



National Action Plan

for control, containment and eradication of

African Swine Fever



Ministry of Fisheries, Animal Husbandry and Dairying
Department of Animal Husbandry and Dairying
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ACRONYMS

AI	Artificial Insemination
ASF	African Swine Fever
ASFV	African Swine Fever virus
CA	Competent Authority
C&D	Cleansing and Disinfection
CDCC	Central Disease Control Centre
CVO	Chief Veterinary Officer
DAHD	Department of Animal Husbandry and Dairying
DVA	District Veterinary Authority
DCP	Disease Control Premises
FAO	Food and Agricultural Organization
FZ	Free Zone
FSSAI	Food Safety and Standards Authority of India
FPCZ	Feral Pig Control Zone
FPIZ	Feral Pig Investigation zone
GOI	Government of India
IA	Infected Area
IP	Infected Premises
IZ	Infected Zone
NIHSAD	National Institute of High Security Animal Diseases
OIE	Office International des Epizooties (World Organization for Animal Health)
PM	Post Mortem
SZ	Surveillance Zone
SVA	State Veterinary Authority
TF	Task Force
VA	Veterinary Authority
UTs	Union Territories

Executive Summary

African Swine Fever (ASF) is a highly contagious and fatal disease of domestic and feral pigs (including wild boar) transmitted through direct and indirect contacts, ingestion of contaminated feedstuffs and by certain tick vector species. The disease does not infect humans (not Zoonotic) or other livestock species. However, no vaccine or drugs are available to prevent ASF infection at present.

ASF was detected first in 1921 in Kenya and is generally prevalent and endemic in countries of sub-Saharan Africa, Europe and in some Caribbean countries. India notified the first outbreak of ASF virus in January, 2020 in the North Eastern States of Assam and Arunachal Pradesh.

To curb the possible threat and to check the progression of ASF to an endemic status, the Department of Animal Husbandry & Dairying (DAHD), Government of India (GOI) has prepared a Disease Control Strategy Plan for guidance of State / UTs Governments for prevention, control and containment of African Swine Fever in the country in accordance with the OIE & FAO recommendations.

The expected outputs of the strategy are a better understanding of the drivers of the disease, transformed production systems that enable the application of adequate biosecurity, and improved capacity among all pig value chain stakeholders. Envisaged outcomes would be reduced prevalence and impact of ASF and better performance of the pig and pork value chains in the country.

CHAPTER 1 INTRODUCTION

1.1 Pig production in India

India has a considerable number of small pig holders in rural areas and pork meat is widely consumed by people, especially in the North Eastern part (NER) of the country. According to the 20th Livestock Census, there are 9.06 million numbers of pigs in the country, which is 1.7% of the total livestock in the country. Out of this, 46.85% of the pig population is in the North Eastern region of the country. While there is commercial piggery in the country in certain states including the Northeast, piggery is the livelihood and nutritional option for the majority tribal population there. They also practice swill feeding, as it is a low cost option. Though wild boars and feral pigs are present in different parts of the country, the chances of mingling with domesticated pigs are low as the former are border controlled under the Forest departments of respective states.

1.2 Immediate Situation

Recently, unusual mortality in pigs were reported from Dhemaji, Biswanath, Lakhimpur, Sivasagar, Jorhat and Dibrugarh, districts of Assam as well as from West Kameng, Papumpare, Lower Siang, Upper Siang, Lohit, Leparada, East Siang, Namsai and Changlang districts of Arunachal Pradesh since January 2020. After scrutiny of the report of clinical symptoms, samples were tested for Classical African Swine Fever (CSF, an endemic disease) at NERDDL and at Veterinary College, Khanapara, Guwahati with support from ICAR-NRC Pig, Rani and ICAR Research Complex for NEH Region at Barapani. As the preliminary tests of the Assam population samples conducted at College of Veterinary Sciences, Khanapara (Guwahati) indicated African Swine Fever (ASF), samples from both Assam and Arunachal Pradesh were sent to ICAR-National Institute for High Security Animal Diseases (NIHSAD), Bhopal, who reported that these samples tested positive for ASF by Real Time PCR, virus Isolation and nucleotide sequencing.

This is the first time that ASF has been reported in India and hence all emergency initiatives should be directed towards rapid containment of the

disease with primary focus towards eradication within the shortest possible time to avoid spread and possible progression to endemic status.

1.3 Rationale

1.3.1 Managing an outbreak

This document describes how Government and others would manage an outbreak of African Swine Fever (ASF) in India. ASF is a highly contagious and infectious disease to the pigs and will not be halted by a single administrative boundary. Therefore, in managing ASF outbreaks, the strategy seeks complementary, consistent and coordinated measures in all States / UTs of the country.

1.3.2 Responsibility

This strategy is endorsed by the Department of Animal Husbandry and Dairying, Ministry of Fisheries, Animal Husbandry and Dairying, Government of India (hereafter referred to as Government), although responsibility for management of an outbreak in respective regions falls upon the respective State Governments.

1.3.3 Consultation

This strategy was prepared in consultation with delivery agents, veterinary experts and organizations representing pig producers and processors. This document is intended to provide a context to the prevention of ASF outbreaks and a clear explanation of how the law will be applied in the event that ASF is suspected or confirmed in the country.

1.3.4 Utility

The strategy will help stakeholders affected by an outbreak of African Swine Fever (ASF) to prepare themselves to respond quickly and to identify the measures they should take to mitigate the potential impact of these control measures.

1.4 Strategic fit

The strategy is consistent with broad animal health policies including: prevention is better than cure, sharing responsibility and cost, requiring close working between Government and industry in developing and delivering disease controls complying with the World Health Organization for Animal Health (OIE - Office International des Epizooties) disease control chapters, and FAO guidelines, mitigating the risk of spread of disease to other member states/UTs or other countries, ensuring the welfare of animals, being consistent with wildlife management policies.

1.5 Legislative Frame Work

Government has enacted an Act namely 'The Prevention and Control of Infectious and Contagious Diseases in Animals Act, 2009'. The Act has come into force in all the states / UTs. The list of notifiable diseases by the states is given in the schedule of the Act, which includes ASF. The states have been empowered to take necessary action to appropriately deal with disease situations.

CHAPTER 2 NATURE OF THE DISEASE

2.1 Introduction

African Swine Fever (ASF) is a highly infectious and contagious hemorrhagic viral disease of pigs, wild boar/feral pigs. Pig species of all breeds and ages. ASFV is a DNA virus of the *Asfarviridae* family and genus *Asfivirus*. Mortality rate is as high as 100%. **ASF does not infect human (non-zoonotic) or other livestock species.** Hence, it is not a public health risk. The incubation period varies from 4 to 19 days.

2.2 Susceptibility

All pigs are susceptible to ASFV regardless of whether they are kept or feral, however the risk of infection and control measures applied to domesticated and feral pig populations do vary. Hence throughout this document the following definitions of kept and feral are utilized where distinction between the two populations is required.

Domesticated / captive wild – all Suidae including domestic pigs and wild boar and hybrids of, which are kept as farmed animals or pets.

Feral Pigs - all Suidae including domestic pigs and wild boar and hybrids of, which are living in the wild/without ownership.

2.3 Symptoms

The clinical syndromes vary from per-acute, acute, sub-acute to chronic form depending on various factors like virus virulence, swine breed affected, route of exposure, infectious dose, and endemic status in the area.

- **Per-Acute form** - High fever (41-42 °C) and sudden death within 1-3 days
- **Acute form** - High fever (40-42°C) with reddening of skin of ear tip, tail, ventral aspects of chest and abdomen, and death within 6-9 days for highly virulent strains, or 11-15 days for moderately virulent isolates. Mortality upto 90-100 %

- **Sub-acute form** - Slight fever, reddening of skin and death within 15-45 days. Mortality between 30-70%
- **Chronic form** - The lethality rate in this form is less than 30%. Pig shows irregular peaks of temperature, respiratory signs, necrosis in skin, ulcer, arthritis, joint swelling.

2.4 Post-mortem (PM) Lesions

Diagnosis is the first step in the process of controlling or containing a disease. Accordingly, it is necessary for Veterinarians to observe PM lesions to support clinical diagnosis of the disease.

- **Acute form** - Haemorrhage in renal and gastro-hepatic lymph nodes, congestive splenomegaly, cutaneous ecchymoses on legs and abdomen, petechiae in mucus membranes of larynx, bladder and visceral surfaces, edema in mesenteric structures
- **Chronic form** - Focal caseous necrosis and mineralization of lungs, enlarged lymph node

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Acute forms can be confused with Classical Swine Fever (CSF) and other diseases like swine erysipelas, poisoning, salmonella, pasteurellosis, pseudorabies and other septicaemic conditions. Therefore, laboratory confirmation is important and a must for confirmatory diagnosis.

2.5 Transmission

The virus can spread through blood, tissues, secretions and excretions of sick and dead animals. Recovered pigs may also act as carrier. There are various modes of transmission –

- **Direct Transmission**
 - contact between sick and healthy animals
- **Indirect Transmission**
 - feeding of garbage containing ASF infected meat (ASFV can remain infectious for 3–6 months in uncooked pork products)
 - fomites include premises, vehicles, equipment, clothes

- **Biological vector**
 - Soft ticks of genus *Ornithodoros*

2.6 Laboratory diagnosis:

The laboratory diagnosis consists of:

- **Identification of virus / antigen / nucleic acid**
 - Virus isolation
 - Detection of antigen in smears or section of tissues using FAT
 - Detection of genomic DNA by PCR or real-time PCR

- **Serological tests**

Pigs surviving natural infection develop antibodies 7-10 days post-infection and can be tested for antibody detection by:

- ELISA, IFAT, IPT, IBT

CHAPTER 3 RISK ANALYSIS FOR ASF

3.1 Hazard identification

The hazard is identified as 'African Swine Fever virus'. High mortality and morbidity rates of all the forms of the disease and the absence of vaccination or effective treatment methods makes the virus, a hazard to the entire pig population and pig industry of the country.

3.2 Risk assessment

There are various risk factors which would affect the livelihood/economic, nutritional, social and psychological status of the farmers and the country directly and indirectly. This includes the following risks:



3.3 Value of Risk Assessment for ASF

The abovementioned factors should be thoroughly assessed to minimize the consequences and will be of value for -

- Determining ASF - how serious is the disease threat for the Country and what level of resources should be needed
- Determining where and how quarantine protocols and procedures need to be strengthened
- Determining how laboratory diagnostic capabilities need to be strengthened
- Planning training courses for veterinary staff and farmer-awareness and publicity campaigns
- Determining how and where active disease surveillance needs to be strengthened
- Planning disease-response strategies

CHAPTER 4 STRATEGIC CONTROL FRAMEWORK

4.1 Disease management principles

Managing exotic diseases is primarily concerned with managing risk. By definition, exotic diseases are not normally present in the Country (India) and therefore, we can manage the risks in two ways:

- taking day-to-day measures to reduce the likelihood of an outbreak of African Swine Fever in the Country by implementing practices to prevent its entry and to detect it quickly if ASF should enter
- being prepared to act quickly to reduce the impact of an incursion of ASF once it is detected in India.

4.2 Disease control objectives

If African Swine Fever (ASF) is detected, the key objectives are to -

- contain and eradicate any incursion into domestic or feral pigs
- prevent the exchange of African Swine Fever Virus between kept and feral pigs
- re-establish disease free status

It is inevitable that the controls necessary to stop spread and eradicate ASF will have an impact on day-to-day business practices. However, these disease control measures seek to -

- minimize the number and duration of premises affected
- minimize the number of pigs culled
- protect the welfare of healthy pigs
- minimize any impact on pig producers, meat processors and other related industries and to domestic and international trade in pigs and pig products
- minimize the impact on tourism, the environment and rural and wider economies
- support sustainability within industry
- comply with international obligations to control an outbreak of ASF

4.3 Approach to disease control

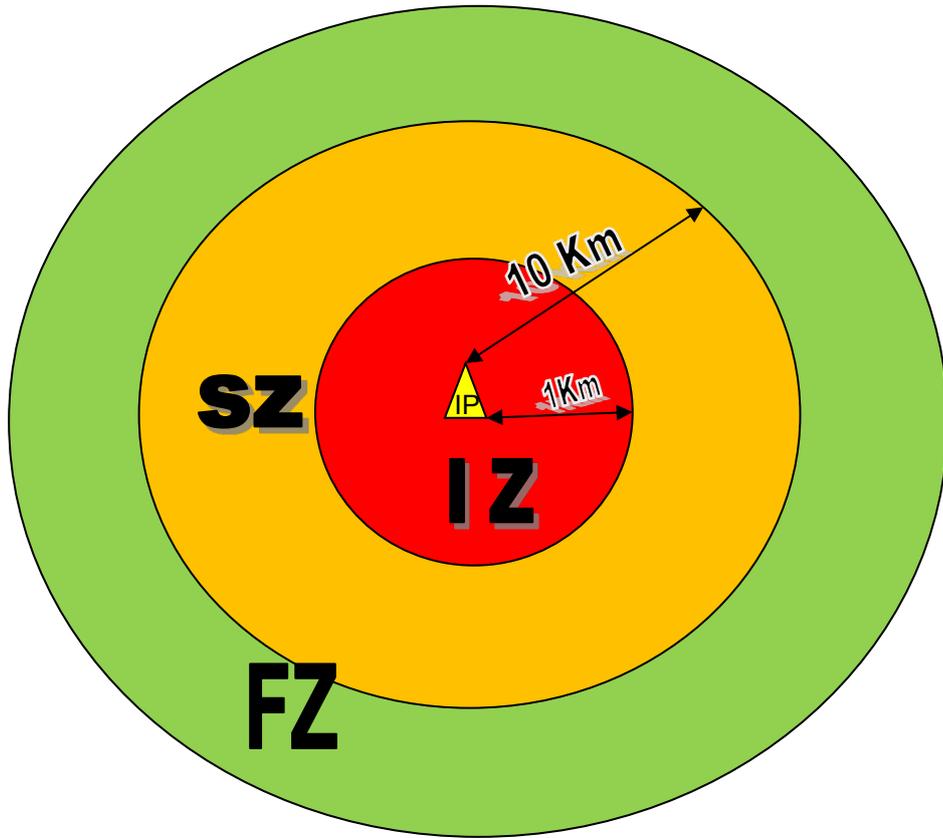
The approach to disease control is to –

- detect clinical signs suggestive of African Swine Fever (ASF) early and to report rapidly, to enable diagnosis as soon as possible after African Swine Fever enters the Country. This will limit the extent of spread of African Swine Fever that can occur before disease controls are brought into force, thereby reducing the initial size of the outbreak
- contain African Swine Fever at premises where it is detected, and eradicate it swiftly and effectively such that it cannot be re-introduced
- limit risk of any further spread of African Swine Fever from premises connected with or in the vicinity of the infected premises
- undertake risk assessments before easing restrictions and undertaking surveillance for signs of further disease before lifting restrictions
- comply with extant laws of the Country and international trade obligations under the OIE disease control codes

4.4 Control Strategy

The proposed control strategy divides the pig population of the Country in 3 different subpopulations -

- a) Infected zone (IZ) – 1 Km radius of infected premises (IP)
- b) Intermediate / Surveillance zone (SZ) – 10 Km radius from the infected premises (9 km outside the IZ)
- c) Disease Free zone /Non-Infected area (FZ) - Area outside the SZ



CHAPTER 5 PREVENTION AND CONTROL (STRATEGY)

There is neither any vaccine nor any treatment available for ASF at present. Therefore, prevention of ASF is the only solution. The measures of prevention and control include -

5.1 Immediate measures

5.1.1 Epidemiological investigation

Immediate detailed epidemiological investigation may be undertaken for detecting source, route and impact etc. The investigation team may comprise of a Microbiologist, a Pathologist, a Parasitologist and an Epidemiologist each, among others. Detailed report of epidemiological investigation including risk analysis may be prepared and submitted to DAHD for each outbreak.

5.1.2 Surveillance

Surveillance may involve virological and clinical surveillance as detailed by OIE and include –

- i) Recording and reporting of pathognomonic gross lesions and clinical signs in dead and affected pigs
- ii) Data on availability of susceptible pigs in the area and taking of suitable action accordingly
- iii) Sample collection, shipment and testing in designated laboratories
- iv) Intensive physical surveillance and immediate reporting of any unusual mortality in domestic and wild/feral pigs to the Department of Animal Husbandry & Dairying (DAHD) for at least 3 months
- v) Studying the availability of soft ticks (*Ornithodoros*), their habitat and viral load, if so.

5.1.3 Bio-containment

This involve the following measures –

- i) Declaration of infected and surveillance zones with control of pig and vehicle movement (related to pig farms)
- ii) Immediate sealing and disinfection of affected animal shed and premises
- iii) Immediate stamping out of pigs in infected zone having direct and epidemiological linkage along with appropriate on spot compensation
- iv) The dead pigs should be disposed of by deep burial / incineration only and not thrown in rivers /canals /streams / water bodies
- v) Proper disposal of litter during outbreak along with effective sterilization of garbage
- vi) Management and control of wild pigs and forest area
- vii) Management and control of soft ticks and their habitat
- viii) Ensure strict bio-security and quarantine and restrict animal movement within and from and to affected areas
- ix) Strengthen border vigilance activities such as strict enforcement of bio-security and quarantine at all entry points into the Country / state Inspection and quarantine of all live pigs and pork products entering the state must be ensured

5.1.4 Bio-security

Bio-security measures need to be followed which include -

- i) Disinfection of area, personal hygiene of animal owners and handlers
- ii) Farms should be kept under strict hygienic and bio-secured condition at all times including proper fencing to prevent disease transmission from domestic pigs to wild pigs and vice-versa.

Additionally, scavenging-based pig production system should be avoided

- iii) Ensure there is no dumping of waste material from pig meat shops and pig farms. All waste material should be destroyed / disposed of preferably through community disposal centres
- iv) Stop swill feeding practices, both from the domestic kitchens and from restaurant kitchen, considered to be one of the major risks for the spread of the virus
- v) Prevent pigs from wandering to avoid contact with soft ticks vectors or their habitats
- vi) Enhance awareness among all pig farmers and other stakeholders (e.g., anyone involved in pig sector, traders, distributors, hunters, butchers etc.) and private veterinarians of the impact of ASF. Also, enhance on-farm biosecurity

5.2 Continual measures

The efforts in respect of surveillance, awareness and bio-security measures need to be continued to prevent further spread of the disease to the unaffected areas and to restore disease-free status of the affected area.

CHAPTER 6 COORDINATION AND FORMATION OF ASF TASK FORCE

6.1 Coordination between State Department of Animal Husbandry and State Department of Forests

Chief Secretaries / Secretaries of the States should ensure that the Department of Animal Husbandry and the Department of Forestry must undertake coordinated survey programmes. As a first step, the Forest Department should prepare details of the areas where wild pigs are populated. Simultaneously, the Department of Animal Husbandry should prepare details of areas of domestic pig population. Prepare lists/maps of such critical areas and circulate to all concerned including the Government of India. This would help the designated diagnostic laboratories to setup priorities for testing the material.

6.2 Role of the District Collector / Deputy Commissioner / District Magistrate

The District Collector / Deputy Commissioner / District Magistrate has to play a central and coordinating role to deal with the outbreak of ASF. He /she should ensure proper enforcement of restrictions including movement control, ban on sale of Pig and pig products, closure of shops selling pork or pig products, payment of compensation (payment and verification) to the pig owners whose pigs are culled by the State, clean-up and maintenance of supply lines for equipment, etc. Associated Revenue Officers should be thoroughly familiarized with the Action Plan to enable them to assume responsibility in case of outbreak. He/she should also define and monitor the role of officers from line departments required to be deployed during the control and containment operation.

6.3 Formation of Task Force (TF)

Upon confirmation of ASF and the disease control strategy, responsible Veterinary teams / Task Force should be constituted in the three sub-population Zones, at the State level / District level.

The terms of Reference for the three ASF Task Force (TF) is given below.

6.3.1 (A) Task Force (TF) for Infected Zone (IZ)

- A team at the minimum will be composed of a field epidemiologist, a quarantine staff, local authority and an extension staff
- The field epidemiologist will initiate the outbreak investigation
- The quarantine staff, with assistance from the local authorities and the community, will place all infected and suspected farms under immediate quarantine. Quarantine staff will ensure that no people, vehicles, animals or pig products will enter or exit the farms until the diagnosis is confirmed
- The local Veterinary Authority (VA) will establish disinfection points for people and vehicles at strategic entrances and exits of farms or villages
- The technical extension staff will support the response measures with information to stakeholders through simple information materials

6.3.1 (B) Operations in the Infected Zone (IZ)

- The whole team will only work on the Infected Zone and should not travel to the Surveillance Zone (SZ) or the Free Zone (FZ)
- The quarantine staff, with assistance from the local authority, will ensure that the infected zone is kept isolated and ensure that no people, vehicles, animals or pig products will exit the infected zone. In case of urgent vehicle movement, this can be allowed ONLY after thorough disinfection
- Personnel from the central veterinary must be designated for only the Infected Zone and must not join the team of the other two Zones. If, reasons of human resource limitation requires that the Infected Zone member must go to another Zone, a downtime of at least 24 hours must be observed before the Infected Zone member can enter a different Zone

6.3.2 (A) Task Force (TF) for Surveillance Zone (SZ)

- A team, at the minimum, will be composed of a field epidemiologist, a laboratory person, a quarantine staff, the local veterinary authority, technical extension staff and wildlife ranger from the Forestry administration
- The field epidemiologist will lead the surveillance in the control zone
- The laboratory staff will collect appropriate samples for testing
- The local authority along with the Veterinary staff will continue to implement the cleaning and disinfection in the SZ
- The quarantine staff, with assistance from the local authority, will ensure that the infected zone is kept isolated from the Surveillance Zone and that no people, vehicles, animals or pig products will cross over to the Surveillance Zone from the periphery of the infected zone
- The technical extension staff will support the response measures with information to stakeholders through information materials
- The wildlife ranger/personnel will provide information on wild boar population in the Surveillance Zone (SZ)

6.3.2 (B) Operations in Surveillance Zone (SZ)

- The SZ Team will only work at this zone and should not travel to the Infected Zone
- SZ Team may travel to the Free Zone under special circumstances (e.g. re-assess the zone limits of the Surveillance zone compared to the free zone) only but must observe proper downtime of at least 24 hours
- If for reasons of human resource limitations, a SZ Team member may travel to the IZ and can go back to the SZ only after a downtime of at least 24 hours

6.3.3 (A) Task Force (TF) for Free Zone

- A team at a minimum will be composed of an epidemiologist, a laboratory person, a quarantine staff, local veterinary staff, a technical extension staff and a wildlife ranger from the Forestry administration

- The epidemiologist will monitor the surveillance activities and laboratory results in the IZ and SZ. He / She can commence the conduct of negative monitoring where inspecting healthy pigs are recorded and reported
- The quarantine staff will ensure that the IZ and SZ are kept isolated and ensure that no people, vehicles, animals or pig products will exit the infected zone or Surveillance zone to free zone
- The technical extension staff will embark on a massive public awareness campaign
- The local authority including veterinary staff will continue to implement the cleaning and disinfection in the Free Zone
- The wildlife ranger will provide information on wild boar population in the Free zone

6.3.3 (B) Operations in the Free Zone

- The FZ Team will only work at this zone and should normally not travel to the IZ and SZ
- Free Zone Team may travel to the SZ under special circumstances (e.g. conduct awareness activities) only, but must observe a proper downtime of at least 24 hours before returning to the Free Zone
- FZ Team member cannot travel to the Infected zone (IZ) at all

CHAPTER 7 ACTION PLAN FOR INFECTED ZONES

7.1 Definition

7.1.1 Disease “infected zones (IZ)”

These are geographically defined areas within the country, where the ASF virus is present. In areas where backyard system of pig production is practiced, the IZ is generally the area of 1 Km surrounding the IP (epicenter of the disease).

7.1.2 “Infected premises” (IP)

It is any place / establishment, where the disease has been confirmed.

7.2 Objectives

There are two objectives in the infected zone i.e. to remove sources of infection as quickly as possible through slaughter of infected and potentially infected pigs, safe disposal of carcasses and decontamination and to prevent further spread of infection through quarantine and livestock movement controls. The balance of actions towards these objectives depends on the prevailing circumstances.

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7.3 Movement and access controls at IP

Upon confirmation and declaration of IP, all the restrictions and controls shall be enforced by the State/District administration immediately by using all legislative and legal provisions under the Prevention and Control of Infectious & Contagious Disease in Animals Act, 2009.

7.3.1 Movement Restrictions of live pigs-Commercial farms

- Commercial farms should discontinue receiving any live pigs upon declaration of being an infected premise. All pig movement out of the commercial farm premises for the last thirty (30) days should be traced back in order to identify the contact premises

- The farm should discontinue receiving any genetic material upon declaration of the premise to be infected. If the farm is a semen-producing premises, semen delivery should be discontinued to other farms. All semen deliveries done in the last thirty (30) days should be traced back. Recipient farms should be considered as Contact Premises and should be monitored for early indication of a possible infection
- The farm should discontinue receiving any further feed deliveries
- Veterinary medicines and other farm-associated supplies should not be brought out of the farm premises during the period of stamping out

7.3.2 Movement Restrictions of live pigs – smallholder farms / backyards

- The smallholder farms should discontinue receiving any live pigs upon declaration of being an infected premise
- All other equipment / supplies associated with the pig should not be moved out of the backyard farm
- If pigs are swill-fed, the source of the swill feed should be traced for identification of other possible contact premises
- Any further bringing in of feeds / swill (if any) into the backyard farm should be discontinued
- There should be no movement of any pig-associated supplies from the infected backyard farm. These include, but not limited to, veterinary medicines, feed equipment, breeding tools, among others

7.3.3 Movement restrictions of personnel

An important measure is to restrict the access of people to the IP to minimize the risk of African Swine Fever being carried to another premises. Public rights of way e.g. footpaths and bridleways can present a significant risk by allowing general public access to the IP. The DVA will assess the threat, the presence of public rights of way pose to the IP and as necessary State/District administration will work with the appropriate local authority to seek closure of public rights of way on the IP which present a disease risk. It is anticipated that

public rights of way will not need to be closed over a wide area although in some limited circumstances, where the risk of spread of African Swine Fever is high, it may be necessary to seek the closure of footpaths close to an IP.

7.3.4 Movement restrictions of vehicles

Upon entry and prior to leaving the premises any vehicles permitted on/off under license will require proper cleansing and disinfection.

7.4 Stamping Out / Culling of pigs in the Infected zone

7.4.1 Culling Policy

All pigs within 1 km radius of the infected zone will be humanely culled as soon as practicable, whether or not they currently show signs of the disease. Culling is undertaken by qualified persons, contracted by State/District veterinary authorities, under the supervision of a registered veterinary practitioner (**Annexure VII**).

7.4.2 Carcass disposal

For animals culled for disease control purposes, the carcasses shall not be allowed to move out of the area and shall be disposed in the IP itself. In case of exceptions where the carcass disposal is not possible, the transport of carcasses should be undertaken by agencies under the control of District Veterinary/Administrative authority following strict biosecurity protocols and using leak proof vehicles. Carcasses will be destroyed under official veterinary supervision **ONLY (Annexure VIII)**.

7.4.3 Rendering

Rendering is the preferred method of carcass disposal; incineration could also be an option with other disposal routes available, subject to public health, environmental and land use / planning considerations. Reference should be made to the **FAO Manual** on procedures for disease eradication by stamping out for more information on disposal procedures.

7.5 Destruction of semen, ova and embryos

Semen, ova and embryos collected from pigs at the IP during the period between the probable introduction of African Swine Fever at the premises and the implementation of official measures, will be traced and destroyed under official supervision in such a way so as to avoid the risk of spread of the African Swine Fever virus (ASFV).

7.6 Cleansing and disinfection (C&D)

7.6.1 Need for cleansing and disinfection

After the carcasses have been disposed of, the premises and any potentially contaminated vehicles and equipment will need to be cleansed and disinfected under the supervision of a VO to prevent spread of the disease from the premises and potential re-emergence of disease when it is restocked. Disinfection must be carried out using a disinfectant approved for use **(Annexure II)**.

There are two phases to C & D of an IP - preliminary and secondary.

7.6.2 Preliminary disinfection

Preliminary disinfection of the premises should be carried out immediately after completion of culling and disposal under the direction and control of DVA and at Government's expense. This involves the surface application (normally by spraying) of an approved disinfectant (diluted to the rate in the approved disinfectants' list) to those areas of the premises in which infected animals have been and the areas used for culling (note, this would generally not include fields/pastures etc). Preliminary disinfection is considered to be completed 24 hours after the last application of the approved disinfectant.

7.6.3 Secondary disinfection

Secondary cleansing and disinfection are the responsibilities of, and at the cost of, the occupier of the premises and must be completed in accordance

with the directions of DVA. Irrespective of whether or not pigs are to be reintroduced on the premises, DVA may serve a notice requiring secondary C&D. If the owner does not undertake secondary cleansing and disinfection, DVA can arrange for this to be undertaken by others at the expense of the owner.

7.6.4 Parts of infected premises where cleansing and disinfection are not possible

Parts of the premises that cannot be cleansed and disinfected will remain under restriction for an extended period, until notified by the DVA that they are satisfied there is no longer a risk of African Swine Fever virus being present.

7.6.5 Vehicles on premises

Vehicles on the premises will need to be unloaded and cleansed and disinfected under the supervision of a VO. Vehicles on the premises will remain there until they have completed full C&D and been licensed to move off the premises by DVA.

7.6.6 Equipment, bedding in infected premises

Any equipment, bedding etc. from the IP will either be destroyed or treated under official supervision. There will be some items that cannot be cleansed or disinfected, for example contaminated feed, farm waste products and slurry. In such cases the items will be destroyed, treated to inactivate any virus or disposed of appropriately. For instance, manure and used bedding should be stacked, sprayed with disinfectant and left for at least 42 days or destroyed by burning or buried.

7.6.7 Slurry

Slurry from an IP should be stored for at least 70 days for ASF, after the last addition of infected or potentially infected material. A shorter storage period

may be permitted if a VO has given instructions to treat the slurry in some way prior to storage. Slurry from an IP should not be used for spreading.

7.7 Restrictions on Pork

7.7.1 Markets and abattoirs

Pig markets and abattoirs should strictly be closed.

7.7.2 Trade within Infected Zone

The trade of pork meat (fresh and products) within the “infected zone” is prohibited. The entry of pork meat (fresh and products) to the “infected zone” is only allowed from the “free zone”. The exit of pork meat (fresh and products) out of the “infected zone” is prohibited.

7.8 Tracing of meat from animals slaughtered in risk period

7.8.1 Need for tracing out

ASFV can remain active for months or years in infected meat and other products of porcine origin and can be a significant source of spread and dispersal of ASF in pigs. Pigs moved from the IP to slaughter in the period after African Swine Fever may have been introduced but before disease restrictions were imposed may have been infected with African Swine Fever. Therefore, the meat from these pigs may be affected by African Swine Fever and should be traced, withdrawn and disposed of.

7.8.2 Responsibility of FSSAI

DVA shall issue a notice with the help of FSSAI authority, that the slaughterhouse has received pigs from an IP and the products from these pigs must be withdrawn and disposed of. The FSSAI is responsible for disposing of the carcass/meat. If the product has already left the establishment, the FSSAI is responsible for notifying the recipient and they have similar responsibilities to dispose of the meat or notify other premises if the meat has been moved. Records must be retained for inspection. Meat must be withdrawn by

processors, manufacturers, distributors and retailers as far as retail shelves but not from end consumers.

7.9 Measures when tick vectors are suspected or confirmed at an IP

7.9.1 Biological vectors (soft ticks)

In addition to direct and fomite transmission, ASFV can also be transmitted by soft tick vectors (*Ornithodoros* species). Current evidence suggests there are no known competent vectors for ASFV. However, if ASF is confirmed in the country, expert advice should be sought regarding possibility of biological vectors (soft ticks) in the area or whether other mechanical transmission of infected blood could be involved in the epidemiology of the disease. If so, experts will assist in determining the appropriate control measures to be taken at IPs.

7.9.2 Inspection of premises

If the presence of vectors is suspected or possible on an IP, an inspection of the pigs' living and resting quarters and the surrounding area should be undertaken to establish the presence or absence of vectors (by physical inspection and the trapping of specimens if necessary). Experts will be engaged in the identification and confirmation of competent vectors, as necessary.

7.9.3 Confirmation of tick vectors

If the presence of tick vectors is confirmed -

- the vectors will be tested to confirm or otherwise the presence of ASFV
- further monitoring, checking and control measures will be established in the holding and the surrounding area
- the IP will be acaricide-treated in addition to cleansing and disinfection

7.10 Restrictions on Feeding / Feed

- It is prohibited to feed meat to pigs (from slaughter/kitchen waste)

- Swill feeding is allowed only after heat treatment (at boiling temperature for > 20 minutes)
- Any contact of live pigs with meat waste (Slaughter/kitchen waste) has to be prevented.

7.11 Waste Disposal

- Special attention should be given to the collection of blood during slaughtering.
- Meat waste (slaughter waste including blood / kitchen waste) has to be buried or burned.
- The carcasses should be disposed of by deep burial/incineration only and not thrown in rivers/canals /streams/water bodies.
- Feed left over or bedding and other materials should be disposed properly through deep burial/incineration.

7.12 Compensation

7.12.1 Adequacy

Adequate compensation to the infected and stamped out pigs should be provided as decided by the Competent Authority.

7.12.2 Compensation on seizure by VA

Compensation is also payable on anything seized by DVA and not returned, other than when this has been done because a person has failed to comply with their obligations, for instance pig feed or feed materials.

7.12.3 Disbursement of funds

State Governments are responsible for disbursement of funds to the affected farmers. All individual beneficiary-oriented assistance should be mandatorily / necessarily disbursed through the bank account of the beneficiary. In order to improve the disbursement and transparency in providing relief to the beneficiaries under various items, the State Government should prepare a consolidated list of individual beneficiaries in whose bank account

funds have been transferred. The list so prepared should be displayed on their website as well as the State / District and block / taluka levels for the purpose of verification and social audit.

7.13 Repopulation of infected premises

7.13.1 Lifting of restrictions

For ASF-infected premises where disease is not linked to vectors, restrictions will remain in place until -

- i. More than 6 months has elapsed since the satisfactory completion of secondary C&D and the VA is of the opinion that restrictions can be lifted without risk of spread of disease; or
- ii. Following satisfactory completion of secondary C&D, the premises has been tested for the presence of any remaining disease using sentinel pigs. If no disease is detected in these sentinel pigs, restrictions may be lifted.

7.13.2 Repopulation

For 7.11.1 (ii) above, DVA will license the sentinel pigs on to the premises after a certain period of time (specified under law), which is lapse of at least 40 days for ASF-affected premises after the owner has satisfactorily completed secondary C & D.

7.13.3 Sentinel pigs

The number of sentinel pigs to be used will be specified by the VA and will be the minimum sufficient number to detect disease on the premises. This should not increase a maximum of 10 % of the stocking capacity of IZ.

7.13.4 Test for antibodies against ASFV

The sentinel pigs should have tested negative for antibodies against the ASFV or should come from premises not subjected to African Swine Fever restrictions.

7.13.5 Laboratory test

State / District VA will undertake serological laboratory tests of the sentinel pigs - 45 days after the arrival of the last sentinel pig onto an ASF affected premises.

7.13.6 Final approval

If these final tests prove negative for African Swine Fever antibodies, DVA will lift all restrictions on the premises and the occupier may fully restock.

7.13.7 Introduction of sentinel pigs

For holdings where the pigs are kept indoors, the occupier can decide to use a much larger number of sentinel pigs. If a larger number of sentinel pigs are used, all the pigs must arrive within 20 days. The sentinel pigs should have tested negative for antibodies against the disease or come from premises not subjected to restrictions because of African swine fever. These sentinel pigs will be subject to serological testing for African Swine Fever as in 7.11.5.

7.14 Repopulation of ASF infected premises where the occurrence of disease has been linked to soft tick vectors

7.14.1 Restrictions on restocking

In the case of ASF - infected premises where the occurrence of disease has been linked to tick vectors, no restocking will take place for at least 7 years unless -

- Specific measures have been carried out, under DVA supervision, to eliminate the vector from the premises and other places where the pigs would be kept or come into contact with, or

- It has been possible to show that the persistence of vectors no longer represents a significant risk of ASF being transmitted

7.14.2 Testing of premises

Thereafter, the premises will be tested for any remaining disease through the use of sentinel pigs as in paragraphs 7.11 above. If no disease is detected, the occupier may restock as usual. Restrictions on the premises will not be lifted until at least 70 days has passed since this full restocking.

7.15 Communication

7.15.1 Awareness on restrictions on disease confirmation

Once the disease (ASF) is confirmed, State / District VA will take steps locally to ensure that everyone in and around an IZ is made aware of the restrictions and requirements in force there. This may include displaying notices and signs.

7.15.2 Information on disease confirmation in premises

Information should be made available to pig keepers explaining what happens if disease is confirmed on their holding.

CHAPTER 8 **ACTION PLAN FOR SURVEILLANCE ZONE**

8.1 Definition

Disease “Surveillance zones” are geographically defined areas within the States/Districts of the Country, that divide “free zones” from “infected zones” and where most control activities are taken to eradicate the virus.

8.1.1 Aim of Surveillance zones (SZ)

Where the disease (ASF) is confirmed at an IP, there is an increased risk of disease spreading to pig premises in the vicinity. Therefore, Government should declare surveillance zones (SZ) around the IP in line with GOI and OIE obligations. The aim of this zone is to reduce the likelihood of lateral and onward spread of disease.

8.1.2 Area of Surveillance zone (SZ)

The Surveillance zone SZ will be a minimum radius of 10 km from the infected premises (9 km outside IZ), or as decided by CA.

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8.1.3 Changes in size of zones

A decision to make zones larger will be taken based on epidemiological advice, the local industry structure and density of the industry and the wider disease control benefits weighed against consideration of the practical implications and costs of managing larger zones.

8.1.4 Further control measures

Government, in discussion with industry bodies may conclude that further control measures are required over a wider area to supplement the SZ already declared. In reaching a decision on whether a wider zone is required, Government will consider whether -

- The IZ / SZ is insufficient to halt spread of disease with a rapid increase in the number of cases detected over a wider area
- there is a high level of uncertainty about the outbreak source, the linkages between cases, and the underlying degree of undetected African Swine Fever
- there are a large number of potentially high-risk tracings
- the strain of virus is believed to be a mild strain which may not present strong clinical signs or a strain which has slow onset of clinical signs

8.2 Movement prohibitions and derogations in SZ

Upon declaration of SZ, all the restrictions and controls shall be enforced by the State/District administration immediately by using all legislative and legal provisions under the Prevention and Control of Infectious & Contagious Disease in Animals Act, 2009.

8.2.1 Movement Restrictions of live pigs - Commercial farms

- Commercial farms cannot move any live pigs from the surveillance Zone to the infected Zone. Movement within the SZ is allowed.
- The farms in the Yellow Zone should discontinue receiving any further feed deliveries from the IZ
- Veterinary medicines and other farm-associated supplies should not be brought out of the farm premises located in the IZ and sent to the SZ, during the period of stamping out

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8.2.2 Movement Restrictions of live pigs – Smallholders / Backyard farms

- The smallholder farm should discontinue receiving any live pigs from the infected Zone
- Movement of live pigs from smallholder farms can continue within the SZ.
- All other equipment / supplies associated with the pigs in the IZ should not be brought to the SZ. These include veterinary medicine, feed equipment, breeding tools, etc.

- Discontinue any further bringing in of feeds / swill (if any) into the small holder farms of the IZ.

8.2.3 Derogations

Derogations are unlikely to be available in the period following declaration of the zone. However, after a few weeks have passed since the last confirmed case in the area, Government may start to consider the case to allow limited movement of pigs off the premises in the SZ -

- for immediate slaughter
- to another premise within the same zone, if welfare problems cannot be alleviated by management or husbandry practices at the premises
- for culling and movement of the carcass to a rendering plant for processing
- Very exceptional circumstances, derogation may be granted earlier if a serious welfare situation has arisen at a premise as a result of a situation that could not be anticipated, such as serious flooding.

8.2.4 Other (non-porcine) animals

Non-porcine animals are prohibited from leaving premises in the SZ where pigs are also kept. Movements may be licensed during all phases of the outbreak but will be subjected to conditions to ensure the movement does not spread African Swine Fever.

8.2.5 Genetic Material

Movement of semen, ova or embryos off premises in the SZ is prohibited, except for disposal at an approved facility. However, There are no prohibitions on the movement of genetic material onto a pig premises (WITHIN) in the SZ.

8.2.6 Carcasses, pig products and waste

Movement of carcasses or the dead stock of pigs in the premises of a SZ is prohibited. However, it may be licensed, most likely when the disease situation is stable and provided they are clean carcasses.

8.2.7 Manure, slurry and other pig waste

These cannot be moved off a pig premises although it can be licensed for transport for disposal. The transport vehicle must be leak-proof and the destination must be approved for handling the waste. Also, spreading of pig manure or slurry will be prohibited. It may be licensed, but not until the disease situation is stable and following a veterinary risk assessment.

8.3 Movement Restrictions and Licenses – Vehicles

Trucks and vehicles that have carried live pigs or other livestock or material which may be contaminated with African swine fever virus are prohibited from leaving premises in the SZ unless they have undergone cleansing and disinfection (C&D).

Trucks and vehicles that have carried live pigs as above can continue to be used within the premises.

8.4 Restrictions on feed / feeding

- Feed should not be moved off a pig holding, unless the feed mill is a separate epidemiological unit. This will be determined by a VO
- It is prohibited to feed meat to pigs (from slaughter/kitchen waste)
- Swill feeding is allowed only after heat treatment (boiling temperature for > 20 minutes)
- Any contact of live pigs with meat waste (Slaughter/kitchen waste) has to be prevented

8.5 Transportation to pig premises

8.5.1 C&D during entry and exit

Best practice C&D should be employed both on entry and exit. Deliveries should be scheduled to high health status premises before other premises.

8.5.2 Movement control measures

Movement control measures on pigs, vehicles and other material likely to spread ASF significantly reduce the risk of disease entering or leaving premises in the zones. Pig keepers should continue to employ good practice within the premises, including good personal biosecurity such as washing hands, disinfecting footwear and using clean, uncontaminated clothing.

8.5.3 Outdoor pigs

Outdoor pigs are at greater risk of exposure to disease incursion from wildlife (including feral pigs in some areas), public access and other fomites. There is no significant risk of an aerial plume of African Swine Fever virus thus measures to minimize the risk of physical contact with outdoor pigs should help keep the disease out. During an outbreak of disease, the owners of outdoor units are encouraged to upgrade their biosecurity and access controls and to seek to separate their pigs from any wildlife threats.

8.6 Surveillance and Epidemiological Investigations

8.6.1 Surveillance within SZ

Within the SZ, DVA will undertake surveillance to assess the extent of lateral spread from the IP. The methodology will be determined taking into consideration the existing epidemiological evidence available (**Annexure IV**).

8.6.2 Surveillance method

Surveillance will be assisted by use of data from various sources on the location of registered pig keepers/Associations. However, this will be supplemented by DVA foot patrols to identify any other pig keepers in the area.

8.6.3 Feral pigs

The data on feral pig populations will be considered and as necessary supplemented by visits of feral pig experts.

8.6.4 Sero-surveillance

Virological and serological surveillance may be carried out for epidemiological purposes and to support declaring previously infected areas (IAs) free from disease.

8.6.5 Visits by Veterinarians

Veterinary visits to all premises with pigs in the area will take place, to provide advice, to check for disease, and after a certain period to ensure the premises has remained disease free prior to lifting of control zones.

8.6.6 Data processing

The data collected in the aforementioned paras will be of immense value to disease modelers and experts to provide advice to veterinary and policy teams. The National Disease Control teams / Control room will use the evidence obtained from all sources to assess –

- the possible origin of the infection
- the period during which African Swine Fever may have been present on the premises prior to detection
- the risk of disease dispersal through movement of pigs, personnel, vehicles, carcasses, meat or any other material which may have transported virus from the premises
- the risk of other premises that might be infected

8.7 Communication

Government will deliver the communication programmes to inform the pig keepers / owners of susceptible animals, veterinarians and other stakeholders of -

- the disease situation
- measures being implemented
- advice on clinical signs of disease

8.8 Impact of controls

8.8.1 Risk reduction

The restrictions set out in this section will impact on the day-to-day farm business operations. These measures are necessary to reduce the risk of disease spread and to reduce the overall size and duration of an outbreak.

8.8.2 Different impacts

Government recognizes that due to the nature and structure of pig production systems in India, movement restrictions will have different impacts depending on the structure and set-up of different operations. Controls may affect the businesses' ability to move pigs in and out of different activities like farrowing, to move weaned pigs to growing accommodation or to move finished pigs to slaughter.

8.8.3 Strategy not to directly address impact

This strategy is not intended to directly address such impacts. However, Government and industry are committed to working through mitigating and contingency actions that might alleviate some of the pressures during an outbreak. Pig producers and processors are strongly encouraged to put in place appropriate contingency plans. Government will be working with its delivery agents to ensure they are adequately prepared to respond effectively.

CHAPTER 9 SPECIAL CASES - ESTABLISHMENTS AND ANIMAL GATHERINGS

9.1 Disease at establishments, animal gatherings and during transport

9.1.1 Scenarios

There are some possible scenarios in which ASF is suspected in pigs at a place where the pigs are not usually resident. Examples include establishments (such as abattoirs) or animal gatherings (such as markets or shows). In these special cases, it is likely (but not certain) that the pigs suspected of being affected by ASF would have arrived at the location already infected. Thus, special procedures apply where African Swine Fever (ASF) is suspected or confirmed in these cases, as explained further below. Specific rules also apply to establishments and animal gatherings in control zones.

9.2 Suspicion of ASF in pigs at an establishment

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9.2.1 Establishment

The term 'establishment' is intended to include abattoirs (also known as slaughterhouses where animals are slaughtered with the intention of the animal product entering the human food chain), knackers' yards (where animals are killed but not for the human food chain), and game handling establishments (where carcasses of pigs killed in the wild may be taken for hanging and meat inspection in order to enter the food chain).

9.2.2 Suspicion of ASF in an establishment

When DVA is notified of suspicion of disease in pigs at an establishment; the establishment will be placed under restrictions and further movements of animals onto the premises prohibited whilst investigations take place. The killing of pigs will be halted until the DVA team arrives and assesses the situation. The VA will wish to inspect the pigs prior to slaughter to assist with

the assessment. No pig products should leave the establishment until the VA authorizes such movement.

9.2.3 Investigation - clinical

Investigations will initially focus on establishing whether African Swine Fever should be suspected and whether samples need to be taken. If ASF can be negated based on the clinical picture then restrictions can be lifted and normal business resumed. All meat that had been detained can be released for sale subject to it continuing to comply with food hygiene requirements of FSSAI.

9.2.4 Investigation - laboratory

If samples are required to be taken to confirm or negate the presence of African Swine Fever then restrictions will remain in force until laboratory results enable confirmation or negation of disease, usually for 24-48 hours; this will prevent further animals being brought into the abattoir for slaughter. The VA will assess which pigs in the lairage may be infected and take the necessary samples.

9.2.5 Investigation - source

The VA will also seek to identify the source of the suspect pigs, including their route to the abattoir. Restrictions will be served by State/DVA on the source premises and any premises visited on route to the abattoir. These will be investigated by DVA as contact premises.

9.2.6 Results of initial assessment

Once the VA has completed the initial assessment (including consideration of the chillers and any requirement to cleanse and disinfect) the VA will give instructions to the owner/holder of pigs, on how the remaining pigs may be killed and the carcasses and pig by-products stored whilst investigations are undertaken. The intention of this is to minimize the risk of

cross-contamination of potentially affected pigs and pig carcasses with those that might be free of African Swine Fever (ASF).

9.2.7 Product from suspect pigs

Meat that has come from the suspect pig(s), or may have come into contact with such meat will be detained pending the outcome of the investigation. If African Swine Fever (ASF) is confirmed, meat will be disposed of. However, if African Swine Fever (ASF) is negated, the owner is advised to maintain the meat and any other relevant derivatives in suitable conditions so as to ensure that the meat remains fit for human consumption and the meat and / or related derivatives are released for sale.

9.3 Confirmation of ASF at an establishment

9.3.1 Establishment without any live pig

Where African Swine Fever is confirmed in an establishment where all pigs are slaughtered, that establishment is not treated as an IP as it is likely that pigs already infected with African Swine Fever, would have arrived from outside and they may have transmitted the infection to others in the lairage or carcasses contaminated with African Swine Fever virus.

9.3.2 Meat from slaughtered pigs

Any remaining pig will be killed without delay and the meat detained and kept separate from other meat. All meat at the premises will temporarily be detained until the VA has assessed the risk of the meat being infected or contaminated with African Swine Fever virus. Where there is no risk of African Swine Fever (ASF) infection or contamination, meat may be released otherwise it will be detained pending test results.

9.3.3 Disposal of affected meat

Where African Swine Fever (ASF) is confirmed, the FSSAI / DVA will be required to dispose of the affected meat. The VA will direct what actions are needed, including C&D of the establishment.

9.3.4 Reinstating operations

Unless the establishment turned out to be the disease source it is likely restrictions will be lifted and the establishment will be allowed to recommence operations. However, restrictions cannot be lifted until at least 24 hours after C&D is completed to the satisfaction of the VA.

9.3.5 Control zones around establishments

Control zones are not ordinarily declared around infected establishments.

9.4 Suspicion of ASF at an animal gathering

9.4.1 Animal gatherings

Types of animal gatherings include licensed markets, shows, collection centres and approved export collection centres. Special procedures apply where African Swine Fever (ASF) is suspected. Animals can remain at gatherings for some time, possibly in excess of 48 hours, and unlike establishments, are intended to leave the gathering alive.

9.4.2 Notification

When suspicion of African Swine Fever at a gathering is notified, the gathering will be restricted and further movements of animals on or off will be prohibited whilst initial investigations take place. Investigations will initially focus on establishing whether African Swine Fever should be suspected and whether samples need to be taken. If disease can be negated based on the clinical picture then restrictions can be lifted and normal business resumed.

9.4.3 Restrictions during testing

If samples need to be taken to confirm or negate the presence of African Swine Fever then restrictions will remain in force until laboratory results confirm or negate disease. Only in exceptional circumstances will it be possible to move further animals into or out of the gathering with agreement from the VA.

9.4.4 Investigation – source of suspect pigs

Since the gathering is unlikely to be the source of African Swine Fever, the DVA will seek to identify the source of the suspect pigs. Work will also be undertaken to identify any animals or vehicles, which have already left, which could potentially be carrying infected pigs or have been contaminated with African Swine Fever. Restrictions will be served at source, destination and other contact premises as the DVA team considers necessary.

9.4.5 Contingency plans

DVA will treat the gathering in much the same way as any other suspect premises; there are no special provisions available in law. Given the temporary nature of a gathering, effort will also focus on how to minimize the impact of animal welfare whilst results are awaited. **Animal gatherings are required to maintain contingency plans and these should include plans to take temporary care of animals, including their welfare during this time.**

9.4.6 Movement of other animals

Subject to appropriate measures to minimize the risk of spread of African Swine Fever, DVA will be able to license the movement of other animal species off the gathering. Conditions for this movement will include appropriate C&D of vehicles including the wheels and wheel arches prior to departure and DVA may also place restrictions on the destination premises especially where other pigs are present.

9.4.7 Release of restrictions

If disease (ASF) is negated all restrictions may be removed immediately.

9.5 Confirmation of ASF at an Animal Gathering

9.5.1 Control measures

If African Swine Fever is confirmed, disease will be controlled at the gathering premises in much the same way as any other infected premises (**refer Chapter 7**). The premises will be placed under restrictions. If the premises are assessed to be suitable, culling of all pigs will take place at the gathering. Otherwise arrangements will be made to move the pigs to a suitable place for humane culling.

9.5.2 Licensing non-porcine species

Non-swine species may be licensed off the premises by DVA, subject to appropriate biosecurity protocols, including C&D of vehicles after unloading at the destination premises. If pigs are present or kept at the destination premises, then VA may decide that the destination premises should be placed under restrictions for a period to ensure disease has not been introduced.

9.6 Suspicion and confirmation of ASF during transportation

9.6.1 Suspicion in transit

If African Swine Fever (ASF) is suspected in transit (such as a roadside inspection of a livestock vehicle) a VA team will assess the pigs and if ASF cannot be negated on clinical grounds and samples need to be taken a formal notice will be served restricting the vehicle and pigs. Whilst this suspicion of African Swine Fever in transit is unlikely, this is treated as a special case since the vehicle is unlikely to be the source of African Swine Fever. The vehicle's route(s) will therefore be traced and DVA will place the source and any other contact premises under restriction as necessary.

9.6.2 Shifting vehicle and pigs

The vehicle and pigs will be moved to an appropriate location to be determined by the DVA where they will (if appropriate) be detained and the destination premises placed under restrictions until test results are received. If disease is negated all restrictions are immediately lifted.

9.6.3 Confirmation of disease (ASF)

If disease is confirmed, the vehicle will be cleansed and disinfected as directed by a VA. Although the receiving premises may not be the origin of infection but it may have been contaminated and there may be lateral spread of African Swine Fever from it whilst the outcome of tests was awaited, thus it will be declared as an 'Infected premises' (refer Chapter 7).

9.7 Communication on suspicion of African Swine Fever (ASF) at establishment or gathering

It is not a usual practice to make public statements about premises that are under investigation for suspect disease. However, where African Swine Fever is suspected at an establishment or animal gathering it is necessary to inform farmers who may intend to bring animals to or collect them from such places. Such communication is undertaken primarily by the operator. However, this will lead to media and other enquiries and some limited communication will be undertaken by Government when African Swine Fever is suspected at these types of premises. These communications will be limited to basic facts and it is not normal practice to publicize further details until the outcome of the investigation is confirmed.

9.8 Control of establishments in Surveillance zone

9.8.1 Slaughterhouse

To operate a slaughterhouse in SZ or for them to receive pigs from certain zones they must be "designated" to the relevant Veterinary authority to

verify and then be officially approved by the DVA. The slaughterhouse must meet the requirements for sourcing pigs and separation as necessary, as decided by CA.

9.8.2 Slaughtering pigs outside Surveillance zone (SZ)

Pigs originating outside the SZ and slaughtered at a slaughterhouse outside the SZ will not be subject to any additional controls, save any imposed in wider movement restriction or other control zones. There is no requirement for the slaughterhouse to be designated or for the meat to be controlled or (heat) treated. The practice of allowing C&D of vehicles away from the slaughterhouse may be suspended if the disease situation requires.

9.8.3 Slaughterhouse restrictions within (SZ)

The movement of pigs from outside the SZ to a slaughterhouse located within the zone may be licensed from early in the outbreak as the movement is from a low disease risk area to a slaughterhouse for immediate slaughter. Slaughterhouses operating within a control zone must be designated, and if located within the SZ, Government will need to seek approval from the National/State Expert Committee. There are no controls on the meat produced from pigs originating from outside the zones. The practice of allowing C&D of vehicles away from the slaughterhouse will be suspended in these circumstances and they must fully C&D prior to leaving the slaughterhouse.

9.8.4 Restricted meat

Meat produced from pigs originating from the SZ (regardless of where they were slaughtered) is termed “Restricted Meat”. Such meat receives a special mark (a crossed through oval health mark) and **CAN NOT be sold fresh**. It must be treated at a designated treatment centre and prior to treatment only handled at designated premises.

9.8.5 Post lifting of restrictions

Once the restrictions in the SZ are lifted, live pigs from those areas become free to be slaughtered in the same way as any other pig from outside a SZ and meat from pigs slaughtered after zones are lifted can be traded freely. However, meat from animals slaughtered from the SZ prior to the zones lifting remains restricted and must continue to be handled at designated premises and must be (heat) treated.

9.8.6 Additional safeguards

It may also be noted that under some circumstances if the Central / State Veterinary Authority takes any additional safeguard measure that a total **BAN** on slaughtering activities is necessary, it may be imposed in the SZ.

9.9 Control of Animal Gatherings in Surveillance Zones

9.9.1 Animal gatherings without pigs

No animal gatherings in the SZ will be allowed to have pigs present. Gatherings of other species may be allowed subject to appropriate biosecurity and being separated from any pig premises such that there is no risk of disease spread.

9.9.2 Animal gatherings with pigs

If at the time a SZ is declared, a market, show or other gathering has pigs present, movements on and off that premises will be prohibited. During this time the gathering is treated like any other premises, and animal gatherings should have contingency plans in place in order to care for animals during this time.

9.9.3 Movement of non-porcine animals

Non-swine animals at the gathering will be allowed to leave the gathering as soon as is practically possible, subject to appropriate C&D measures. If the animals return to a farm where pigs are present, a VA team may decide that

the destination premises should be placed under restrictions for a period to ensure disease has not been introduced.

9.9.4 Movement of pigs - restrictions

Approximately 48 hours is needed to allow a preliminary assessment of the disease situation. Subject to veterinary risk considerations and licensing by DVA, pigs may then be licensed to leave the gathering and move to the farm of origin, farm of a new owner, or for slaughter as requested by the pig keeper / owner. A VA team may decide that the destination premises should be placed under restrictions for a period to ensure disease has not been introduced.

CHAPTER 10 ACTION PLAN FOR DISEASE “FREE ZONE”/ NON-INFECTED AREA

10.1 Definition

Disease “free zones” are geographically defined areas within States/UTs/Districts where ASF virus is not present. The emphasis in ASF-free zones is on preventing entry of the disease and accumulating internationally acceptable evidence that the zones are indeed ASF-free.

10.1.1 Criteria

- No ASF cases reported in the whole disease “free zone” for at least 40 days (confirmation by laboratory tests)
- Sick pigs with clinical signs consistent with ASF and dead pigs (suspect cases) are consistently sampled (laboratory diagnosis) and eliminated
- Epidemiological surveillance should be carried out
- The sampling should be carried out from slaughtered pigs, from blood samples of live pigs and from wild boars.

10.2 Controls to stop disease entering and spreading in the domestic pig population

10.2.1 Good farming practice

The application of good farming practice and biosecurity is a simple and effective way of reducing the likelihood of introducing disease to a farm and of minimizing the rate of spread of undetected disease; these practices have benefit in minimizing the spread of endemic disease.

10.2.2 Avoid fomites

Avoid Fomite spread: contaminated vehicles and other equipment used to move infected pigs could spread disease and therefore vehicles and other equipment used in the movement of pigs must be cleansed and disinfected.

10.2.3 Personnel's hygiene

Best practices inside the farm include changing clothes and footwear, staff practicing good personal hygiene, prohibiting the eating of pork products on farm, etc.

10.2.4 Cleansing and disinfection at control points

Avoid contacts and ensure cleansing and disinfecting at control points (such as entry to the farm and / or between sheds), restricting the movement of vehicles on/ off farm, and controlling the disposal and collection of fallen stock and other waste. Particular care should be paid when returning from areas known to be affected with African Swine Fever. Contact with pigs should be avoided until you are confident that all vehicles, clothing and equipment are free from contamination.

10.3 Movement restrictions and confinement

10.3.1 Confinement

The pig holders must be advised to confine their pigs. Free roaming pigs must be euthanized by the disease control teams (as decided by DVO)

10.3.2 Movement restrictions

There shall be no movement of pigs, genetic material, meat, feeds from the Infected and Surveillance Zones into the Free Zone

10.3.3 Movement within Free zone

Movement of pigs, genetic material, meat, feeds within the Free Zone is allowed.

10.3.4 Trade of pork

Generally, trade of pork (fresh and products) within “free zone” can be allowed. However, the entry of pork meat (fresh and products) to the “free zone”

from other zones remains prohibited. The exit of pork meat (fresh and products) out of the free zone can be allowed with strict monitoring of DVA.

10.4 Controls at the borders of disease “free zone”

Official check-points at roads of disease “free zone” are to be established to guarantee that live pigs and pork meat (fresh and products) do not enter the free zone. This requires considerable human resources and adequate trained personnel may be deployed.

10.5 Bio-safety

As a preventive measure, the access of visitors to confined animal holdings without a minimal standard of biosafety is prohibited.

10.6 Feed / feeding

- It is prohibited to feed meat to pigs (from slaughter/kitchen waste).
- Swill feeding can be allowed only after heat treatment (boiling temperature for > 20 minutes)

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10.7 Waste disposal

- Any contact of live pigs with meat waste (slaughter/kitchen waste) has to be prevented (e.g. fencing of dump)
- Meat waste (slaughter/kitchen waste) has to be buried or burned

10.8 Monitoring:

Monitoring health of pig herds and being vigilant for signs of disease is an essential element in speeding up the detection of disease and thereby minimizing the size of outbreaks.

10.9 Surveillance

Further surveillance for African Swine Fever is carried out to provide assurance of continued disease freedom in the area. This Surveillance includes

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- Official investigation of reports of suspicion of African Swine Fever in pigs (kept and feral) including submission and testing of samples as necessary
- Clinical Surveillance for suspected signs / illness /death suggestive of ASF. If ASF is suspected, then the samples may be collected and sent to laboratory for testing and confirmation by identification of the causative agent
- Ante-Mortem and Post-Mortem inspections of animals / carcasses in abattoirs and other establishments for signs of disease by FSSAI / VA

11.1 Definition (in this document)

Feral Pigs - all Suidae including domestic pigs and wild boar and hybrids of, which are living in the wild.

11.1.1 Risk of spread

Once ASF has affected the feral pig population there is a risk of dispersal of African Swine Fever over wider areas and the introduction from feral pigs into domestic pig premises. Also, once the disease entered in feral pigs, demonstrating disease freedom in these wild populations is inherently more difficult than at a closed pig premises.

11.1.2 Potential routes of virus transmission

A number of potential routes for African Swine Fever to be introduced into feral pigs may be possible. These include virus transmission via fomites such as vehicles, people or clothing, through consumption of contaminated pork products, and from infected kept pigs. Any clothing, footwear, vehicles or equipment that could potentially be contaminated should be cleansed and disinfected. Any food waste should be disposed of securely to ensure that pigs cannot access them.

11.1.3 Wild boars

In India, wild boars are declared wild under Schedule III of The Indian Wildlife (Protection) Act, 1972, which was later amended in 1993 and are under the respective wild life departments of the States. However, all the control measures are applicable to these animals as per 'The Prevention and Control of Infectious and Contagious Diseases in Animals Act, 2009 and measures can be taken appropriately, in consultation with the respective administrative departments.

11.2 Presence of feral pigs in Surveillance Zones

11.2.1 Role of feral pigs

Regardless of whether or not African Swine Fever is suspected in feral pigs, whenever there is an incursion of African Swine Fever (ASF) into kept pigs, epidemiologists will quickly require information on the presence or otherwise of feral pigs in and around Surveillance zones to assess their potential role in the specific incursion and to model potential spread.

11.2.2 Veterinary Assessment

VA's inspection of the IP will include an assessment of whether there is any sign of feral pigs being involved in the disease incursion.

11.2.3 Consultation with wildlife departments

Relevant bodies like wild life departments will be immediately consulted to advise if feral pig population data indicate that feral pigs are present within the protection and surveillance zones. A field inspection may also be undertaken to provide additional evidence on the presence/ absence of feral pigs in domestic pig control zones.

11.2.4 Presence of feral pigs

If feral pigs are determined to be present within the protection or surveillance zones, an emergency meeting of the DVA and respective departments may be convened immediately to:

- agree to necessary actions to improve information on the feral pig population numbers, density and distribution
- to start to consider the likely size of a Feral Pig Investigation Zone in case African Swine Fever were to be suspected in feral pigs

11.2.5 Passive Surveillance

Passive surveillance of feral pigs in the area will be undertaken, including testing of feral pigs, found dead or shot. Domestic pigs in the surveillance zones will continue to be monitored by pig keepers.

11.3 Detecting African Swine Fever in feral pigs

11.3.1 Disease reporting

Under the current surveillance programmes for wildlife, any unusual mortality or disease reported in feral pigs is investigated in consultation with the relevant administration within State/District.

11.3.2 Veterinary Inspection

The DVA inspects carcasses of shot feral pigs presented at handling establishments and any suspect cases are followed-up through the normal “report cases” system. No further disease surveillance in feral pig populations is intended in the case of absence of disease.

11.4 Suspicion of African Swine Fever in feral pigs

11.4.1 Scenarios

There are two scenarios -

Scenario a) - African Swine Fever (ASF) is not known to be present in domestic pigs in the area but unusual mortality or signs of disease are observed in feral pigs

These signs will be investigated in consultation with the relevant administration within State/District. If carcasses are available, these will be examined and where necessary samples taken. Vigilance for signs of African Swine Fever in domestic pig populations is considered the most appropriate route to identify the first case of ASF.

Scenario b) — African Swine Fever is present in domestic pigs in the country

African Swine Fever would be suspected in feral pigs in or around a protection or surveillance zone if -

- unusual mortality or signs of disease are observed in feral pigs
- feral pigs or fresh evidence of feral pigs entering an IP during the period a VI team suspects disease may have been present or introduced
- there was other strong epidemiological evidence

11.5 Feral Pig Investigation Zone (FPIZ)

11.5.1 Official suspicion

Following initial investigations, Government may conclude that it officially suspects African Swine Fever (ASF) to be present in feral pigs and further action is needed to confirm or negate this suspicion. The appropriate authority may then declare a Feral Pig Investigation Zone (FPIZ).

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11.5.2 Consideration of FPIZ

Government will consider the size and shape of a FPIZ on a case-by-case basis, taking account of the expert advice. Key factors in determining the size and boundaries of a FPIZ will be the feral pig population size, its distribution, and the surrounding habitat and geographical barriers.

11.5.3 Sampling & testing of feral pigs

All feral pigs shot or found dead within the FPIZ must be presented for sampling and testing.

11.5.4 Feral pig carcasses

There will be an active search for feral pig carcasses in the FPIZ to confirm whether disease is present or absent. If sufficient carcasses are not

found naturally, feral pigs will be tracked and culled by experts employed by Government delivery agents and carcasses tested for African Swine Fever (ASF) in order to determine whether disease is present.

11.5.5 Controls in FPIZ

In certain circumstances, it may be considered proportionate to introduce certain controls on pig premises in a FPIZ to reduce the risk of disease spreading to kept pigs or to other areas. These can include some or all of the controls available in a Feral Pig Control Zone. Such a decision will depend on the epidemiological situation and be based on expert advice. Government will work closely with industry to introduce appropriate controls on a voluntary basis in a FPIZ.

11.5.6 Lifting of FPIZ

The FPIZ will not be lifted until African Swine Fever has either been confirmed or negated in feral pigs. Disease will be negated based on epidemiological and expert advice considering the size of the feral population and its local structure, and the number and results of samples taken.

11.6 Confirmation of African Swine Fever in feral pigs

11.6.1 Declaration of EPCZ

Upon laboratory confirmation of the presence of ASFV and following an immediate inter-departmental consultation, a Feral Pig Control Zone (FPCZ) will be declared. The size of the zone will need to be determined based on expert advice and the local circumstances.

11.6.2 ASF Eradication plan

ASF eradication plan, must be prepared within 90 days of confirmation of the first case of African Swine Fever in feral pigs. This may require further investigation on the ground and contribution from experts.

11.6.3 Eradication policy

Disease eradication policy is to, as far as practical avoid dispersing disease beyond its current location and to eradicate disease from the feral pig population. Experts will advise on the most appropriate disease eradication methods for the particular location and feral pig population. These measures may include but are not limited to:

- the fencing of areas to limit the movement of feral pigs
- restricting public access to infected areas
- suspension of hunting and cull activities during the initial stages of infection
- search and collection of carcasses to remove infectious or potentially infectious material from the environment
- hunting/trapping of feral pigs by Government delivery agents
- eventual cull of the affected feral pig population to eliminate disease
- active cull of surrounding feral pig populations to reduce density and avoid further spread

11.6.4 Killing of feral pigs

In order to reduce the risk of disease dispersal via feral pigs, the taking or killing of feral pigs would be prohibited except on farm premises to protect stock from a feral pig incursion or killing by expert trappers/ hunters. Each carcass should be examined, sampled and tested for notifiable diseases by trained personnel (under veterinary supervision) and also retained whilst testing is undertaken so infected carcasses are not released. Infected carcasses will be rendered or incinerated.

11.7 Control measures in a Feral Pig Control Zone (FPCZ)

11.7.1 Premises in FPCZ

The following measures will apply to premises in a FPCZ with pigs to prevent disease incursion or spread in kept pigs -

- prevention of contact between feral and kept pigs. All kept pigs on the premises should be restricted to their living quarters or to some other part of the premises where they can be isolated from feral pigs and feral pigs should be prevented from gaining access to any material that might come into contact with the pigs on the premises
- restriction of pig movements - pigs should not be moved on to or out of the premises unless this is licensed by a VA
- appropriate means of disinfection should be provided and used at the entrances and exits of those parts of the premises in which pigs are being kept and of the holding itself
- no carcass or any part of a feral pig should be brought onto a premises in the FPCZ
- carcasses of any feral pigs shot by owners on their premises to protect stock must be isolated from kept pigs and made available for examination, sampling and testing. Keepers should instigate cleansing and disinfection of the location the feral pig was shot, where appropriate, to reduce the potential of virus spread
- no material or equipment which could have been in contact with a feral pig in the infected area should be brought on to a premises
- the occupier of a premises must ensure that a census of pigs on the premises is kept up-to-date and provided when requested by the VA (the first census may be based on an estimate for outdoor pigs)

11.7.2 Other measures

- No pig, semen, ovum or embryo should be moved out of the control zone except under license
- Any person who comes into contact with a feral pig in the infected area should take steps to ensure they do not spread infectious or potentially infectious material
- Any person who finds the carcass of a feral pig should immediately inform officials so that the carcass can be sampled and tested for African Swine Fever

11.7.3 Lifting of FPCZ

The FPCZ will be lifted after disease eradication is completed. However, the monitoring will continue in the area for at least 24 months after the last case of African Swine Fever in feral pigs, in order to support the cause for regaining disease freedom.

CHAPTER 12 GAINING DISEASE FREEDOM & REMOVAL OF CONTROLS

12.1 Removal of Controls

12.1.1 Zones

Zones will remain in place until they are amended or repealed by further declaration on behalf of the relevant administrative authority.

12.1.2 Lifting of restrictions

Restrictions will not lift infected/surveillance zones until:

- all necessary cleansing and disinfection (C&D) have been carried out at all the infected premises in the zone to the satisfaction of the DVA
- pigs on all holdings have undergone clinical and laboratory examinations carried out in accordance with the diagnostic manual in order to detect the possible presence of African Swine Fever virus

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12.1.3 Duration of zones

It is likely that the zones will remain in place for at least two months even for the smallest outbreaks and considerably longer if ongoing sporadic cases continue to be suspected or detected in the area.

12.2 Post Operation Protocol (POP)

12.2.1 Actions required

These are the actions to be taken in the Infected Zone (IZ) and the Surveillance Zone (SZ), after completion of control operations. An effective POP includes

- post operation surveillance
- fumigation and spraying
- post-quarantine monitoring
- generating social awareness

The POP will be operational for a period of 6 months (120 days), after the secondary C&D or as decided by the SVA / CA.

12.2.2 Action in Infected zone

In an infected zone, the following actions are required -

(a) Intensive physical surveillance is required to ensure there is no induction/presence of pigs for the specified time period. In case of violation culling must be done. In such cases, the owners are not eligible for compensation.

(b) Fumigation/ spraying once in every 15 days after completion of control operations. Fumigation will be done in closed places and spraying will be done in open/inhabited spaces

(c) Maintain constant watch over areas where dead pigs and other materials have been disposed of and buried. This will be necessary for two reasons. Firstly, to decide if further sprinkling/cover of earth/lime etc. is required for purpose of disinfection and secondly, to take further corrective action to cover these areas with earth or soil if they show signs of sinking/depression as birds decompose etc.

(d) Communication and Social Awareness to ensure that no pig is introduced into the area for the next 6 months after issue of Sanitization Certificate.

12.2.3 Action in Surveillance zone

In a Surveillance zone, the following actions are required -

(a) Surveillance - collecting samples from both commercial and backyard pigs as per sampling protocol

(b)(c)(d) same as 12.2.2.

12.2.4 Compartmentalization policy

Our policy is not to apply compartments (allowing easing of restrictions earlier in non-risk compartments). However, in an extended outbreak and

where the disease is localized either geographically, or within a pyramid or sector, this may be reviewed.

12.3 International requirements

12.3.1 Country freedom

The OIE International Animal Health code specifies that a country may be considered free from ASF when it has been shown that ASF has not been present for at least three years. This period is reduced to 12 months, however, for previously infected countries in which a stamping-out policy is practiced and in which it has been demonstrated that the disease is absent from domestic and wild pig populations.

12.3.2 Free zones in a country

A zone of a country may be considered free from ASF when the disease is notifiable in the whole Country and when no clinical, serological or epidemiological evidence of ASF has been found in domestic or wild pigs in the zone during the past three years. This period will be 12 months for a previously infected zone in which a stamping-out policy is practiced and in which it can be demonstrated that the disease is absent from domestic or wild pig populations.

12.4 Regular updating of the Action Plan

This Action Plan should not be treated as static, and need reviewing and updating to reflect changing circumstances. For this, the following factors should be considered –

- changing epidemiological situations in and outside the Country
 - new ASF threats
 - changes in livestock-production systems and internal and export trade requirements
 - changes in national legislation or in the structure or capabilities of government veterinary services or other government establishments
 - experiences in the country and neighboring countries, results from training or simulation exercises and feedback from major stakeholders, including pig farmers.
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ANNEXURE 1**Pig Population in India (20th Livestock Census, GOI)**

Sl. No	Name of the State	Total Pigs (in numbers)
1	Andaman & Nicobar Islands	40488
2	Andhra Pradesh	91958
3	Arunachal Pradesh	271463
4	Assam	2099000
5	Bihar	343434
6	Chandigarh	138
7	Chhattisgarh	526901
8	Dadra & Nagar Haveli	0
9	Daman & Diu	0
10	Delhi	76346
11	Goa	35480
12	Gujarat	658
13	Haryana	108240
14	Himachal Pradesh	2477
15	Jammu & Kashmir	1215
16	Jharkhand	1276973
17	Karnataka	323836
18	Kerala	103863
19	Lakshadweep	0
20	Madhya Pradesh	164616
21	Maharashtra	161000
22	Manipur	235255
23	Meghalaya	706364
24	Mizoram	292465
25	Nagaland	404695
26	Odisha	135162
27	Puducherry	880
28	Punjab	52961
29	Rajasthan	154808
30	Sikkim	27320
31	Tamil Nadu	66772
32	Telangana	177992
33	Tripura	206035
34	Uttar Pradesh	408678
35	Uttarakhand	17659
36	West Bengal	540356
TOTAL		9,05,5488

Guidelines to implement Outbreak Containment in different zones

Pillars	Infected Zone	Surveillance zone	Free zone
Find the infection fast			
Surveillance	Assess the extent of the outbreak. As positive pigs are detected, delineate the infected zone. Adjust the IZ as more positives are detected	Negative monitoring to record healthy animals but if an outbreak area is detected, assess the outbreak area if it necessitates expanding the infected zone. Do backward tracing on the cause of the outbreak	Implement negative monitoring to record healthy animals but once an affected farm is detected, isolate the farm and do backward tracing on the cause of the outbreak
Public awareness	<ul style="list-style-type: none"> Immediately put in place the risk communication plan and convey the information on ASF either through brochures/ other information materials/local media and assure consumers that ASF is not a public health threat 	<ul style="list-style-type: none"> Immediately convey the information on ASF either through brochures/ other information materials/local media and assure consumers that ASF is not a public health threat. Inform the residents of the affected area on the ASF report 	<ul style="list-style-type: none"> Immediately convey the information on ASF either through brochures/ other information materials/local media and assure consumers that ASF is not a public health threat Inform the residents of the affected area on the ASF report

Eliminate quickly			
Culling and disposal	Implement culling and disposal	Collect samples and test using the pocket PCR. If positive set for culling and disposal	Collect samples and test using the pocket PCR. If positive set for culling and disposal
Cleaning and disinfection	Demonstration and awareness campaign on proper cleaning and disinfection at an affected farm	Continue cleaning and disinfection	Continue cleaning and disinfection of the affected farm and all farms in the area
Stop the spread			
Biosecurity	Once the Infected zone has been designated establish the quarantine checkpoints and cleaning and disinfection points	Establish quarantine checkpoints in the control zone to ensure that the IZ is kept isolated and ensure that no people, vehicles, animals or pig products will exit the IZ	Isolate the farm and halt all activities that would allow for entry and exit of animals, vehicles. People should observe strict biosecurity in the farm
Movement restrictions	<ul style="list-style-type: none"> ▪ See Chapter 	See Chapter	See Chapter
Public awareness	<p>Information campaign should be continuous targeting different stakeholder groups</p> <ul style="list-style-type: none"> ▪ Daily/Weekly status reports 	<p>Information campaign should be continuous targeting different stakeholder groups</p> <ul style="list-style-type: none"> ▪ Daily/Weekly status reports 	<p>Information campaign should be continuous targeting different stakeholder groups.</p> <ul style="list-style-type: none"> ▪ Daily/Weekly status reports

Surveillance and Sampling plan for ASF in infected and surveillance zones

The population covered by surveillance aimed at detecting ASFV infection and disease should ideally include domestic, captive wild, wild and feral swine populations. Surveillance for presence of the disease should be undertaken actively to assess the extent of lateral spread from the infected premises as well as to declare freedom from the disease after the culling operations.

The surveillance strategy will depend on the zone and objective of the sampling. In the infected zone, as all the animals are to be stamped out within the 1 km radius after confirmation of disease, the aim of surveillance will be to ensure freedom from disease.

In the surveillance zone, active surveillance should be carried out to check if any animals have been exposed to the infection from the infected zone. High-risk farms or groups (for example, where swill feeding is practiced, or those adjacent to an ASF infected zone, or bordering areas where infected wild and feral pigs are present) within the infected zone should be identified by the local authorities. Care should be taken during active surveillance not to spread the disease during investigation and sample collection. All bio-security guidelines must be followed strictly by the visiting VA / teams.

In Free zones, creating awareness and intensive clinical surveillance should be done to monitor the animals for any clinical signs resembling ASF. ASF should be suspected if there is a sudden rise in pig deaths or mortality in a location and appropriate samples should be collected and sent to the designated laboratory for confirmation.

Surveillance should be composed of random or non-random targeted approaches using clinical, virological and serological methods. Clinical surveillance is one of the most effective tools for detecting ASF due to severe clinical signs and pathology associated with ASFV infection. Owners or farm managers are the only people who see the animals every day. Therefore, informed owners constitute a really viable daily surveillance resource for the disease. Their heightened awareness should enable rapid recognition in the event of an introduction or sudden increase in the incidence of the disease. A close coordination among pig owners, field veterinarians and the veterinary laboratory services is the essential component of a surveillance plan.

Local veterinarians or the surveillance team should undertake clinical inspection of each farm subunit, clinical examination of selected animals and necropsy of dead animals, if any. Clinical signs and pathological findings are useful for early detection; in particular, any cases where clinical signs or lesions suggestive of ASF are accompanied by high mortality should be investigated without delay. The investigating person (s) should wear personal protecting equipment including gumboots that can be easily disinfected.

If large numbers of animals are present, those showing obvious clinical signs must be prioritized and targeted for examination and sampling. If many animals in a farm are showing clinical signs, samples from approximately five of them should be sufficient to ensure a diagnosis.

As the ASFV is a very hardy virus which can survive in the environment for long time, extra care should be taken while doing necropsy of pigs that are suspected to have died of ASF for sample collection in the field in the surveillance zone. Strict biosecurity measures should be implemented before and after necropsy to prevent the spread of infection. Unnecessary necropsy should be avoided, especially in case of mass deaths and should be limited to a very few representative dead animals. In already confirmed infected zones, necropsy of dead animals need not be done for sampling.

Appropriate samples should be collected and sent as soon as possible to the laboratory for diagnosis. They should be collected aseptically, taking care to avoid cross-contamination, and always using new needles for different individuals to avoid disease transmission. All samples awaiting testing should be considered infected and handled accordingly. All sampling material used on farms such as used syringes, needles, cotton swabs, discarded vials, gloves, shoe covers, etc., should be collected in disposable bags and disposed of safely as per local regulations. For example, they may be bagged and transported back to the laboratory for autoclaving/appropriate disposal. All samples should be clearly and permanently labeled, packed and sent to the testing laboratory in good condition.

Laboratory diagnosis

Laboratory confirmation of a presumptive diagnosis of ASF depends on detection of the virus or detection of antibodies. As most pigs die of acute ASF before antibodies are produced, detection of the virus (genome/ antigen/ virus isolation) is the most important method of diagnosis. In risk zones, presence of ASFV infection should be ruled out before sending samples for diagnosis of other diseases.

Specimens to be submitted for laboratory diagnosis

The following types of samples should be collected for laboratory diagnosis

- a) from live animals –
 - i) whole blood collected aseptically in to EDTA
 - ii) Clotted blood without any anticoagulant or serum
 - iii) soft ticks*

- b) from carcasses –
 - i) lymph nodes
 - ii) spleen
 - iii) tonsils

In cases where decomposed swine carcasses are only available for sampling, bone marrow should be collected

c) from wild pigs – i) long bone with intact bone marrow ii) (if fresh carcass) samples similar with those in case of carcass of domestic pigs

* The ticks can be collected from crevices / holes in pigsties, wild pig burrows, and sometimes from rodent burrows inside pigsties. Different species will have different preferred locations and habitats. There are three techniques for collection: manual collection, carbon dioxide trapping and vacuum aspiration. After collection, ticks should be kept alive or directly stored in liquid nitrogen to ensure optimal conservation of the virus inside the ticks and to avoid DNA degradation.

Sample storage, packaging and transport to designated laboratories

It is recommended to keep the samples at 4°C and submit them to the laboratory as soon as possible (within 48 hours). Whole blood and unpreserved tissue samples should be transported under chilled condition on water, ice or frozen gel packs. If a break in the cold chain is likely, or chilling is impossible, the addition of 50 percent sterile glycerosaline solution (50 percent glycerol and 0.8 % NaCl) will provide adequate preservation while enabling viral culture. The addition of antibiotics –200 units of penicillin and 200 mg/ml of streptomycin will prevent bacterial growth. Sample preserved in 10% buffered formalin can also be submitted in parallel; although such samples cannot be used for further virus isolation studies, they can be used for the purposes of PCR and immunohistochemistry.

Basic triple packaging system recommended by WHO in the guidelines for the safe transport of infectious substances and diagnostic specimen should be strictly followed for transporting to the designated diagnostic laboratory. The sample containers should ideally consist of leak-proof primary vessels, such as polypropylene bottles with screw caps and rubber washers, or good-quality plastic screw-top jars or sealable bags. These are packed into leak-proof secondary larger plastic or polypropylene containers and placed in Styrofoam cold-boxes, with absorbent material and icepacks. The

containers are finally placed in robust outer containers with clear labels. Specimens must be clearly and indelibly identified, and specimen description notes should also be provided.

Samples should be sent only to the designated laboratories for ASF diagnosis, as handling of field samples suspected for ASF in other laboratories is not recommended currently. Samples should be submitted to ICAR-National Institute of High Security Animal Diseases, Bhopal for confirmation of ASF. Samples from the NE states may be submitted to NERDDL, Guwahati for early laboratory confirmation. Any positive samples especially from new outbreak areas should be referred to ICAR-NIHSAD, Bhopal for further confirmation by virus isolation.

Role of different Government Departments

Preparedness and control of ASF is a multi-departmental activity involving people from all sectors of the society. The Deputy Commissioner / District Magistrate / District Collector holds the highest administrative position in a district and as such the major role of coordinating between different relevant Departments. To monitor preparedness and the measures to counter ASF form a district level committee under the chairmanship of the Deputy Commissioner/ District Magistrate. It should include district level officers of the departments of Health, Animal Husbandry, Home, Environment, Forest and other allied departments.

Deputy Commissioner / District Magistrate / District Collector

- To chair and oversee the activities of district level committee on ASF on daily basis
- To play the central and coordinating role as Chief Executive Officer indifferent aspects of control and containment operations of ASF in the district
- Information and communication between all concerned Government Departments and higher authorities
- Imposition and execution of legislative power
- Implementation of ban on movements of vehicles from epicenter of infection, if any outbreak is suspected
- Restriction of movement of persons and vehicles
- Imposition of movement control of pigs, pork, feed, farm supplies, farm personnel, etc.
- Identification and Declaration of different zones for easy identification and awareness of the villagers
- Arrangement of manpower, financial, logistical support including vehicles, equipment and quarantine

- Compensation Management (payment and verification)
- Ban on sale of any pig, pork/ products, feed & any other related items and scavenging of pigs
- Closure of abattoirs, markets and/or shops
- Monitoring of cleaning and disinfection procedures (Check posts and/or area under control and containment operation)
- Ban on reintroduction of live pigs in the infected/surveillance zone till freedom from disease is achieved etc.
- Monitoring the restocking of pigs in areas that has achieved freedom from ASF status
- Media briefing

Implementing Surveillance, Control and Containment Operation

Specific Duties

(A) Animal Husbandry and Veterinary Services Department (AH & VS)

- Formulation of an effective and appropriate routine surveillance plan of ASF
- Recording of population and density of pigs in each Village / Block (Backyard / Commercial) with the help of panchayat functionary
- Pathways of wild boars, existence of wild-life sanctuaries / National Parks etc. in coordination with Forests Department
- Block wise location and number of live animal market and their days of operation
- Details on Areas sharing the international border with the neighboring countries and Interstate borders with the ASF affected states
- Sample collection from backyard and organized Pigs farms
- Sample collection from wild boars in coordination with Forest Department
- Immediate reporting of unusual mortality of Pigs / suspicion of ASF to Director of AH & VS
- Investigation of mortality, morbidity and collection of samples for dispatching to the laboratory

- Procurement of all logistics for Preparedness, Control and Containment, Post Operation Surveillance, etc.
- To supervise and participate in all activities related to culling, cleaning and disinfection, sealing of farm / premises, post operation surveillance, restocking of pigs, etc.
- Record keeping of all activities
- Advice about biosecurity measures for both organized and backyard pigs
- To actively participate and deliver in mass awareness programmes organized by Government Departments / Semi-Government Organizations and NGOs

(B) Forests Department

- Formulation of an effective and appropriate routine surveillance plan of ASF for wild boars in the forest areas
- To demarcate and identify the area visited by wild boars
- To draw up list of areas of notified wildlife sanctuaries in the state and indicate them on state map for surveillance work of ASF
- Report for unusual mortality of wild boars to senior forest officials and civil administration with intimation to AH & VS
- Collection of surveillance samples from wild boars

(C) Panchayat and Rural Development Department

- To organize meeting involving all related Government Departments, panchayat functionaries and NGOs to plan activity for preparedness to counter ASF at block level
- Implementation of all the prescribed measures as imposed by the Deputy Commissioner / District Magistrate / District Collector for preparedness and control and containment of ASF
- Arrangement for boarding and lodging of Task force / Culling personnel
- Arrangement of logistics and other pre-requisites
- Payment of compensation and record keeping

- Payment of wages for the labourers engaged in the control and containment operations
- To erect temporary and permanent sign boards for mass awareness indicating culling and surveillance zones and identify the pit sites
- Assistance for post operation surveillance programme

Humane Culling / Stamping Out

a. Considerations in planning the humane killing of animals

The team leader should develop a plan for humanely killing animals on the premises which should include consideration of -

- minimizing handling and movement of animals
- killing the animals on the affected premises; however, there may be circumstances where the animals may need to be moved to another location for killing; when the killing is conducted at a slaughterhouse / abattoir, proper control measures should be taken
- the species, number, age and size of animals to be killed, and the order of killing them
- methods of killing the animals, and their cost
- housing, husbandry, location of the animals as well as accessibility of the farm
- the availability and effectiveness of equipment needed for killing of the animals, as well as the time necessary to kill the required number of animals using such methods
- the facilities available on the premises that will assist with the killing including any additional facilities that may need to be brought on and then removed from the premises
- biosecurity and environmental issues
- the health and safety of personnel conducting the killing
- any legal issues that may be involved, for example where restricted veterinary drugs or poisons may be used, or where the process may impact on the environment
- the presence of other nearby premises holding animals
- possibilities for removal, disposal and destruction of carcasses
- minimizing the negative welfare impacts of the killing by considering different phases of the procedures to be applied for killing (choice of the

killing sites, killing methods, etc.) and the measures restricting the movements of the animals

- Competences and skills of the personnel handling and killing animals

b. In designing a killing plan, it is essential that the method chosen be consistently reliable to ensure that all animals are humanely and quickly killed.

A list of recommended methods of humane culling are given below:

Species	Age range	Procedure	Restraint necessary	Animal welfare concerns with inappropriate application	OIE Article Ref.
Pigs	all	free bullet	no	non-lethal wounding	Article 7.6.6.
	all except neonates	penetrating captive bolt, followed by pithing or bleeding	yes	ineffective stunning, non-lethal wounding, regaining of consciousness before death	Article 7.6.7
	neonates only	non-penetrating captive bolt	yes	non-lethal wounding	Article 7.6.8.
	all	electrical, two-stage application	yes	pain associated with cardiac arrest after ineffective stunning; design of the stunning tongs not appropriate for the small head or body of neonates	Article 7.6.1
	all	electrical, single application (method 1)	yes	ineffective stunning	Article 7.6.1
	neonates only	CO ₂ / air mixture	yes	slow induction of unconsciousness,	Article 7.6.12
				aversiveness of induction	

	neonates only	nitrogen or inert gas mixed with CO ₂	yes	slow induction of unconsciousness, aversiveness of induction	Article 7.6.13
	neonates only	nitrogen or inert gases	yes	slow induction of unconsciousness	Article 7.6.14
	all	injection with barbiturates and other	yes	non-lethal dose, pain associated with injection site	Article 7.6.15

Safe disposal of carcasses

This means disposal of the carcasses of animals that have been slaughtered or died naturally of the disease. It must be done in such a way that the carcasses no longer constitute a risk for further spread of the pathogen to other susceptible animals by direct or indirect means, for example by carrion eaters, scavengers or through contamination of food or water. This is usually done by deep burial, depending on the nature of the terrain, level of water tables and availability of earth-moving equipment, or by burning, depending on availability of fuels and the danger of starting grass or bush fires. If in situ disposal is not practical, it may be possible to transport carcasses in sealed vehicles to a disposal point. This should be done within the infected zone. It is not ideal, especially in countries where sealed vehicles are not available and where vehicles in general are prone to breakdown. If it must be done, provision should be made for an escort vehicle to disinfect any leakages and initiate salvage operations should the vehicle transporting the pigs develop technical problems or be held up. Under some circumstances it may be desirable to mount a guard at the disposal site for the first few days. **Reference should be made to the FAO Manual on procedures for disease eradication by stamping out for more information on disposal procedures.**

Persistence of ASFV

ASFV is a very resilient virus that can withstand low temperatures, fluctuations in pH, and remain viable for long periods in tissues and bodily fluids. Table below provides a breakdown of ASFV resistance to physical and chemical actions.

Action	Resistance
Temperature	Highly resistant to low temperatures. Heat inactivated by 56°C/70 minutes; 60°C/20 minutes.
pH	Inactivated by pH < 3.9 or > 11.5 in serum-free medium. Serum increases the resistance of the virus, e.g., at pH 13.4—resistance lasts up to 21 hours without serum, and 7 days with serum.
Chemicals / disinfectants	Susceptible to ether and chloroform. Inactivated by 8/1000 sodium hydroxide (30 minutes), hypochlorites—2.3 percent chlorine (30 minutes), 3/1000 formalin (30 minutes), 3 percent ortho-phenylphenol (30 minutes) and iodine compounds.
Survival	Remains viable for long periods in blood, feces, and tissues; especially infected uncooked or undercooked pork products. Can multiply in vectors (<i>Ornithodoros</i> sp.).

Disinfection against ASF virus - Recommendations

Disinfection has to be made in three steps -

a) Pre-disinfection

This is to prevent spreading of virus in the room. Clean the surface with a broom, spray the disinfectant keeping a distance of approximately 50 cm, on the surface and let the agent react for 30 minutes

b) Cleaning

This will eliminate more than 90% of the present virus in the area. Hence, after pre-disinfection, brush the surface with water and soap and let it dry

c) Disinfection

The remaining virus will be destroyed during the step of disinfection. Spray the disinfectant on the surface and let it react during 2 hours

Appropriate disinfectants for ASF include 2% sodium hydroxide, 2% caustic soda, detergents and phenol substitutes, sodium or calcium hypochlorite (2-3% available chlorine) and iodine compounds.

List of Items for culling and disposal if positives are reported

Commercial farms

- All live pigs inside the premises of the commercial farms is to be stamped out
- Discard all inventory of genetic material present in the infected premises
- All feed inventory will be disposed in the same burial pit of the stamped pigs.
- Any pork product present in the premises should be disposed of in same burial pit as stamped out pigs
- Slurry or manure in the farm premises should be collected and disposed of in the burial pit

Smallholder Farms

- All live pigs inside the backyard premises is to be stamped out. Disposal / burial should be preferably on-site. If due to space constraints burial is to be done off-site, the dead pigs should be transported to the burial site using a closed vehicle.
- In cases of high pig density areas, leading to a high risk of disease spread, the smallholder farms shall be clustered as one epidemiological unit, and accordingly stamped out
- The boar or any semen inventory in the premises will be included in the disposal. If the backyard farm includes a boar that has been used for breeding other smallholder farm pigs (boar service), a trace-back all other farms serviced for the last thirty (30) days by the boar in any of the zones and monitor health status of these farms
- Dispose any remaining feed inventory / swill (if any) into the same burial pit of the pigs that were stamped out
- Any pork product present in the premises should be disposed of in same burial pit as stamped-out pigs

Holding pens for pigs to be slaughtered

- All pigs in holding pens (holding pens or holding yards are usually located near slaughterhouses and where pigs are brought and held until slaughter time or until the pigs are bought live) are to be stamped-out upon detection of any one pig to be positive for the ASF virus
- Manure in the holding pens should be collected and set aside for disposal in the same burial pit as the stamped-out animals.

Note on culling and disposal

Stamping out should be carried out in the shortest possible time and should be disposed of in a manner that the disposed pigs will not pose a risk to further disease spread, the environment and to human health.

Sentinel pig introduction procedure

(a) Selection of Pigs

It is essential to...

- Select a reliable source of animals
- Confirm through lab testing whether this source is free from major diseases
- Arrange transportation with a clean and disinfected truck
- Recruit staff willing to live on the farm for 40 days
- Deliver the required feed for the entire 40-day period
- Confirm with laboratory testing that feed and water is negative to ASFV
- Deliver the animals (5-10% of farm capacity)
- Wash and disinfect the truck used, and apply downtime, before going to other sites

(b) Keeping of selected pigs

In nurseries and finisher farms, in total two to three pigs should enter per pen. Some pigs should be allowed to walk freely through hallways and corridors. Similarly, in sow farms, it is not advisable to lock the animals in crates. They also should be allowed to have access to all farm areas. If necessary, physical barriers can be used to prevent them from staying in one area.

(c) Monitoring the sentinels

It is important to...

- Monitor the sentinel pigs for 40 days
- Perform a weekly PCR testing of live animals as prescribed
- If death, have all dead animals inspected by a vet. Tissues should be submitted for laboratory testing (e.g. kidney, tonsils, lymph nodes, lungs and spleen)

- Collect blood samples from all the pigs at the end of the 40-day period.
Do all the necessary confirmatory lab tests

(d) Total repopulation

Once all procedures have been completed, and all quarantine periods are over, and once all tests have returned negative for ASFV at any point in time, repopulation can be done completely.

Bio-security when visiting a pig farm

(a) Before departing

- Remove all unnecessary equipment from the car
- Arrange clean and dirty areas on the back seats and in the boot of the car lined with plastic sheeting
- Make sure you bring all necessary equipment with you. It is helpful to have a checklist, as under:

Equipment needed to ensure good biosecurity when entering a farm

- one pair of good-quality gumboots that are easy to clean and disinfect;
- disposable biosecurity suit;
- waterproof suit if required (in cold and wet countries);
- overshoes or boot covers;
- examination gloves (make sure they are the right size);
- plastic mat;
- buckets (three ideally);
- detergent;
- disinfectant (approved for ASFV);
- scrubbing brushes (two);
- refuse bags (including biohazard bags);
- Zip-lock bags (for transporting phones or other equipment);
- disinfectant wipes for face;
- water (5 liters minimum);
- sealing tape;
- scissors;
- sampling and recording equipment (detailed lists in chapter VI);
- GPS device to record geo-coordinates.

(b) On arrival

- The car should not be driven onto the premises (leave it near the farm entrance).

- Choose a suitable location for your disinfection site on a clean and dry surface (preferably concrete), using a clear demarcation between the clean and dirty sides (the gate usually).
- Remove all unnecessary clothes and items (e.g. jacket, tie, watch) and empty your pockets.
- Electronic equipment (e.g. mobile phones) needed on the farm should be placed in sealed plastic bags to facilitate subsequent cleaning and disinfection. Phone should never be removed from bags while on the farm and should only be used through the plastic bag.
- Remove from the car all the items needed for disinfection that are to be taken onto the farm.
- You may need to bring your own water for making up detergents and disinfectants.

Preparation

- Lay down a plastic sheet on the clean side of the disinfection site.
- Place the items you will be taking with you to the farm on the dirty side of the disinfection site (e.g. black plastic bags and sample container).
- Make up one bucket of detergent and two buckets of disinfectant with the water you brought. The detergent and one disinfectant bucket remain on the dirty side, and will be used to clean off dirt picked up on the farm. The other disinfectant bucket will be on the clean side with its own brush.
- The disinfectant used will often be disease-specific. The concentration and contact time required should be carefully monitored.

Dressing (on the clean side)

- Take off shoes and leave them on plastic sheet.
- Disposable suit goes on first and fits inside boots. A set of gloves should be taped on.
- Waterproof suit (if required by weather conditions) goes over the boots. It has its own layer of disposable gloves, which can be changed when soiled.
- Overshoes should be worn to cover at least the soles and lower part of the gumboots.
- Don hood and double-check list before stepping off sheet and heading to farm.

Undressing (on dirty side)

- Before leaving the premises, use the farm's own facilities to clean very dirty areas.
- Clean sample container with detergent and brush before soaking in disinfectant for appropriate time, then place in sample bag on clean side.
- Wash off and disinfect the bag containing the phone any similar items taken to farm.
- Remove boot covers and dispose of in dirty-side plastic bags. Roll waterproof suit up (if worn) to top of boots before scrubbing boots with detergent and brush, especially bottoms (perhaps using screwdriver to clean between treads). Then use detergent to wash entire suit, including hood.
- Outer gloves come off and go into the dirty-side bags before the now-washed water proof suit is removed and soaked in the disinfectant. After appropriate time the suit goes into a bag on the clean side.
- Boots can be rewashed quickly if necessary and properly disinfected.
- Inner gloves are un-taped and placed in a dirty-side bag before the inner suit comes off (foot must come out of boot as suit is removed and then can go back into boot). The suit goes into a dirty-side bag for disposal.

On clean side

- Step out of boots and onto clean-side sheet before grabbing boots and disinfecting them on clean side (other disinfection bucket). Lastly, place them in a clean-side bag.
- Hands and glasses are also disinfected here, as well as your face with disinfectant wipes.
- Non-disposable equipment and samples are double-bagged and taped shut.
- Regular shoes can be put back on.
- If the dirty-side buckets are personal, they should be disinfected and double-bagged before being taken away. Any buckets from the farm must stay on the dirty side.
- Bags can then go into the vehicle's dirty area.
- The farmer should be asked to take garbage for processing if necessary.

- Leave the farm and immediately take samples/equipment for processing.
- If there are no pigs on your premises you may return home, shower, and thoroughly wash hair. All clothes worn that day should be soaked in disinfectant for 30 minutes and washed with water over 60°C
- If there are pigs on your premises, complete this step elsewhere.
- Do not visit any premises with pigs for at least three days.
- Alongside the procedures for cleaning and disinfecting yourself, you may also need to clean and disinfect the car.
- Ensure that there are no unnecessary items in the car and that it is clean before you begin your visit.
- Line the areas of the car used to store equipment with plastic, and establish clean and dirty areas inside
- If possible, clean and disinfect the exterior of the car before leaving an area that may have been contaminated, and repeat disinfection of the inside and outside of the car once you return to your base
- Remove all plastic used to line the car and dispose of appropriately
- Clean the exterior, using a power-washer or hose and a disposable sponge, removing all visible dirt. Do not forget to clean hidden areas such as wheel arches, tire treads and the underneath of the car
- Once all dirt has been removed, spray the exterior with disinfectant.
- Dispose of all rubbish inside, clean all dirt (taking care to dispose of this waste appropriately)
- Wipe steering wheel, gearstick, pedals, handbrake, etc. with a cloth dipped in disinfectant

Recommendation for minimal bio-security in a pig pen

Following bio-safety measures are to be respected -

- Use in the pig pen special clothing (overalls which can be washed at 70°C). Change overall weekly
- Change boots when entering the pig pen. Use these boots only in the pig pen and clean them twice weekly with soap and disinfect them monthly
- Wash your hands regularly with soap
- No access of foreign persons to the pig pen
- No access for other animals (dogs, cats ...) to the pig pen
- If pigs are held on a surface of concrete, wood or other solid washable material, the pen has to be cleaned and disinfected twice per year
- Soil and ground should be properly disinfected

Standard Operating Procedures at the Animal Quarantine Checkpoints for African Swine Fever (ASF)

Animal Quarantine Checkpoints must be established near the police outpost/station or near the village chief meeting area so assistance can be sought easily when the need arises.

Checkpoints must be well lighted and must have directional signs to guide the vehicles passing through.

Uniforms, equipment, forms

1. The official title of the checkpoint guards is Veterinary Quarantine Inspectors (VQIs)
2. All VQIs are required to be in uniforms with identification cards showing the veterinary logo. This must be worn every day when on duty
3. When disinfecting manually, be in proper disinfection attire. This means wearing masks, gloves and boots, if it is raining
4. Forms (for reporting, condemnation) should be filed neatly for easy reference
5. Footbaths / wheel baths should properly be set-up and maintained with potent disinfectant

Common violations and what to do

1. When a shipment is not accompanied by valid documents but animals are apparently healthy -
 - a. Explain the violation to the shipper
 - b. Direct the shipper to return the shipment to its point of origin
 - c. If there is resistance on the part of the owners, explain the violation and show proof of the regulations being violated upon. The shipment or the vehicles should be directed to one side of the road so as not to obstruct traffic

- d. Document said transaction by recording this in a logbook and let the owners sign the document
- e. If negotiations would take longer and would seem to last for more than a day, make necessary arrangements to station the vehicle with the animals either at the Veterinary HQ or at the police station

2. When a shipment is accompanied / not accompanied by valid documents and animals are showing suspect ASF signs -

- a. All the animals in this case are to be confiscated
- b. Direct the shipment to one side of the road and explain the violation
- c. Show proof of the regulations being violated upon
- d. On the first sign of resistance, instruct a colleague to run to the nearest police for assistance or the VHQ. Explain the violation again
- e. Document the confiscation made by accomplishing the violation logbook and let the owner sign the document
- f. Confiscated animals are to be sent to the nearest burial site for culling and disposal
- g. Disinfect the vehicles where the animals were loaded

When met with resistance

1. When there is a shipper transporting ASF susceptible animals and animal products from the INFECTED zone to the SZ/FZ, said shipment **must be stopped**
2. If animals are apparently healthy, direct the shipper to return the shipment to its point of origin
3. If, in any case, the animals are showing suspect ASF signs, such animals must be immediately condemned at the nearest designated burial site for culling and disposal

4. All condemnations must be fully documented with the owners signing the condemnation report forms. Documentation shall involve witnesses signing the document and supported by pictures
5. If there is resistance on the part of the owners, diplomatically explain the violation. Show proof of the regulations being violated upon. Contact the nearest VA for technical advice
6. On the first sign of resistance, instruct a colleague to run to the nearest VA or police station for assistance. As you wait for police assistance, explain the violation again
7. Do not at any point match the threats or invectives hurled at you by the shipper Let the police handle the situation
8. Be friendly even at the most trying times

Disinfection of Vehicles at the Animal Quarantine Checkpoints

1. Disinfection of all vehicles entering the seaport/checkpoint must be done
2. Proper disinfection procedures should be observed
3. If wheel bath has been constructed, direct the vehicles to the wheel bath
4. During idle hours at the port or checkpoint, clean the wheel bath of murky waters and replenish with a fresh batch of disinfectant
5. See to it that the wheel bath is not empty and dry
6. During rainy days, ensure that an adequate amount of concentrated disinfectant is poured on the wheel bath to prevent further dilution
7. Check inventory of supplies daily and ensure that adequate supplies are available

Format for Daily / Weekly Report for African Swine Fever (ASF)

State:

Date:

1. State-wise status

Infected zone/containment zone		Surveillance zone	
Name of District/Block/Village/Establishment	Population of pigs	Name of District / Block / Village	Population of pigs

2. Map indicating the affected villages/district (information on number of pig farms/establishment located near the outbreak (within 10 KM):

3. Mortality / Morbidity data: (Please enclose separate table for each epicenters)

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Name of Epicenter -	Details to be given
1) Date of start of the event / outbreak /symptoms noticed	
2) Date of sample submission	
3) Date of confirmation of the event	
4) Name of the state, district, block, village i.e. details of epicentre of outbreak	
5) Latitude and longitude of the epicenter	
6) Animal species affected and number of each species affected	
7) Number of susceptible animals	
8) Number of cases	
9) Number of animals died (mortality cases)	
10) Number of animals killed and disposed of	
11) Number of animals slaughtered (meat used for human consumption)	
12) Whether treatment given to animals, if so specify	

4. Control measures Applied:

- a. Movement Control: (animal / commodities / check post established etc.)
- b. Culling / disinfection / sanitization:

Name State / District / Village / Location / establishment

Culling			Disinfection (no. of premises)			Sanitization /other measures (Feed/Cloth/ Bedding material destroyed etc.)		
Previous total	On the date	Total	Previous total	On the date	Total	Previous total	On the date	Total

Remarks:

- c. Proper carcass disposal: Yes / No

5. Compensation:

Payment of Compensation (in Rs.)	
Previous Total (in Rs.)	
On Date (in Rs.)	
Progressive Amount of Compensation (in Rs.)	

Enclose: Name of pig owner / holder, Address with mobile number

- 6. **Details of samples (For live animals: Blood, For dead animals: Tissue and organ (spleen, lung, liver, lymph node, kidney, bone marrow etc.)**

S. No.	Area/ Establishment / Farm	Total population of pigs	Total no. of samples collected	No. of samples sent to NE-RDDL	Result	Pending Result status	No. of samples sent to NIHSAD Bhopal	Results	Pending status

Remarks:

Sample size (in %): (No. of samples sent / total no. of population) x100

7. Status of awareness and training programme conducted (including online training courses):

8.Epidemiological investigation report (for all new cases, episodes etc.):

Please enclose

9. Restocking Report

10. Any other relevant information

Negative Monitoring Report (record of healthy animals)

Date monitored:

Monitored by: [name, position, office]

Location information	
Location	
Type of Farm (commercial breeder / fattener, backyard, etc.)	
<ul style="list-style-type: none"> ▪ Where are the stocks sourced? 	
<ul style="list-style-type: none"> ▪ How are fatteners sold? 	
<ul style="list-style-type: none"> ▪ How are breeders sold? 	
<ul style="list-style-type: none"> ▪ Does the farm sell meat? If so, where are the pigs slaughtered for meat? How are they sold? 	
Population per age group	
Production system (biosecurity varies per production system)	
<ul style="list-style-type: none"> ▪ Scavenging production system 	
<ul style="list-style-type: none"> ▪ Small-scale confined production system 	
<ul style="list-style-type: none"> ▪ Large-scale confined production system 	
<ul style="list-style-type: none"> ▪ Large-scale outdoor production system 	
How would you describe the biosecurity level in the farm?	
How does the farm source its feeds?	
<ul style="list-style-type: none"> ▪ Mix own feeds 	
<ul style="list-style-type: none"> ▪ Buy feeds 	
<ul style="list-style-type: none"> ▪ Swill feed (if yes, is it from own household leftover or sourced elsewhere) 	
Animal Health Information	
Number of households with pigs visited	
Number of pigs examined	
Physical examination [apparently healthy?]	