chief Animal Health Inspector (s) |  |
| Control animals Health Inspector  |  |

### General Remarks:

|                                                                  |  |  |  |
|------------------------------------------------------------------|--|--|--|
| Previous year's deficiencies corrected?<br>If "no " give reasons |  |  |  |
| Condition of vehicle(s)                                          |  |  |  |
| Farmer co-operation                                              |  |  |  |
| Effectiveness of cold chain                                      |  |  |  |
| Vaccine reactions: no. affected                                  |  |  |  |
| Deficiencies to be corrected                                     |  |  |  |

### Summary report (State Veterinarian):

| TRAVEL COST        |              |              |            |            |
|--------------------|--------------|--------------|------------|------------|
| Vehicle reg.       | Driver/Owner | Km travelled | Tariff/km  | Total cost |
|                    |              |              |            |            |
|                    |              |              |            |            |
|                    |              |              |            |            |
|                    |              |              |            |            |
|                    |              |              |            |            |
|                    |              |              |            |            |
|                    |              |              |            |            |
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|                    |              |              |            |            |
|                    |              |              |            |            |
|                    |              |              |            |            |
|                    |              |              |            |            |
|                    |              |              |            |            |
|                    |              |              |            |            |
|                    |              |              |            |            |
| Total KM travelled |              |              | Total cost |            |

### Recommendations (State Veterinarian):

| <b>VACCINE COST</b>                                                                                                                                                                                      |            |            |            |            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|------------|------------|
| Name /type of vaccine                                                                                                                                                                                    | Vaccine #1 | Vaccine #2 | Vaccine #3 | Vaccine #4 |
| Cost/code                                                                                                                                                                                                |            |            |            |            |
| Total doses acquired                                                                                                                                                                                     |            |            |            |            |
| No. doses used                                                                                                                                                                                           |            |            |            |            |
| Total costs of Used doses                                                                                                                                                                                |            |            |            |            |
| No. wasted                                                                                                                                                                                               |            |            |            |            |
| Cost of wasted doses                                                                                                                                                                                     |            |            |            |            |
| No. surplus                                                                                                                                                                                              |            |            |            |            |
| Value of surplus doses                                                                                                                                                                                   |            |            |            |            |
| <p>NB: No. Doses used = No. animals vaccinated<br/>           No. Doses used + Wasted+surplus = total doses acquired.<br/>           Please ensure that these figures balance for each vaccine used.</p> |            |            |            |            |

| <b>ORGANISATION</b>                  |  |
|--------------------------------------|--|
| No. of teams                         |  |
| Average members/team                 |  |
| Level of co-ordination between teams |  |
| Other problems                       |  |

| <b>VACCINE DETAILS</b>         |            |            |            |  |
|--------------------------------|------------|------------|------------|--|
| Name/ type of vaccine          | Vaccine #1 | Vaccine #2 | Vaccine #3 |  |
| Species vaccinated             |            |            |            |  |
| No. Animals vaccinated         |            |            |            |  |
| Total population (from census) |            |            |            |  |
| Percentage vaccinated          |            |            |            |  |
|                                |            |            |            |  |

| <b>PERSONNEL AND TRAVEL COST ASPECTS:</b> |              |                   |                |                    |
|-------------------------------------------|--------------|-------------------|----------------|--------------------|
| Veterinarians                             | No. involved | Total S\$T claims | Total Overtime | Total S&T Overtime |
| Control AHI                               |              |                   |                |                    |
| Chief AHI                                 |              |                   |                |                    |
| AHI                                       |              |                   |                |                    |
| SIA                                       |              |                   |                |                    |
| Labourers +W/hands                        |              |                   |                |                    |
| Factotums/Drivers                         |              |                   |                |                    |
| Casual Labourers                          |              |                   |                |                    |
| <b>Total Cost/ Expenses</b>               |              |                   |                |                    |

| <b>OTHER COSTS (E.G. Ice, REPLACEMENT</b> |          |            |
|-------------------------------------------|----------|------------|
| Item                                      | No. used | Total cost |
|                                           |          |            |
|                                           |          |            |
|                                           |          |            |
|                                           |          |            |
|                                           |          |            |
|                                           |          |            |
|                                           |          |            |
| <b>Total cost</b>                         |          |            |

The following section is used by Head office staff only

| <b>COSTS</b>                                                           |  |
|------------------------------------------------------------------------|--|
| Cost of campaign including personnel, transport & vaccines acquired    |  |
| Cost of campaign including personnel, transport, vaccine used & wasted |  |
| Cost of campaign including personnel, transport, only vaccine used     |  |
| General remarks                                                        |  |
| Based on the figures, true cost/animals                                |  |
|                                                                        |  |

| DATA TRANSFER            |      |                        |
|--------------------------|------|------------------------|
|                          | Date | Responsible technician |
| Transferred to data bank |      |                        |
|                          |      |                        |
|                          |      |                        |
|                          |      |                        |

| CHECKED BY:                  |  |
|------------------------------|--|
| Deputy Director / Area       |  |
| Epidemiology Section         |  |
| Director Veterinary Services |  |
|                              |  |

### Annex 4: Outbreak Inspection Form

Republic of Namibia  
Directorate of Veterinary Services  
Ministry of Agriculture, Fisheries, Water and Land Reform

#### FMD Outbreak Inspection Form

SV Office \_\_\_\_\_ Date of Inspection:    /    /    Name of Official \_\_\_\_\_

Rank \_\_\_\_\_ Ref No \_\_\_\_\_

Crush Pen/Farm \_\_\_\_\_

Census    Cattle \_\_\_\_\_ Goats \_\_\_\_\_ Sheep \_\_\_\_\_ Pigs \_\_\_\_\_

| CONSTITU-<br>ENCY | VILLAGE<br>/PLACE | OWNER | SPECIES<br>INSPECTED | NO.<br>INSPECT-<br>ED | ANY MOVEMENTS<br>INTO OR OUT OF<br>HERD IN LAST<br>MONTH & NO. | FINDINGS |
|-------------------|-------------------|-------|----------------------|-----------------------|----------------------------------------------------------------|----------|
| 1                 |                   |       |                      |                       |                                                                |          |
| 2                 |                   |       |                      |                       |                                                                |          |
| 3                 |                   |       |                      |                       |                                                                |          |
| 4                 |                   |       |                      |                       |                                                                |          |
| 5                 |                   |       |                      |                       |                                                                |          |
| 6                 |                   |       |                      |                       |                                                                |          |
| 7                 |                   |       |                      |                       |                                                                |          |

Signature (AHT) \_\_\_\_\_

***NB Sample form at the back***

## Annex 5: Sample Collection Form

| ANIMAL<br>EAR-TAG<br>ID NUMBER | OTHER<br>IDENTIFICA-<br>TION | SPE-<br>CIES | AGE | SEX | MAJOR<br>CLINICAL<br>SIGNS | TYPE OF<br>SAMPLE | SAM-<br>PLE ID | LAB RE-<br>SULT |
|--------------------------------|------------------------------|--------------|-----|-----|----------------------------|-------------------|----------------|-----------------|
|                                |                              |              |     |     |                            | Blood             |                |                 |
|                                |                              |              |     |     |                            | Vesicular fluid   |                |                 |
|                                |                              |              |     |     |                            | Epithelium        |                |                 |
|                                |                              |              |     |     |                            | Other             |                |                 |
|                                |                              |              |     |     |                            | Blood             |                |                 |
|                                |                              |              |     |     |                            | Vesicular fluid   |                |                 |
|                                |                              |              |     |     |                            | Epithelium        |                |                 |
|                                |                              |              |     |     |                            | Other             |                |                 |
|                                |                              |              |     |     |                            | Blood             |                |                 |
|                                |                              |              |     |     |                            | Vesicular fluid   |                |                 |
|                                |                              |              |     |     |                            | Epithelium        |                |                 |
|                                |                              |              |     |     |                            | Other             |                |                 |
|                                |                              |              |     |     |                            | Blood             |                |                 |
|                                |                              |              |     |     |                            | Vesicular fluid   |                |                 |
|                                |                              |              |     |     |                            | Epithelium        |                |                 |
|                                |                              |              |     |     |                            | Other             |                |                 |

## **Annex 6: Protocol for Roadblocks and Bio-Security Measures During FMD Outbreaks**

The FMD virus can be spread from the containment zone through, among other routes, movement of cloven-hoofed animals, animal products and fomites (including vehicles and other inanimate objects). Roadblocks should be set up on all routes going out from the outbreak area. The objective is to minimise the risk of FMDV spread from the containment zone. This protocol is meant to give guidelines pertaining to roadblocks and bio-security measures during FMD outbreaks.

### **Materials and equipment needed**

Offices should ensure that they have full sets of road signs to enable them to safely set up a roadblock. The following is a list of equipment required to adequately mount a safe roadblock:

- A warning light
- A pair of each of the following speed limits markers: 100, 80, 60 and 30km
- A pair of stop signs
- A pair of veterinary warning signs indicating the presence of a roadblock
- In addition to the above, roadblock personnel should be provided with tents, reflective clothing material, torches, a table, disinfection equipment, washing soda and enough Water.

### **Training of roadblock personnel**

Before staff members and/or casual labourers are deployed at roadblocks, they have to be thoroughly trained and briefed on what is expected of them. This training should, among other things, include the principles outlined in the Watchman Protocol and the proper conduct when dealing with members of the public. Copies of all protocols and lists of items to be checked for should be furnished to the roadblock personnel.

### **Setting up a roadblock**

Roadblocks should be set up on all routes from the FMD suspected foci. This should be done as soon as FMD is suspected, whilst awaiting laboratory confirmation. Roadblocks should set up in accordance with the relevant regulations. The safety of both members of the public and staff is paramount. All precautionary measures should be taken in order to avoid risking human lives.

### **Manning roadblocks**

When the vehicle stops proceed to first introduce yourself to the driver and explain why and what you are looking for. Ask the driver if he/she is carrying any animals or animal products, or any potentially infectious materials.

### **Politely ask for permission to search the vehicle**

Proceed to search the vehicle in the presence of the driver

Spray the sides of the tyres of the vehicle with the prescribed disinfectant (5% washing soda, Virkon-S or 2% sodium hydroxide)

Allow the vehicle to proceed if nothing has been found.

### **Disposal of confiscated items**

All confiscated products must always be registered and destroyed (burnt) in the presence of a witness, preferably a police officer, if available. Create a record of destruction of products in the register kept for this purpose indicating the owner, date, time, staff member responsible for the destruction, nature of products, name and signature of the police officer witnessing etc.

## Sub-annex 6.1 Road Blocks

### CONTROL OF MOVEMENT OF ANIMALS / PRODUCTS AND INFECTIOUS THINGS THROUGH ROADBLOCKS IN A FOOT AND MOUTH DISEASE OUTBREAK AREA

**The following animals/infectious things may not under any circumstances be allowed to move from an FMD outbreak area:**

- All cloven-hoofed animals.
- Raw meat of animals of cloven-hoofed animals
- Raw / fresh milk
- Hair, bristle, wool, horns, bone, semen, blood, manure and skin of animals.
- Grass, hay, straw, lucerne.
- Bone, bone meal, carcass meal and blood meal.
- Hides and skins

**The following may only be moved from an FMD outbreak area with a veterinary permit:**

Wild animals without cloven hooves: zebra, rhinoceros, elephant, wild carnivores, etc.

**The following may be moved from an FMD outbreak area without a veterinary permit:**

- Dogs and cats.
- Horses, donkeys and mules.
- Live poultry and birds, feathers, eggs and raw meat of poultry and birds Fish,
- reptiles, frogs and worms.
- Wood carvings, mats, baskets, curios and pottery.
- Rolls of tobacco, buchu leaves and powder, firewood.
- Vegetables, fruit, wild fruit, free from manure / blood.
- Leafy vegetables such as cabbage, spinach, lettuce, celery, etc. if free from
- manure / blood.

Pot-plants, sedges, palm branches, leaves, vegetable runners, seeds of plants including maize, mahangu, cereals: loose or in containers or bags, provided they are free from manure / blood.

- Used / unused jute bags, lariats (rieme), ropes and meat cloths free from manure
- / blood.
- Curds (sour milk), whey, butter, margarine and cheese.
- Cooked travel rations (padkos) - all portions of meat must be cooked and free of blood [Refer to 1 (b)].

Bio-security measures

Disposal of infectious materials (manure, milk, contaminated materials e.g. grass etc) Destruction of animals

Communication strategy

Communication plan

## Sub-annex 6.2: Destruction of Animals Protocol

Material in this annexure was borrowed from the FAO on the website:

[http://www.fao.org/docrep/004/y0660e/y0660e\\_01.htm](http://www.fao.org/docrep/004/y0660e/y0660e_01.htm)

### A. Introduction

If an outbreak of a transboundary animal disease or other serious disease occurs and a stamping-out policy is adopted for its control and eradication, it may be necessary to destroy a large number of animals. It is essential that these animals are speedily and humanely slaughtered and are indeed dead before disposal of carcasses commences. Speed is of the essence of the disease has been confirmed because, in most situations, the live animals will continue to disseminate the disease pathogen.



An experienced veterinarian should be present during destruction. There is likely to be considerable public interest, at least initially, in the destruction of animals. Positive media coverage concerning animal welfare will reflect favorably on staff and increase community support for the eradication campaign.

The destruction of large animals poses the biggest concern. They may have to be destroyed individually in public view with firearms, humane killers (captive-bolt pistols) or other means.

Officers in charge must be aware of the impact that animal destruction will have on all personnel involved. They must quickly acquaint themselves with the skills and experience of all assistants and brief and train them accordingly. Furthermore, they must be aware that some people will be unable to handle the mentally and physically stressful environment likely to be encountered.

Where possible, the livestock owner and his or her family should not be present during the slaughter process, as they may experience considerable distress. Counselling and welfare should be made available if needed.

The policy regarding compensation for destroyed animals should be communicated clearly to owners before destruction is attempted. Destruction of animals without adequate compensation of owners is likely to meet with serious opposition and at worst result in large-scale illegal movement of animals and/ or their products. Payment of compensation at market-related prices is the only way to ensure owner cooperation and the success of the eradication campaign.

What animals should be slaughtered will depend on the disease in question and the epidemiological circumstances. In some non-emergency diseases, e.g. bovine tuberculosis, slaughter of individual infected animals only may be necessary.

**For emergency diseases, one of two options is usually selected:**

- If animals in the infected zone are not well controlled and there is a serious risk of further rapid spread of the disease or spill over to feral or wild animals or if inadequate resources are available for surveillance and imposition of quarantine and movement controls, it may be expedient to slaughter all animals in the infected zone or in specific areas of the zone.
- If animals are well contained on farms and resources are available for surveillance and imposition of quarantine and movement controls, the best decision would probably be to slaughter only animals on known infected farms and dangerous-contact premises.

This decision will depend on the mode of disease transmission; it will be different for diseases capable of airborne dissemination over distances and those requiring direct contact.

## **B. Organization of destruction**

### **Action Plan**

Planning is essential to ensure that the task of destruction is carried out efficiently and not impeded by lack of resources. An action plan should be drawn up in consultation with owners or agents and appropriate officials. The procedures below should be followed.

**The veterinary officer should undertake the tasks listed below.**

- Discuss the situation with affected farmers and village leaders, briefing them on what is going to happen, including the method of compensation.
- Consult with the farm owner/manager and/or village leaders to establish:
  - farm layout, facilities and equipment;
  - the number, species and location of animals to be destroyed;
  - the destruction technique to be used;
  - The time-frame for commencement and completion of animal destruction.
- Decide on the methods and facilities needed for safe, humane and efficient destruction of the animals.

- Advise the team leader of immediate resources needed to move and secure animals in preparation for destruction.
- Consult with the officer in charge (OIC) of the disposal team if different from the destruction team, determine the disposal method and site; if necessary, identify centrally located carcass disposal sites as close as practicable to the site of destruction.
- Draw up a concise written plan for approval, including:
  - destruction method(s);
  - destruction site(s);
  - order of destruction;
  - personnel required;
  - facilities and equipment needed.
- Make a diagram of the infected property (IP) or dangerous-contact premises (DCP), including details of the destruction operation.
- Make sure that there is a complete inventory of animals to be destroyed on the property, not delaying destruction because there has been no agreement on valuation; where possible, all animals should be valued before destruction; where there is no prior agreement on valuation, provide close supervision to ensure that all the animals are available for destruction.
- Seek authority to destroy in terms of the law(s) pertaining to control of animal diseases when there is a delay in reaching agreement on valuation with the owner or his/her agent; delay may endanger the success of the operation and result in negative perceptions of animal disease control activities.
- Request livestock owners to assemble, confine and restrain their animals the day before the destruction team starts operations.
- Ensure that animals not to be destroyed, including domestic pets, are confined well away from the destruction site.
- Send a team into the surrounding countryside to assess the presence of free-roaming or unrestrained susceptible animals.
- Arrange for teams to be sent to round up, shoot or poison such animals where they are; helicopter shooting by trained marksmen may be the only option, in which case proper disposal of carcasses is essential, as the animals may already be infected.
- Arrange for any necessary support services, such as police and army personnel, to be made available.

**Before commencing destruction, the team leader should carry out the tasks below.**

- Move animals to the center of the IP or to areas most remote from other susceptible animals, including wild animals.
- Brief the destruction teams then supervise and coordinate their activities.
- Ensure that:
  - destruction takes place away from public view if possible;
  - destruction facilities, methods and working conditions are consistent with personal safety;
  - destruction is humane and that no animal is removed for disposal until it is dead;
  - destruction teams receive adequate rest and meal breaks.
- Make every effort to avoid damage to property; damage must be drawn to the attention of the owner/ manager, recorded and reported promptly.
- Check all destruction against the authorized inventory, to ensure that all variations are accounted for (e.g. births and natural deaths) and that all animals scheduled for destruction have in fact been destroyed.
- Provide a situation report for the team leader at the end of each day.
- Advise the team leader of resource requirements for the next 48 hours.
- Advise the appropriate officer/s immediately destruction has been completed, so that other tasks, such as disinfection, can be started without delay; carcasses and the destruction area should be sprayed with disinfectant as soon as destruction is complete.

The factors that need to be considered in selecting a destruction site are:

- facilities available on site;
- additional facilities and equipment required;
- animal security;
- proximity of the disposal site and ease of access;
- safety of personnel;
- acceptability to the owner/manager;
- safe and secure means of transporting carcasses to the destruction site;
- likelihood of damage to property and services;
- Protection from public view.

### **Order of Destruction**

The order of destruction will be determined by the veterinary officer in charge of the operation. Normally the order will be:

- affected animals and their direct contacts;
- Other susceptible animals in order of epidemiological importance.

In foot-and-mouth disease, pigs should be destroyed before other species.

Fractious and potentially dangerous animals, such as bulls, sows with litters and boars should be destroyed first.

### **C: Methods of destruction**

Methods of destruction of animals are set out below. Rabid or suspect rabid animals should be shot in the heart with a firearm to preserve the brain, which is the best diagnostic specimen, and to avoid contamination of personnel with potentially infective brain or saliva. Animals with bovine spongiform encephalopathy (BSE) or Scrapie should not be shot through the head, as brain tissue is required for diagnostic testing.

#### **Firearms (Rifles and Guns)**

Ensure compliance with any firearm licensing requirements, including the use of trained and approved operators for rifles and guns.

Part of the preparation process for an emergency disease outbreak is to ensure that firearms operators experienced in shooting livestock can be contacted at short notice. The following aspects of firearms safety should be considered:

- All firearms are potentially hazardous.
- When shooting at short range in stockyards, relatively low-velocity hollow/soft-point ammunition should be used. Solid-point ammunition should be avoided, because the projectiles can leave the target at high velocity, which is dangerous to personnel in the area. Hollow point ammunition disintegrates when entering the target, more effectively destroying brain tissue. (For details see relevant species in Chapter 4.) When paddock shooting, use high velocity, hollow/soft-point ammunition.
- Persons other than the shooters and assistants should be cleared from the area or should stand well behind the shooters. The line of fire must be chosen to prevent accidents or injury from stray bullets or ricochets.
- To provide maximum impact and the least possibility of misdirection, the range should be as short as circumstances permit.
- Although the humane killer pistol and captive-bolt pistol are designed to be pressed firmly on the head before being discharged, it is not safe to do this with a standard rifle or pistol.

- Always notify police before using firearms near populated areas.

### **Advantages of using firearms**

The advantages of firearms are:

- clean kills in the hands of experienced operators;
- handling individual animals is not necessary;
- destruction of animals from a distance;
- firearms and ammunition are readily available;
- many people are proficient in their use.

### **Disadvantages of using firearms**

The disadvantages of firearms are:

- they are potentially dangerous;
- they are unsuitable for use close to populated areas.

### **Captive-Bolt Pistols**

Captive-bolt pistols are an acceptable alternative to firearms where animals are sufficiently restrained, provided that the team understands that animals may be stunned rather than killed. They must be competent to know when an animal is only stunned and trained and equipped to kill such an animal immediately after stunning.

### **Captive-bolt pistol**

Provided that animals are properly restrained and that the slaughter team is aware that animals may be stunned but not killed, the captive-bolt pistol is an alternative to firearms.

Blank cartridges for the captive-bolt pistol are colour coded according to the amount of charge they contain. It is essential that manufactures' recommendations should be followed regarding blank cartridges for different farm animals. The most widely used is the "Cash Special", a single shot .22 calibre captive bolt similar to a revolver.

It uses three different loads:

- pink: 1 grains (weaners);
- purple: 2 grains (sheep);
- green: 3 grains (cattle, boars).

Regular maintenance of the captive-bolt pistol is essential for efficient stunning.

When using a captive-bolt pistol, more than one operator can work in the same area with safety. Spare weapons and parts should be on hand.

### **Advantages of captive-bolt pistols**

- The advantages of captive-bolt pistols are:
- operator safety, as there is no free projectile;
- both pistols and ammunition are readily obtainable;
- ease of use;
- operators do not need to be expert shooters; they must, however, be trained in correct placement of the pistol against the head in the different species.

## Disadvantages of captive-bolt pistols

The disadvantages of captive-bolt pistols are:

- they usually only stun larger animals such as cattle over one-year old, sows, boars, billy goats and rams, which must then be pithed or bled (see Pithing, below) to ensure death;
- some animals have to be individually restrained;
- they are relatively slow, especially when destroying large numbers of animals.

Humane killers that work on the same principle as the captive bolt but destroy a larger amount of tissue are a better option.

## Pithing

Pithing is the process of destroying nervous tissue in the region of the brain stem to ensure the death of the animal. It is usually done by inserting a rod through the hole made by the captive-bolt in the head or by severing the spinal cord between the atlas and axis, the first and second bones of the neck.

Pithing unstunned animals is not an acceptable method of destruction as it is inhumane. It is essential on animals that have been stunned only, for example when captive-bolts are used on larger animals.

Pithing is also a safety measure to prevent workers being struck by the involuntary movements of a stunned animal.

Pithing is preferable to exsanguination, or bleeding out, which could release infectious material and make working conditions slippery and dangerous.

## Other Physical Methods

### Exsanguination

Exsanguination combined with stunning or neck dislocation is a humane method of destruction of sheep and goats when performed by an experienced operator. It is undesirable, however, because released infectious material makes the destruction site slippery and dangerous.

## D. Destruction of various species

The preferred methods of destruction of various domestic species and the factors that determine the selection are set out below.

**Cattle and Buffalo** Under most circumstances, cattle and domesticated (water) buffalo will be mustered into yards and shot. In extensive areas where 100 percent musters cannot be achieved, unmastered animals will be paddock shot, after first mustering as many as possible.

Captive-bolt pistols are most suitable when animals can be adequately restrained (see Captive-bolt pistols, p. 10). Injectable agents may be most suitable for small numbers of calves.

### Frontal method

The firearm should be directed at the point of intersection of lines taken from the base of each horn (or equivalent position in polled animals) to the opposite eye, aiming at the spine (Figure 2a). For bulls or older animals, the bullet should enter about 1 cm to the left or right of this point and hard point/jacketed ammunition may be necessary. Small calves may be shot just behind the nuchal crest (poll) in the mid-line, aiming directly at the muzzle (Figure 2c). Alternatively, a captive-bolt pistol using cartridges may be used.

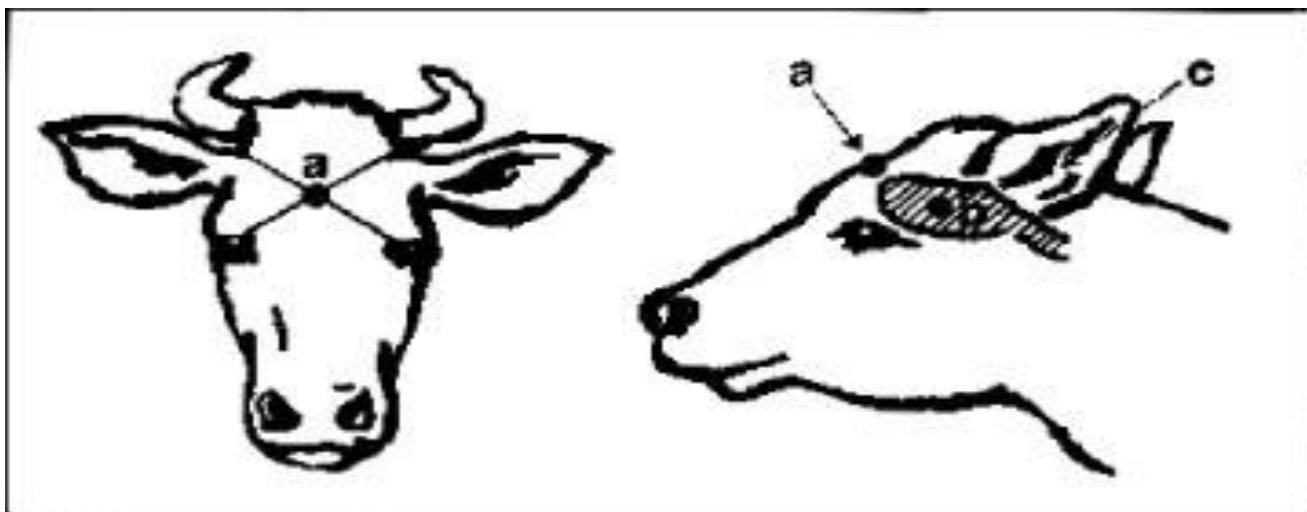


Figure 19

Humane destruction of cattle: (a) recommended position for frontal method (suitable for firearm or captive-bolt pistol); (b) recommended position for temporal method (only suitable for firearms); (c) recommended position for small calves.

### Temporal method

This is only suitable for firearms. The animal is shot from the side so that the bullet enters the skull midway between the eye and the base of the ear. The bullet should be directed horizontally (Figure 2b).

### Shooting in yards

Ideally, only personnel who have had previous experience in this type of work should undertake the task. If such personnel are not available, the task may be allocated to police or army marksmen. They should be fully briefed on humanitarian and safety aspects of destruction before commencing yard shooting. Only hollow/soft point ammunition should be used. The minimum caliber should be .22 magnum; maximum caliber should be .44 magnum (240 grain) or .375 (250 grain).

Operate from a top rail, preferably in a small yard. It is not practical to shoot in a crush unless dealing with very small numbers and the crush is equipped with a side opening gate, in which case a captive-bolt pistol should be considered.

### Paddock/extensive area destruction

Shooting from helicopters is usually the most effective method of destroying unmusterable cattle. Appropriate civil aviation authority approval may be needed before rifles may be used from helicopters. This should be carried out only by experienced, trained personnel with current proficiency in this type of operation. Untrained personnel should undergo a training course and pass a practical and written test at its conclusion before shooting from a helicopter. Minimum recommended caliber is .308 soft point with semi-automatic rifles such as the M14, SLR or MIA.

Shots aimed to destroy the brain are preferred but for practical reasons this is not generally

possible with helicopter shooting, in which case heart/lung shots can be used.

The problem of rapid destruction of large numbers of cattle on intensive feedlots is not easy to resolve. The possibility of using a lethal oral agent in water or feed should be considered. Technique for domesticated (Asian) buffaloes

As for cattle except:

- hard point/jacketed ammunition is preferable for large animals;
- for small numbers, when use of semi-automatic rifles is not critical, use heavier caliber or magnum rifles;
- frontal shooting: check the angle of impact, as a buffalo will often raise its nose.

## (ii) Sheep

The preferred method of destruction is by .22 rifles or captive-bolt pistols.

### Hornless sheep

The top of the head (center of upper forehead) is a suitable position, with the firearm or captive-bolt being aimed towards the animal's gullet. Alternatively, the weapon may be placed just behind the poll and aimed in the direction of the animal's muzzle. Both methods are illustrated in Figure 3.

### Horned sheep

If using a captive-bolt pistol, the top-of-the-head position used for hornless sheep may not be suitable, in which case the weapon may be placed behind the poll and aimed in the direction of the animal's muzzle (Figure 4a). If using a firearm, shoot at a point in the middle of the face just above the level of the eyes, aiming towards the spine (Figure 4b).

- **Rams:** it may be easier to use .22 magnum rifle, depending on facilities. If captive-bolt is more practical, heavy duty cartridges should be used (see Captive-bolt pistols, p. 10).
- **Wethers/ewes:** sheep must be packed tightly as destruction proceeds. This can be achieved using light portable panels or mesh.
- **Newborn lambs:** these should be separated and given sodium pentobarbitone (intraperitoneal, 3-5 ml through automatic syringes).



FIGURE 20

Humane destruction of hornless sheep: recommended positions and direction of fire for captive-bolt pistol or firearm.



FIGURE 21

Humane destruction of horned sheep: recommended position and direction of fire for (a) captive - bolt pistol or (b) firearm.

### (iii) Pigs

Pigs are particularly difficult to destroy. Captive-bolt pistols or heavy-calibre humane killers should be used for housed pigs to avoid the danger of ricochets. Housed pigs may be moved outside and destroyed with firearms. Sows with litters are particularly fractious and difficult to handle. Pigs in paddocks can be shot using firearms.

Use sodium pentobarbitone on unweaned pigs. Intraperitoneal injections of 3-5 ml of a suitable product using automatic syringes are satisfactory.

#### Frontal method

The captive-bolt pistol or firearm should be directed at a point about midway across the forehead and, for adult pigs, about 2 cm above the level of the eyes (Figure 5a).

#### Temporal method

This is only suitable for firearms. The pig is shot from the side so that the bullet enters the skull at a point midway between the eye and the base of the ear. The bullet should be directed horizontally into the skull (Figure 5b). This method is preferred for adult pigs because of the heavier bone structure of the front of the skull.

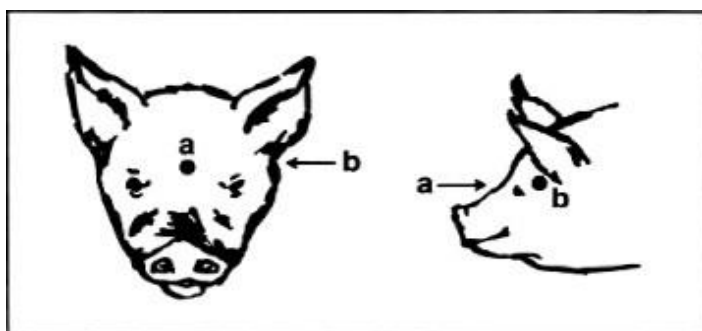


FIGURE 22

*Humane destruction of pigs: recommended position and direction of fire for (a) frontal method (suitable for captive-bolt pistol or firearm) or (b) temporal method (suitable for firearm only).*

Feed one-third of the normal ration before commencement of destruction. Pigs will stay calmer and therefore be easier to handle. If slaughter is likely to be delayed, ensure sufficient feed is on hand.

- **Growers:** pack in tight; work round perimeter of yard, then climb in to finish balance of group. Pigs usually quieten as destruction progresses.
- **Sows:** do not yard too tightly, as they become upset if jammed and will start climbing on rails; work steadily; do not hurry. Use heavy duty cartridges in captive-bolt pistols (see Captive-bolt pistols, p. 10).
- **Boars:** use heavy-duty cartridges in captive-bolt (see Captive-bolt pistols, p. 10); if this is too difficult, use a .22 magnum rifle.
- **Small pigs:** use standard captive-bolt cartridges (see Captive-bolt pistols, p. 10). It is preferable to have small pigs caught and held over the rail of the yard while destroyed. A wheelbarrow can then be a useful means of conveyance to the front-end loader.

### (iv) Goats

Using either a captive-bolt pistol or firearm, aim the weapon to the skull behind the horns as shown in Figure 6. Aim in line with the animal's mouth. Kids may also be shot from the front, as for cattle. This method is not suitable for mature goats, as the brain is located well back in the skull compared to other livestock. Sodium pentobarbitone is also appropriate.

Humane destruction of goats: recommended position and direction of fire (captive-bolt pistol or firearm). Newborn kids should be separated and given sodium pentobarbitone (intraperitoneal 3-5 ml of a suitable product).

FIGURE 23



## E. Disposal procedures

### (i) Introduction

The primary objective of disposal of carcasses, animal products, materials and wastes is to prevent the dissemination of infection. This process is therefore part of an emergency animal disease eradication programme, particularly when a stamping-out policy is followed. It is important from an aesthetic point of view. Disposal should be completed as soon as possible after destruction, to minimize opportunities for infectious material to disperse. Carcasses are much easier to handle before decomposition has set in.

This manual outlines disposal methods appropriate for the emergency animal diseases most readily transmitted by fomites-foot-and-mouth disease, Newcastle disease, African swine fever and avian influenza - and zoonotic diseases. Less rigorous disposal methods may be appropriate for less readily transmitted diseases and non-zoonotic diseases. Carcasses and other items awaiting disposal should be guarded to prevent unauthorized access and to prevent domestic pets, wild animals and birds from removing potentially infectious material. Control of insects should be considered if there is a risk of passive transmission by insects to nearby susceptible species. If disposal is delayed, carcasses should be thoroughly sprayed with an approved disinfectant.

### Organizing stamping out

Among the activities is verification of numbers and ownership of animals. This may involve whole communities and is necessary to streamline the compensation process.

Before disposal work starts, personnel should be fully briefed. The nature of the disease and any hygiene requirements associated with zoonotic diseases should be explained on site. Respirators should be supplied to personnel when there is any risk to humans from the organism involved or if large amounts of dust are generated.

### Selection of disposal method and site

It is crucial to select a site which is well-protected from people and scavenging animals. On some occasions it may be necessary to mount a guard at the site for the first few days.

## **ii) Disposal on the Infected Premises (Or Dangerous-Contact Premises)**

Depending on local circumstances, burial may be the preferred method of disposal because it is quicker, cheaper, environmentally cleaner and easier to organize because there are fewer outside resources required.

### **General factors to be considered are:**

- nature and amount of material for disposal;
- availability of sites suitable for burial or cremation adjacent to the destruction site;
- accessibility to disposal site by heavy transport vehicles;
- nature of soil/rock formation in the available area;
- level of water table;
- proximity to water catchment areas, bores and wells;
- presence of services such as water, gas, electricity, telephone lines, drainage, sewerage and other improvements or structures, including aerial lines;
- proximity to built-up areas and dwellings, particularly in the case of cremation;
- fire restrictions and hazards in the case of cremation;
- weather conditions, including prevailing winds; it may be easier to cremate in excessively wet conditions;
- availability of plant for burial;
- availability of supplies of suitable fuel for cremation;
- presence of overhead structures such as power lines; these must be avoided when selecting burial and cremation sites;
- quantities of carcasses and other material for disposal;
- subsequent plans for the use of the area; for example, the soil may be unstable where burial pits are placed.

Disposal of animal carcasses and other infectious material may involve some adverse environmental consequences. It is important for the environmental aspects of proposed disposal activities to be properly considered, with advice from environmental agencies where possible, so as to ensure that the impact of such consequences be minimized. Consultation with relevant authorities, e.g., environmental protection agencies, will be necessary to obtain specific information on a number of these factors.

## **(iv) Disposal Off the Infected Premises (Or Dangerous-Contact Premises)**

Where burial, cremation or rendering are not considered practical or difficult to carry out on the infected or dangerous-contact premises, consideration could be given to transferral of carcasses and/or infectious material to another site for disposal by burial, cremation or rendering. This may be necessary when considering the disposal of materials from laboratories and in situations where site limitations, such as available space or watertable, effectively prevent on-site disposal. Furthermore, in some circumstances, such as with large volumes of material from feedlots, it may be preferable to dispose of carcasses by rendering if suitable facilities are available locally or can be transported to the site. If infectious and dangerous-contact premises are adjacent or in close proximity, a common disposal site be used.

Trucks are an essential and quick means of moving carcasses to the disposal sites. Transport should be in a leak-proof container, such as a large skip, covered with tough polyethylene covers and sealed at the top. It should not be overloaded - half a meter or more (depending on distance to be travelled and temperature) should be left clear for expansion of carcasses. Carcasses should not be slashed before loading. Vehicles should travel slowly to avoid splashing of contaminated material. Staff should carry a supply of an approved disinfectant and basic equipment to deal with minor spills during a journey. All vehicles must be cleaned and disinfected before leaving the premises and after unloading.

## F. Methods of disposal

### (i) Burial

#### Site selection

Important considerations for selecting burial sites include:

- access for equipment to dig the burial pit and for the delivery of livestock, carcasses or other materials to be buried;
- environmental aspects, such as:
  - the distance to watercourses, bores and wells
  - height of the watertable
- proximity to buildings, especially houses
- proximity to neighbours or public lands including roads
- slope of the land and drainage to and from the pit
- permeability of soil
- space for temporary storage of overburden
- direction of prevailing wind (odour);
- construction considerations:
  - avoid rocky areas, which slow digging and increase costs
  - select stable soils that can take the weight of equipment used to construct and fill the pits
  - prevent surface runoff from entering the pit by constructing of diversion banks
  - construct similar banks to prevent liquids escaping from the burial site
  - fencing may be necessary to exclude animals until the site is safe for use.

#### Earthmoving equipment

The preferred equipment for digging burial pits is an excavator, which is the most efficient for the construction of long, deep pits with vertical sides. Advantages include the ability to store topsoil separate from subsoil. The equipment can be used to fill the pit with carcasses or other materials and close it without disturbing the carcasses.

Loaders, bulldozers, road graders and backhoes - or manual labour for small jobs - may be used if excavators are unavailable. With the exception of backhoes, all other equipment requires continual movement of the machine over the site while the pit is being dug. Excavators and backhoes remain in a fixed position, so they move soil faster, with less cost and less damage to the area around the pit. Most excavators have an attachable hammer for excavating rock.

#### Burial pit construction

The dimensions of the burial pit will depend on the equipment used, site considerations and the volume of material to be buried. Pits should be as deep as possible, with vertical sides; reach of machinery, soil type and watertable level are the usual constraints. The pit should be of a width such that the equipment can fill it evenly with the material to be buried. If a bulldozer is used, for example, the pit should be no more than one blade width, about 3 metres, because it may be difficult to push carcasses in from one side and fill the pit evenly. The aim should be to avoid having to move carcasses once they are in the pit. The length of the pit will be determined by the volume of material to be buried.

### Pit dimensions

In deciding the dimensions of the pit, consideration needs to be given to the method of filling the pit with carcasses or other material. Carcasses will generally be unloaded from tipper trucks or pushed into the pit by a loader or bulldozer from one of the long sides. Excavators may be used to fill pits with carcasses placed close by; this is useful if soil stability does not permit trucks or other heavy equipment to operate close to the pit edge.

### Disposal of carcasses after a mass epidemic

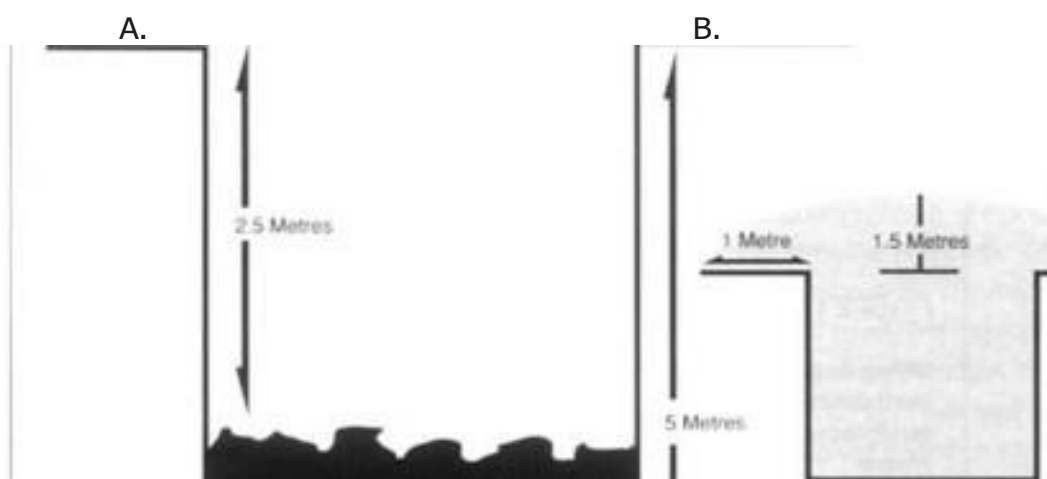
Even if an epidemic clears an animal population, it will be necessary to dispose of carcasses by the proper means.

### Using heavy earthmoving equipment

Heavy earthmoving equipment is essential for digging disposal pits and moving carcasses.

The following guidelines may be of assistance in determining the pit volume required. The base of the pit must be at least 1 m above the watertable. Allow a fill capacity of about 1.5 m<sup>3</sup> for each adult beast or 5 adult sheep. At least 2 m depth of soil is required to cover carcasses to ground level. For example, a pit 3 m wide and 5 m deep filled with carcasses to within 2.5 m of ground level will accommodate 5 adult cattle per linear metre ( $3 \times 2.5 \times 1 = 7.5 \text{ m}^3$ ;  $7.5/1.5 = 5$  cattle or 25 sheep).

When closing the pit, surplus soil should be heaped over it as overfill. The weight of soil prevents carcasses from rising out of the pit because of gas entrapment, prevents scavengers digging up carcasses, helps filter out odours and assists in absorbing the fluids of decomposition. After pit subsidence, it will be necessary to replace any topsoil not utilized during pit closure.



**Figure 24:** Disposal of carcasses by burial; (A) open pit, (B) freshly closed pit.

Poultry to be destroyed will normally be in a container such as a skip or body of a truck and the dimensions of these containers should be used as a guide to the volume of the pit required

## Other considerations

**Gas production.** Gas produced by decomposition within unopened carcasses may result in considerable expansion of the buried material, to the extent that the surface of the closed pit may rise and carcasses may be expelled. It is recommended that large animal carcasses be opened by slashing the rumen (cattle) or the caeca (horses) to permit escape of gas. There appears to be little benefit in opening small animal carcasses. If carcasses are to be opened, it should be done at the side of the pit. Under no circumstances should personnel enter the pit during filling.



FIGURE 25: Covering buried carcasses with lime

Covering the carcasses with lime is a requirement, since it protects the carcasses from being uncovered by carnivores and earthworms.

Lime should be added to pits, to prevent earthworms from bringing contaminated material to the surface after pit closure. Cover the carcasses with soil, 400 mm is suggested, and add an unbroken layer of slaked lime -  $\text{Ca}(\text{OH})_2$  - before filling is completed.

Lime should not be placed directly on carcasses, because in wet conditions it slows and may prevent decomposition.

**Site inspection.** Inspection of the burial site after closure is recommended so that appropriate action can be taken in the event of seepage or other problems. The objective is that the site should return to its original condition. Before restocking is permitted, the burial site should be inspected again to ensure that there is no possible biological or physical danger to stock. This would normally be several months after pit closure. Lime should not be placed directly on carcasses, because in wet conditions it slows and may prevent decomposition.

**Site inspection.** Inspection of the burial site after closure is recommended so that appropriate action can be taken in the event of seepage or other problems. The objective is that the site should return to its original condition. Before restocking is permitted, the burial site should be inspected again to ensure that there is no possible biological or physical danger to stock. This would normally be several months after pit closure.

**Safety considerations.** Safety of personnel is an overriding consideration. Aspects to consider include: hygiene of personnel working on the site, availability of rescue equipment if a person falls into the pit or if the pit wall collapses and protection against dust. Operations should be controlled by the site supervisor/ team leader; staff must be briefed before operations begin.

## **(ii) Cremation**

Cremation should be considered only when burial is not possible. In countries where earthmoving equipment may not be available for deep burial, where putrefaction is not a deterrent and/or poverty dictates that eating habits should not be fastidious, cremation is preferred. Available methods include funeral pyres, incinerators and pit burning.

### **Pyres**

The principle is to place carcasses on top of sufficient combustible material, making sure that the arrangement of fuel and carcasses allows adequate air flow to enter the pyre from below, so as to achieve the hottest fire and the most complete combustion in the shortest time.

### **Site selection**

Important considerations are:

- location: consider the possible effects of heat, smoke and odour on nearby structures, underground and aerial utilities, roads and residential areas;
- access: for equipment to construct and maintain the fire and for delivery of fuel, livestock, carcasses or other materials to be burnt;
- environment: ensure that there is an adequate fire break around the pyre; consult local fire brigades or residents for advice, obtain permits for fire appliances to be on site during the burn;
- fuel: pyres require considerable amounts of fuel to achieve complete cremation; the amount and type of available fuel will vary considerably; all required fuel should be on site before the burn is commenced.

### **Preparation of firebed**

The fireline should be sited at right angles to the direction of the prevailing wind to maximize ventilation. Space for air can be provided by digging trenches under the pyre and/or elevating the firebed. Fuel supplies should be stacked upwind and the fire built from that side; carcasses should be loaded from the opposite side. The width of the firebed is governed by the size of carcasses to be burnt; for adult cattle allow 2.5 m. To determine the length, allow 1 m per adult beast.

If the firebed is to be built on the ground, dig trenches of 30 x 30 cm to act as air vents. These should lie in the direction of the prevailing wind at 1 m intervals under the length of the proposed firebed. If the firebed is to be elevating, lay rows of baled straw and heavy timbers parallel to the prevailing wind and then another layer of timbers crossing the bottom layer, leaving a gap of about 20 cm between timbers. Then lay other fuel, such as lighter timber or straw bales, over this timber support.



FIGURE 26

## Burning

Burning is a common method of disposing of carcasses. It is discouraged because of the large amount of fuel it requires.

Stack carcasses across the firebed with larger carcasses on the bottom and smaller carcasses on top (Figure 18), preferably with the carcasses on their backs and alternating head to tail.

Excavators or front-end loaders are best but lifting jibs, tractor forklifts or cranes and chains can be used. After carcasses have been placed on the firebed, the extensor tendons may be cut to prevent legs being extended during burning.

When the carcasses have been loaded and weather conditions suitable, saturate the firebed and carcasses with diesel or heating oil - do not use petrol - and prepare ignition points at 10 m intervals along the length of the firebed. These can be made of rags soaked in kerosene.

Remove all vehicles, personnel and other equipment well away from the firebed. Start the fire by walking into the wind and lighting the ignition points along the way.

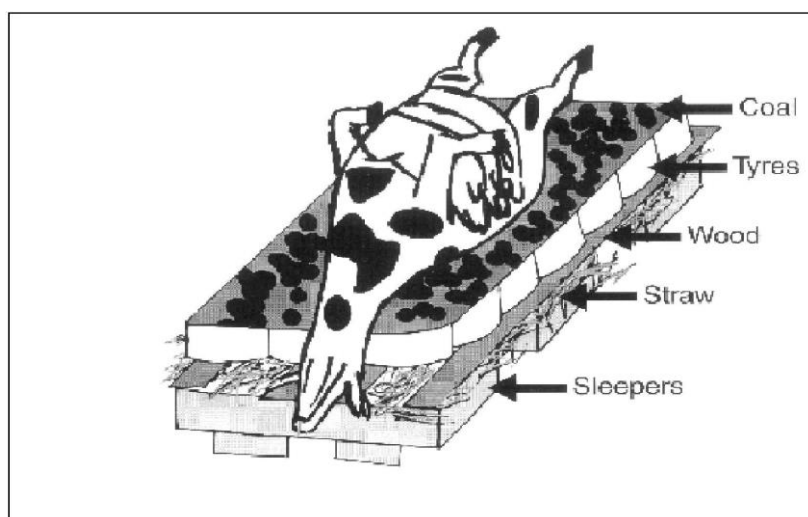


FIGURE 27

## **Disposal of carcasses by cremation.**

The fire must be attended at all times and be refueled as necessary. Use a tractor with a front-mounted blade or a front-loader. Ensure that any carcasses or parts of carcasses that fall off the fire are put back on. A well-constructed fire will burn all carcasses within 48 hours. The ashes should be buried and the site restored as fully as possible.

### **Fuel requirements**

Local availability will govern the type and amount of fuels. The following can be used as a guide per adult beast:

- heavy timber: 3 pieces, 2.5 m x 100 mm x 75 mm;
- straw: 1 bale;
- small timber: 35 kg;
- coal: 200 kg;
- liquid fuel: 5 litres.

Fuel requirements may be estimated on the basis that one adult cattle carcass is equivalent to four adult pigs or shorn sheep or three adult woolly sheep.

### **(iii) Incinerators**

Biological incinerators are an efficient carcass-disposal system, achieving safe and complete disposal with minimal pollution. The cost of establishment and operation, however, and lack of portability mean that incinerators may not be readily available. Incinerators are usually only suited to disposal of small amounts of material. Special procedures must be followed for transportation of infected material from infected premises to the incinerators and disinfection of containers and vehicles.

### **(iv) Pit Burning**

Pit burning, also known as air-curtain incineration, is a technique for burning material in a pit, using fan-forced air. Pit burners are used by some local authorities to burn vegetable matter with a high moisture content. The equipment consists of a large capacity-fan, usually driven by a diesel engine, and ducts to deliver the air, which may be preheated, into the long side of a trench. The angle of the airflow creates a curtain of air that acts as a top for the incinerator and provides oxygen that induces high combustion temperatures. Hot air recirculates in the pit, achieving complete combustion. Additional fuel is required to initiate combustion; once the fire is burning, however, the fuel requirement is reduced. Pit burners would be suitable for continuous operation on a relatively small scale and have the advantage of being transportable.

They appear to be especially suited to pigs and fat sheep.

In countries where mechanical equipment is difficult to obtain and the above methods appear sophisticated, a combination of burning and burial has been used successfully to dispose of pig carcasses and would be suitable for small ruminants and possibly small numbers of cattle as well. After the trench had been dug, it was lined with old motor tyres, on which the carcasses were placed. The carcasses were soaked with diesel and ignited with a small amount of petrol.

Fires were watched until the carcasses were burnt and then the trench was covered over.

## Rendering

Rendering may be an option for the disposal of carcasses if suitable plants are available. Only rendering plants using a high-temperature batch-rendering process should be used. A satisfactory rendering process would involve grinding of the raw product, solvent extraction of lipids at about 100°C for one hour and high temperature (160°C) treatment of both carcass meal and tallow for at least a further 40 minutes. The end product of rendering must pass relevant microbiological tests before release

## Human resources

Considerable human resources are required for burial, even when equipment is available.

## Composting

Where there is a minor risk of fomite spread, composting of stable manure, feeds, hay, litter and bedding is a possible alternative to burial or burning. Composting should be done in a secure area not accessible to susceptible animals.

## G. ITEMS REQUIRING SPECIAL CONSIDERATION

All contaminated and potentially contaminated carcasses, animal products, materials and wastes should be disposed of by one of the methods outlined in Methods of disposal on p.35.

Specific disposal considerations apply to the materials listed below.

### Milk and Dairy Products

The disposal of milk products presents particular difficulties, because large volumes are often involved. It is essential that milk should be treated to inactivate any virus before disposal.

Following inactivation, disposal options must be considered. Milk held on-farm is usually in small quantities and can be disposed of in the burial pit. On properties where carcasses are cremated, milk should be disposed of in the effluent pit.

Where there are large volumes of contaminated milk at dairy factories or in tankers, the milk should always be inactivated and then pumped into a shallow, fenced pit, which must be covered over when the milk has evaporated or seeped into the surrounding soil.

Effluent from washing at dairy factories presents special problems because of the sheer volume. Chemical treatment of large volumes of effluent may render it unacceptable to a sewage disposal unit but 0.2 percent citric acid should cause no problems. The danger from effluent is greatly reduced by dilution; above-normal quantities of water freely used in the usual cleaning processes will further reduce the danger.

Where effluent is normally irrigated over pastures, they should not be grazed for two weeks after treatment. Rennet, casein, whey or other wastes must not be sprayed over pastures, discharged into drains or fed to animals, unless treated with disinfectant.

### (i) Effluent

Small amounts of solid manure may be disposed of by burial or cremation. See Decontamination manual, **Section 6.**

### (ii) Wool and Mohair

If required, these byproducts should always be buried because they do not burn well

## Annex 7: Weekly Update

Weekly update

Veterinary District

### 1. SURVEILLANCE

| (A) NEW CASES/OUTBREAKS (FURTHER DETAILS TO BE PROVIDED ON THE DRF) |              |                                     |                      |              |                                |                 |
|---------------------------------------------------------------------|--------------|-------------------------------------|----------------------|--------------|--------------------------------|-----------------|
| Date                                                                | Constituency | Locality (crush pen/ Farm/ village) | No of herds affected | No. of Cases | No. of cattle in affected herd | Possible Source |
| Nil                                                                 |              |                                     |                      |              |                                |                 |
|                                                                     |              |                                     |                      |              |                                |                 |
|                                                                     |              |                                     |                      |              |                                |                 |

| (B) DISEASE OUTBREAK INVESTIGATIONS |          |                                    |
|-------------------------------------|----------|------------------------------------|
| Date                                | Locality | Result (Cases seen or false alarm) |
| Nil                                 |          |                                    |
|                                     |          |                                    |
|                                     |          |                                    |

| (C) INSPECTIONS         |                                        |                   |                            |          |
|-------------------------|----------------------------------------|-------------------|----------------------------|----------|
| Area (e.g.Constituency) | Number of Crush pens/ villages visited | Number of farmers | Number of Cattle inspected | Findings |
|                         |                                        |                   |                            |          |
|                         |                                        |                   |                            |          |
| Total                   |                                        |                   |                            |          |

| (D) PRE-MOVEMENT INSPECTIONS |                           |          |
|------------------------------|---------------------------|----------|
| Locality                     | Number of Herds inspected | Findings |
|                              |                           |          |
|                              |                           |          |

**Comments:** Movements within the 40km radius of Masikili are being allowed only after proof of vaccination and an inspection including oral and feet examination. Elsewhere movements are being allowed after permit is issued.

**(E) ROAD BLOCKS**

| Date | Locality | Findings/Problems |
|------|----------|-------------------|
|      |          |                   |
|      |          |                   |

All the four road blocks, Kongola, Wenela, Bukalo and Ngoma now have high pressure pump sprayers.

**(F) COMMENTS ON QUARANTINE**

| Date | Locality | No. of herds quarantined | No. of cattle quarantined | Comments (e.g. problems, status of facility) |
|------|----------|--------------------------|---------------------------|----------------------------------------------|
|      |          |                          |                           |                                              |
|      |          |                          |                           |                                              |

**(G) EXTENSION**

| Date | Activity | Number | Subject Discussed | Comments |
|------|----------|--------|-------------------|----------|
|      |          |        |                   |          |
|      |          |        |                   |          |
|      |          |        |                   |          |

**(H) TRANSGRESSIONS**

| Date | Locality | Findings/Problems | Action Taken |
|------|----------|-------------------|--------------|
|      |          |                   |              |
|      |          |                   |              |
|      |          |                   |              |
|      |          |                   |              |
|      |          |                   |              |

## 2 LOGISTICS

| (A) VACCINE:          |                |              |                      |                                  |        |                |
|-----------------------|----------------|--------------|----------------------|----------------------------------|--------|----------------|
| Doses Brought Forward | Doses Received | Doses Issued | Total Doses in Stock | Used (no. of animals vaccinated) | Wasted | Doses Required |
|                       |                |              |                      |                                  |        |                |
|                       |                |              |                      |                                  |        |                |
|                       |                |              |                      |                                  |        |                |

### Comments

| (B) DISINFECTANTS |                          |              |                 |              |              |
|-------------------|--------------------------|--------------|-----------------|--------------|--------------|
| Disinfectant type | QTY Brought forward (Kg) | Qty Rec (Kg) | Qty Issued (kg) | Qty in stock | Qty Required |
|                   |                          |              |                 |              |              |
|                   |                          |              |                 |              |              |
|                   |                          |              |                 |              |              |

### Comments

### (C) STATUS OF VACCINATION/ SURVEILLANCE EQUIPMENT:

### (D) VEHICLES

## 3. PERSONNEL AND ADMINISTRATION

| (A) PERSONNEL: |               |              |          |
|----------------|---------------|--------------|----------|
| Grade          | No. Available | No. Required | Comments |
|                |               |              |          |
|                |               |              |          |
|                |               |              |          |

### Comments

**(B) ORGANIZATION AND COORDINATION AND INVOLVEMENT OF LOCAL COMMUNITIES**

| <b>Organization</b> | <b>Comments on involvement in activities, meetings etc</b> |
|---------------------|------------------------------------------------------------|
|                     |                                                            |
|                     |                                                            |
|                     |                                                            |
|                     |                                                            |
|                     |                                                            |
|                     |                                                            |
|                     |                                                            |
|                     |                                                            |

## Annex 8: Protocol for Escort of Cloven-Hoofed Animals



**REPUBLIC OF NAMIBIA**  
**MINISTRY OF AGRICULTURE, FISHERIES, WATER AND LAND REFORM**

### Escort of Cloven-hoofed Animals Agreement Form

#### The State Veterinarian

P. O. Box:

Name of Stockowners:

ID:

Address:

Tel:

Date:

Place:

Name of Driver:

ID:

Address:

Tel:

I, (name) hereafter called the owner agree to the following conditions:

1. All escorted cattle must be identified with a readable brand mark, and where applicable, NAMLITS ear tags.
2. The escort will take place on the (day) of (month) (year) not later than (time).
3. The escort commences at (place) and ends at (destination).
4. If the transporting vehicle fails to arrive at the escort commencing point by the above state time, then the planned escort shall be cancelled or re-scheduled to another date and time at the owner's cost.
5. The transport vehicle for escorting the livestock is in sound mechanical and structural condition.
6. The owner and livestock transport driver will accept and follow instructions as given by the escorting veterinary official.
7. Multiple consignment transport vehicles will travel in a convoy and no overtaking will be allowed.
8. Any animals escaping from the sealed transport vehicles during escort shall be shot and killed before they get in contact with livestock resident in the area south of the VCF.
9. The government of the Republic of Namibia or the escorting veterinary official shall not be held liable for compensation towards animals shot for breaching containment of the transport vehicle during escorts.
10. The government of the Republic of Namibia shall not be held liable for animals that die from any cause during escort, including escaping animals that get shot.
11. Any carcasses of animals that are killed or die from any other causes may be transported back to the north of the VCF under official escort at the owner's cost. However, if this is not logistically feasible, then both the owner and the transporter will be responsible for burying or burning these carcasses under veterinary supervision.
12. The cattle owner will be responsible for all the costs incurred by the Government of the Republic of Namibia in escorting the animals.

#### Owner

Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

#### Truck Driver:

Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

#### Veterinary Official:

Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_



## Annex 9 - Permit for movement of commodities



### Permit Number

VETERINARY SERVICES

VETERINARY PERMIT TO MOVE ANIMAL PRODUCTS AND OTHER THINGS FROM CONTROL AREA

In terms of Animal Health Act (No 1 of 2011) and subject to the conditions specified below, permission is hereby granted to:

|                           |                  |                 |
|---------------------------|------------------|-----------------|
| <b>Name</b>               |                  |                 |
| <b>Address</b>            |                  |                 |
| <b>To move</b>            |                  | <b>Quantity</b> |
| <b>From Establishment</b> | <b>Est. code</b> | <b>District</b> |
| <b>To Establishment</b>   | <b>Est. code</b> | <b>District</b> |

### CONDITIONS

- This ORIGINAL permit must accompany the animal products or any other thing and;
  - is valid for 7 days for a single one-way trip only;
  - must be produced for inspection on demand by police officer, any officer of Ministry of Agriculture, Water and Forestry or any authorized person;
  - must be used to move animal products or any other thing from a control area **ONLY**.
  - If used, must reach the destination veterinary office within 14 days from issue date and if not used must be returned to issuing office within 14 days from issue date.
- This is a **CROSSED** permit and the transport and/or containers used must be sealed by veterinary official before departure.  
The seals must be endorsed on the permit and must be verified at the destination by veterinary official.
- The permit must be completed in full before departure and fully endorsed after use.
- Other conditions

Place \_\_\_\_\_ Issue Date   /   /   Issued by   /   /   Signature \_\_\_\_\_

### Senders Details

Name \_\_\_\_\_

Departure Date \_\_\_\_\_

Telephone \_\_\_\_\_

Vehicle Registration \_\_\_\_\_

### Receivers Details

Name \_\_\_\_\_

Arrival Date \_\_\_\_\_

Telephone \_\_\_\_\_

No Seal(s) \_\_\_\_\_ Trailer No: \_\_\_\_\_



## Annex 10: List of Official Boarder Posts

| NAME           | REGION       |
|----------------|--------------|
| Ariamsvlei     | Karas        |
| Noordoewer     | Karas        |
| Trans Kalahari | Omaheke      |
| Dobe           | Otjozondjupa |
| Muhembo        | Kavango-East |
| Ngoma          | Zambezi      |
| Wenela         | Zambezi      |
| Katwitwi       | Kavango-West |
| Kashamane      | Omusati      |
| Oshikango      | Ohangwena    |
| Mahenene       | Omusati      |
| Ruacana        | Omusati      |
| Swartbooidrift | Kunene       |
| Oronditi       | Kunene       |

## Annex 11: List of Designated Entry and Exit Posts

| REGION    | NAME OF CROSSING POINT:<br>NAMIBIA (ANGOLA) | GPS COORDINATES              |
|-----------|---------------------------------------------|------------------------------|
| Kavango   | Mushangare (Mucusso)                        | S -18° 01' 18" E-21° 25' 31" |
|           | Sarasungu (Calai)                           | S -17° 52' 43" E-19° 47' 50" |
|           | Mayenzere (Kandendere)                      | S -17° 48' 23" E-19° 10' 24" |
| Ohangwena | Olupale (Olupale)                           | S 17° 23' 23" E 17° 23' 04"  |
|           | Epinga (Kapingwena)                         | S-17° 23' 49" E-16° 25' 49"  |
|           | Onamunama (Kamonde)                         | S-17° 23' 26" E-16° 06' 39"  |
| Omusati   | Oikokola (Ounongwe)                         | S-17° 23' 38" E-15° 32' 50"  |
|           | Ombaye (Kambadjona)                         | S 17° 23' 38" E 15° 21' 41"  |
|           | Omufitu Wenghete (Olukundu)                 | S -17° 23' 37" E-15° 47' 31" |
| Kunene    | Otjimuhaka (Shimuhaka)                      | S 17° 20' 10" E 13° 50' 49"  |
|           | Onungurura (Monte Negro)                    | S 17° 15' 74" E 12° 26' 44"  |
|           | Otjinungwa (Tchinungua)                     | S 17° 15' 74" E 12° 26' 44"  |

**Compiled by:  
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