




# COMPARTMENTALIZATION

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# Rationale for focussing of Foot and Mouth Disease (FMD)

- FMD the most infectious/contagious of all animal diseases
- FMD most trade sensitive disease of cattle sheep, goats and pigs
- A control system based on FMD is likely to be effective against most other diseases



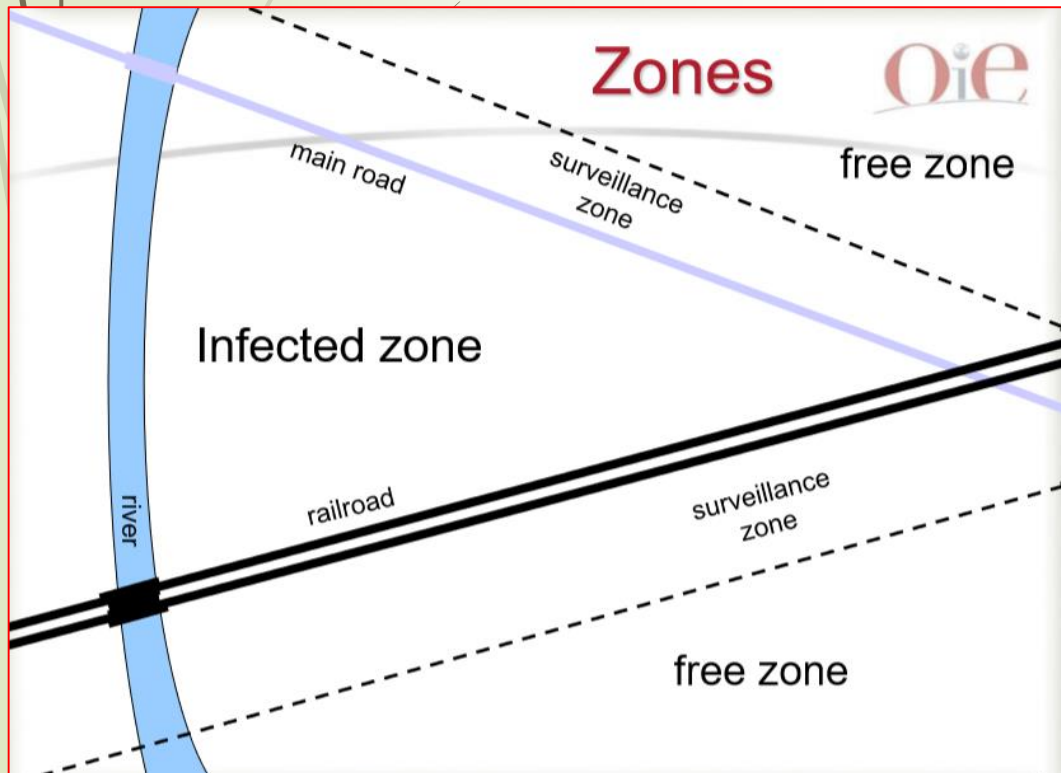
## **Compartment – OIE Definition**

one or more establishments under a common biosecurity management system containing an animal subpopulation with a distinct health status with respect to a specific disease or specific diseases for which required surveillance, control and biosecurity measures have been applied for the purpose of international trade.

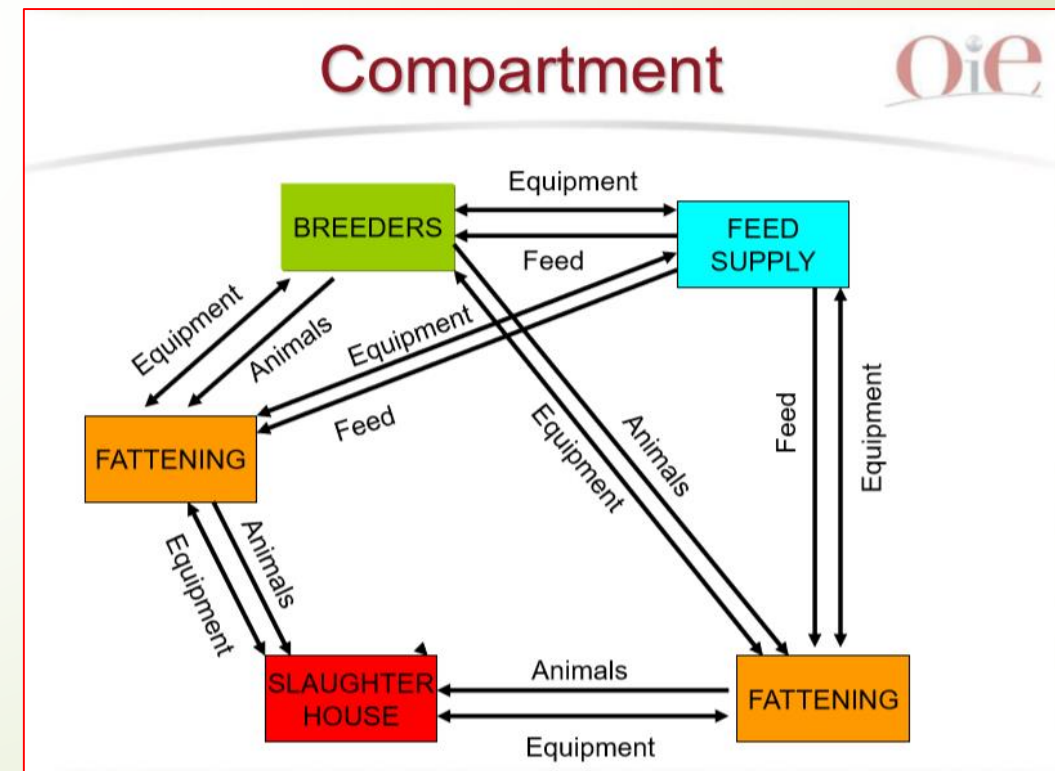
# Approaches to FMD control

- FMD is the single most important disease for international trade in live animals and their products (cattle, sheep, goats, wild ruminants, pigs)
- OIE recognises two approaches:
  - Geographical and non-geographical approaches

## Geographical (Zoning or regionalization)



## Non-Geographical (Compartmentalization)





# Compartmentalization concept

- The underlying fact is that disease risk would have been demonstrated in the country or zone , and
- The idea is to provide guarantee of disease freedom in a compartment situated in the country or zone
  - Through demonstration of effective biosecurity measures maintained religiously in all components of the compartment
- The concept of compartmentalization is therefore anchored on successful implementation of biosecurity measures



# Compartmentalization concept

- Biosecurity refers to a set of management and physical measures designed to reduce the risk of introduction, establishment and spread of animal diseases, infections or infestations to, from and within an animal population.
- Biosecurity can also be considered in three phases
  - Segregation (fencing, any other physical barriers)
  - Cleaning (where contamination has taken place, reduces pathogen load ahead of disinfection)
  - Disinfection (Often overrated)
- A biosecurity plan means a plan that identifies pathways for the introduction and spread of disease in a zone or compartment and describes the measures which are being or will be applied to mitigate the disease risks, if applicable, in accordance with the recommendations of the Terrestrial Code

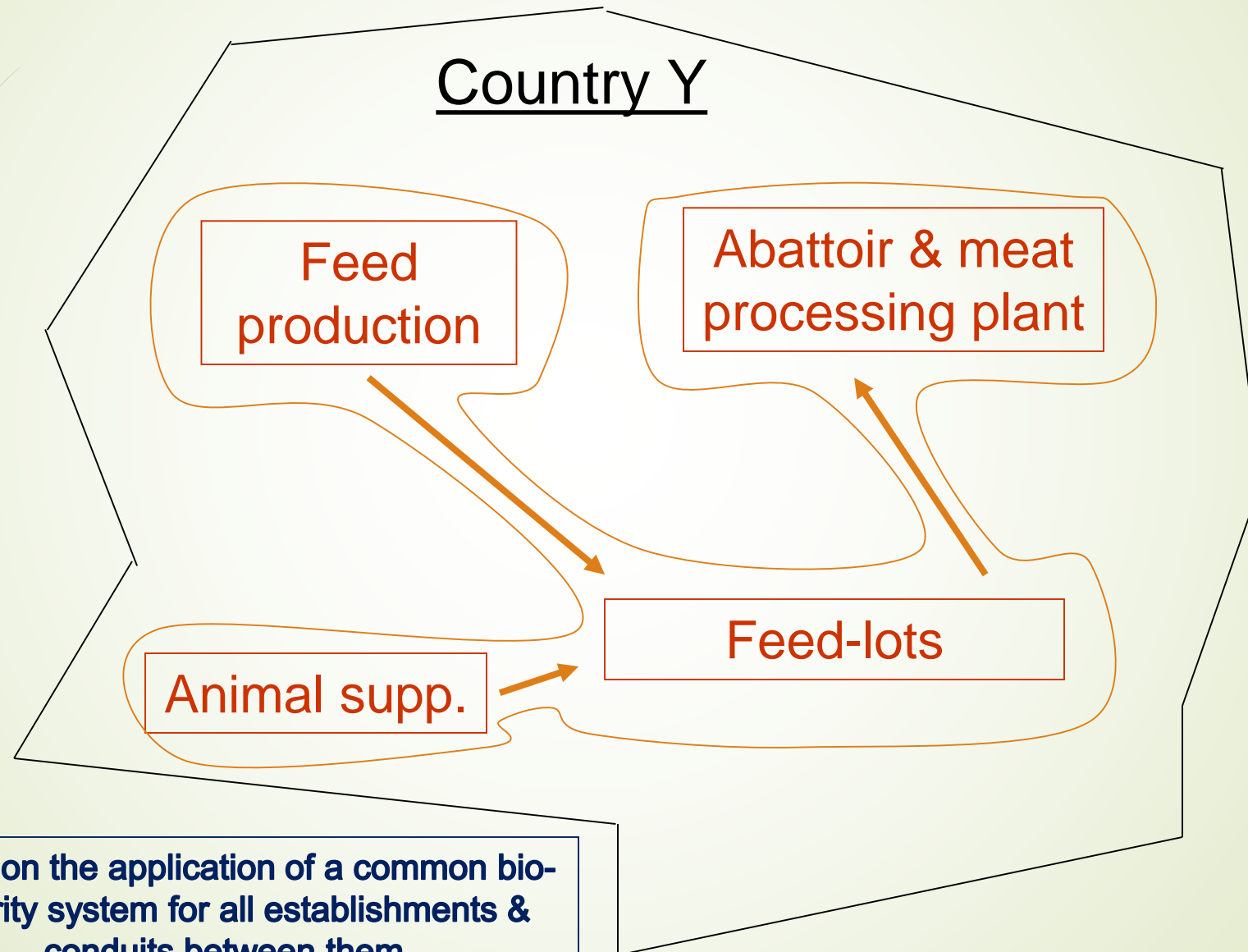


# Compartmentalization concept

- ▶ Biosecurity plan considers:
  - ▶ Establishments and other functional units making up the compartment
  - ▶ The conduits through which the components are linked
  - ▶ Epidemiological factors, infrastructure, surveillance
  - ▶ Production systems in the components of the compartment
  - ▶ Structure and distribution of the animal population
  - ▶ Biosecurity measures which may be applicable
  - ▶ Internal and external surveillance
  - ▶ Health status of animals in adjacent areas
  - ▶ Common biosecurity management system (plan) for the components
  - ▶ Periodic audits

Not all situations render themselves to compartmentalization

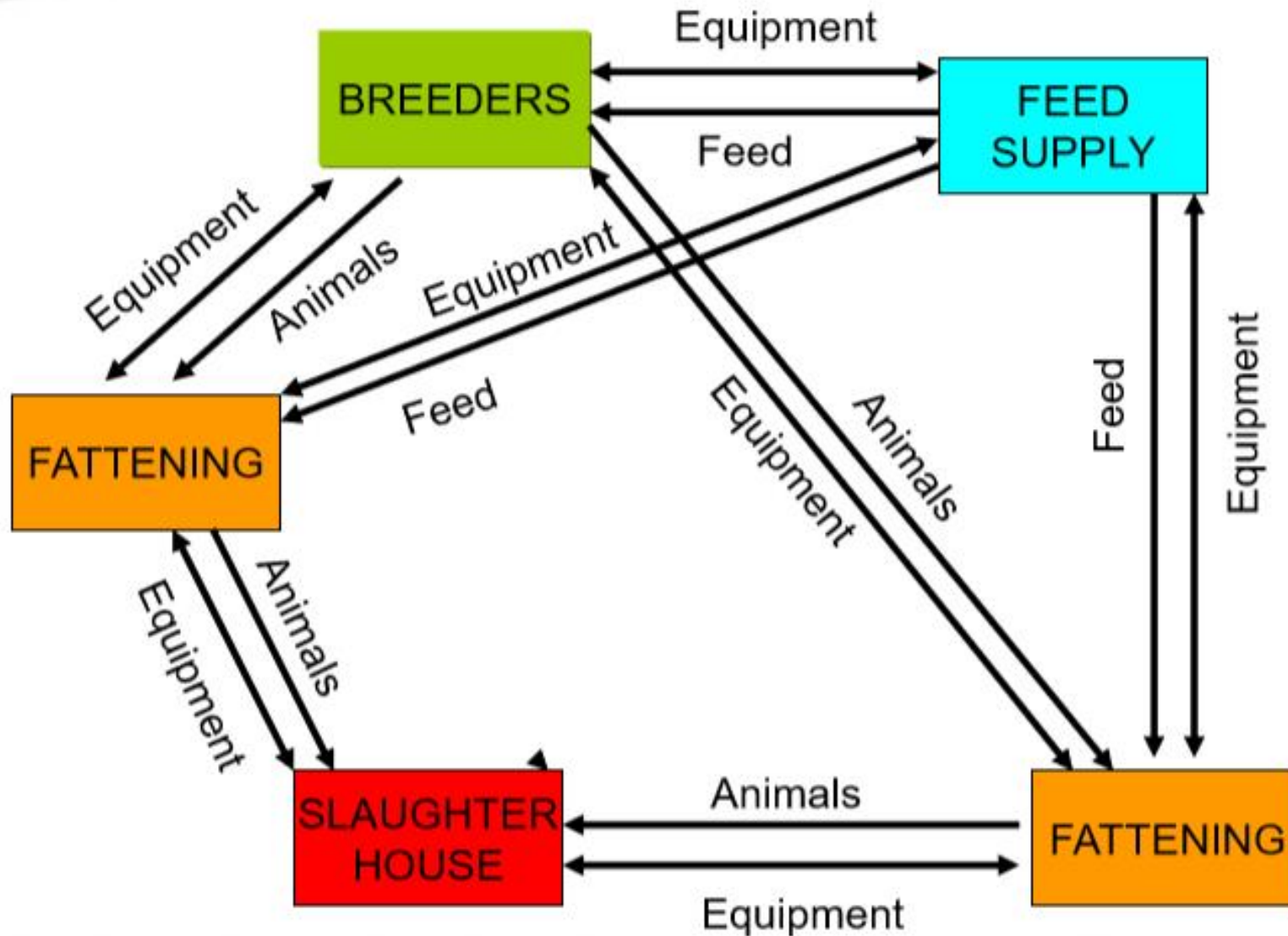
# Compartmentalization concept



Based on the application of a common bio-security system for all establishments & conduits between them



# Compartment



# OIE Standard for Compartmentalization

## Article 8.8.4.

### FMD free compartment

A FMD free *compartment* can be established in either a FMD free country or *zone* or in an infected country or *zone*. In defining such a *compartment* the principles of Chapters 4.4. and 4.5. should be followed. Susceptible animals in the FMD free *compartment* should be separated from any other susceptible animals by the application of an effective *biosecurity* management system.

A Member Country wishing to establish a FMD free *compartment* should:

- 1) have a record of regular and prompt animal disease reporting and, if not FMD free, have an *official control programme* and a *surveillance* system for FMD in place in accordance with Articles 8.8.40. to 8.8.42. that allows knowledge of the prevalence, distribution and characteristics of FMD in the country or *zone*;
- 2) declare for the FMD free *compartment* that:
  - a) there has been no case of FMD during the past 12 months;
  - b) no evidence of *infection* with FMDV has been found during the past 12 months;
  - c) *vaccination* against FMD is prohibited;
  - d) no animal vaccinated against FMD within the past 12 months is in the *compartment*;
  - e) animals, semen, embryos and animal products may only enter the *compartment* in accordance with relevant articles in this chapter;
  - f) documented evidence shows that *surveillance* in accordance with Articles 8.8.40. to 8.8.42. is in operation;
  - g) an *animal identification* and *traceability* system in accordance with Chapters 4.2. and 4.3. is in place;
- 3) describe in detail:
  - a) the animal *subpopulation* in the *compartment*;
  - b) the *biosecurity plan* to mitigate the risks identified by the *surveillance* carried out in accordance with point 1).

The *compartment* should be approved by the *Veterinary Authority*. The first approval should only be granted when no case of FMD has occurred within a ten-kilometre radius of the *compartment* during the past three months.

# FMD compartment standard

- ▶ Requires that for the last 12 months:
  - ▶ The compartment has been free of FMDV infection (sero-surveys)
  - ▶ Vaccination against FMD is not permitted & animals vaccinated within the last year cannot be introduced into the compartment
  - ▶ An approved animal identification & traceability system is in place
  - ▶ For initial approval no, case of FMD (i.e. even if subclinical in any susceptible animal) has occurred within 10 km of the compartment in the last 3 months
    - ▶ can not be practiced in areas that are within 10km of an establishment with wild buffalo




# Biosecurity plan

- Identify components of the establishment (s) and other premises operated by an establishment which would constitute a compartment
- Common biosecurity management system
  - Diagrams(flowcharts)
  - Boundaries
  - Housing facilities
  - Transport routes
  - Feed distribution systems
  - Work procedures
  - Equipment maintenance



# Biosecurity plan

- Process flows
  - Relevant epidemiological factors
    - Potential factors for entry and spread of pathogen
    - Associated risks
  - Potential pathway(s) for introduction of pathogens and their spread
  - Establishing critical control points along each pathway
  - Sanitary measures necessary to manage risk of entry of pathogens in the subpopulation
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# Biosecurity plan

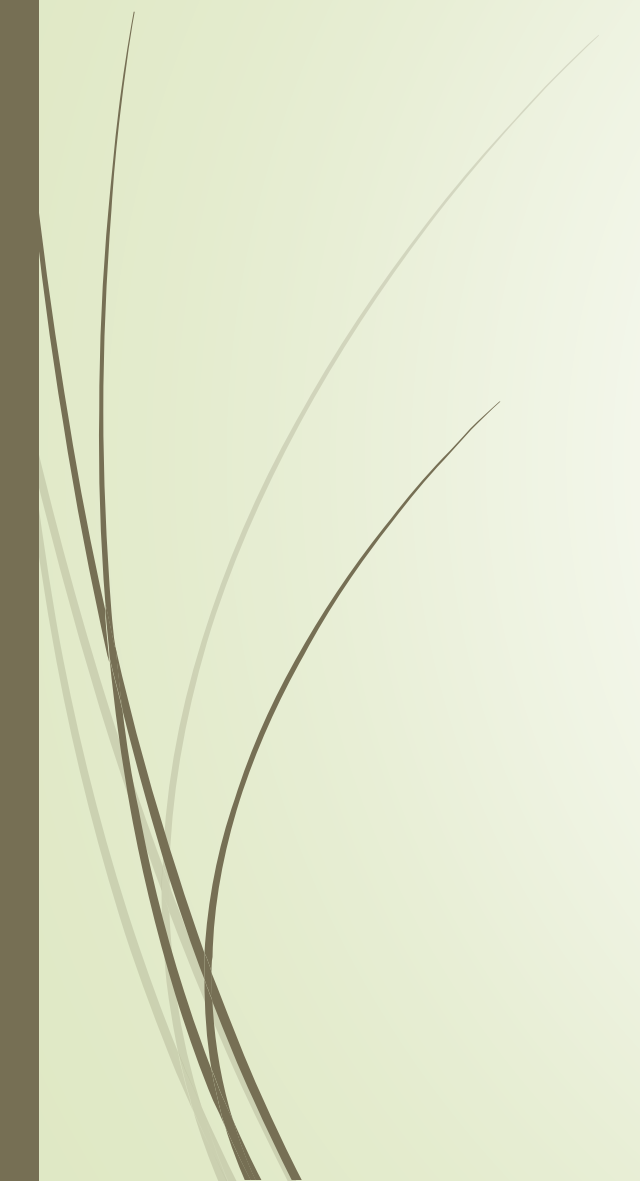
- SOPs for managing the compartment and for reacting to emergencies
- Training of staff and incorporating the SOPs into management and husbandry practices
- A system of surveillance or monitoring compliance by staff
- A plan for reaction in case of emergency (contingency plan)
  - Reporting procedures – the Veterinary Authority
- Audit of the SOPs in accordance with the biosecurity plan and adjusting according to risk

# SOPs for compartmentalization

- The following areas need SOPs developed and implemented:
  - Animal movement controls
  - Animal health records
  - Human movement controls
  - Control over movement of vehicles and equipment
  - Security of feed and water sources
  - Personnel training
  - Any other as management sees fit



# Prerequisites for compartmentalization

- Credible Veterinary Services
  - Identification and Traceability
  - Surveillance
  - Diagnostic capacity
  - Records/documentation
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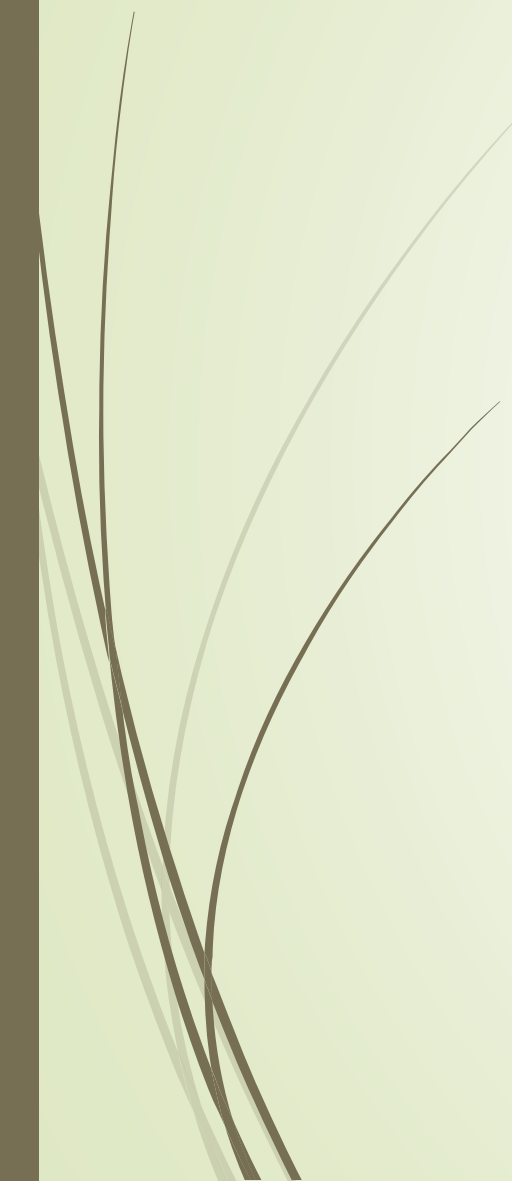


# Role of the Veterinary Authority

- ▶ Authority responsible for certification and assurances
- ▶ Responsible for the essential national infrastructure
  - ▶ Government veterinarians within reach of compartments
  - ▶ Laboratory infrastructure for testing of samples
- ▶ Overseeing establishment and management of compartments
- ▶ Ensure an effective national surveillance and understanding of the diseases situation
- ▶ Assist managers to draw up biosecurity plans, particularly explaining epidemiological factors and risk pathways
- ▶ Audit the procedures and processes
- ▶ Assistance with reviewing SOPs
- ▶ Outbreak investigation and disease control

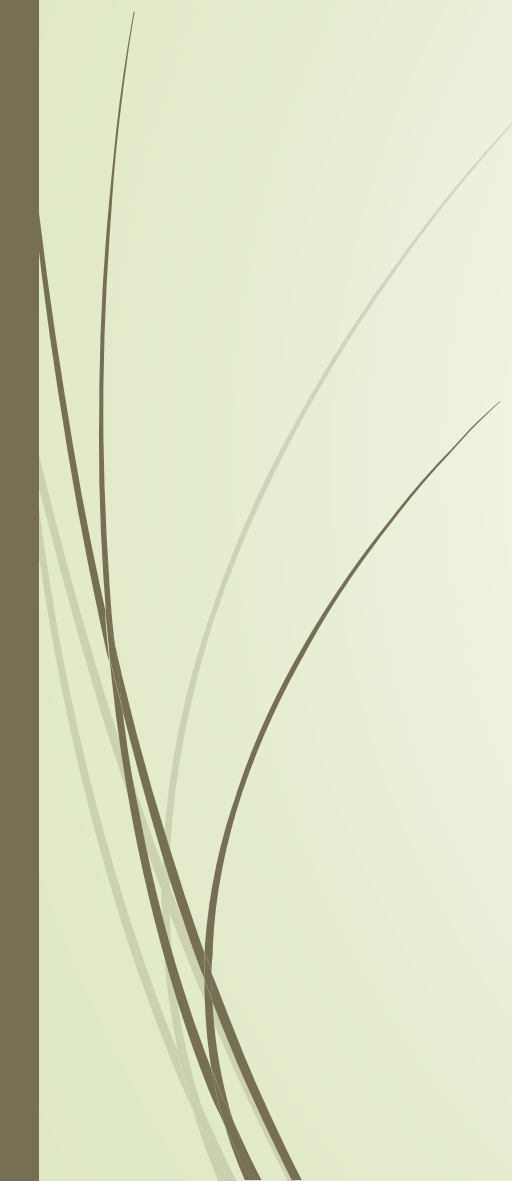


# Animal identification and traceability

- Mandatory
  - Individual rather than group is recommended
  - All movements in and out must be certified by the veterinary authorities and must be recorded on the farm
  - Individual animal identification is key to the implementation of biosecurity measures
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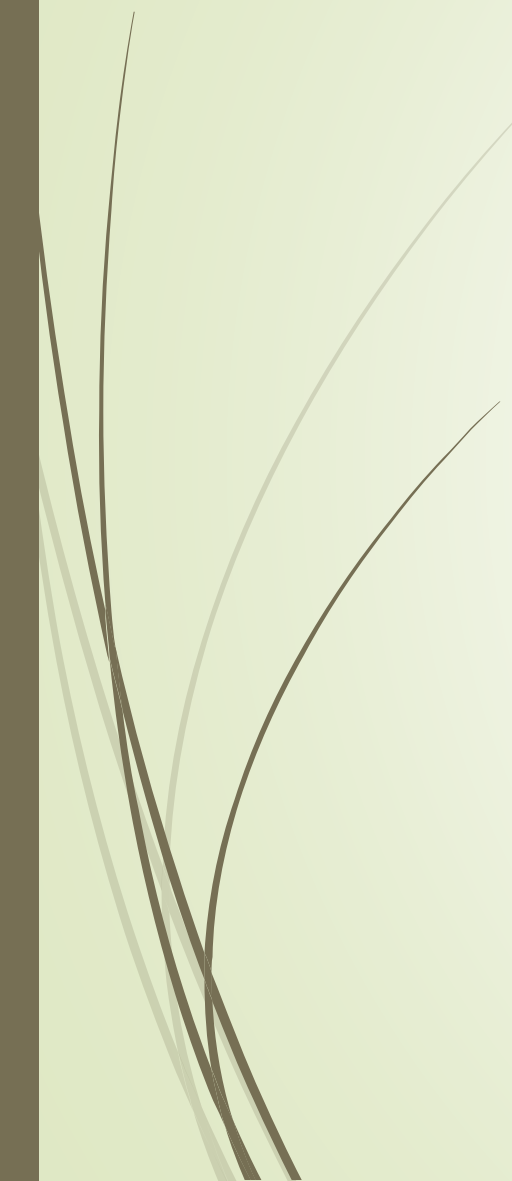


# Surveillance

- Internal
    - Provides the baseline for disease status of compartment initially and tracks changes over time
  - External
    - Provides the baseline for disease status of the surrounding environment, in particular the epidemiological units in close proximity to the establishment and tracks changes over time
  - Surveillance also provides additional support and basis for continuous adjustment of SOPs
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# Laboratory Diagnostics

- Regular submission of samples to designated laboratories
    - Provides track record of absence of disease
  - Confirmation of results by an OIE accredited laboratory
    - Improves confidence in laboratory results
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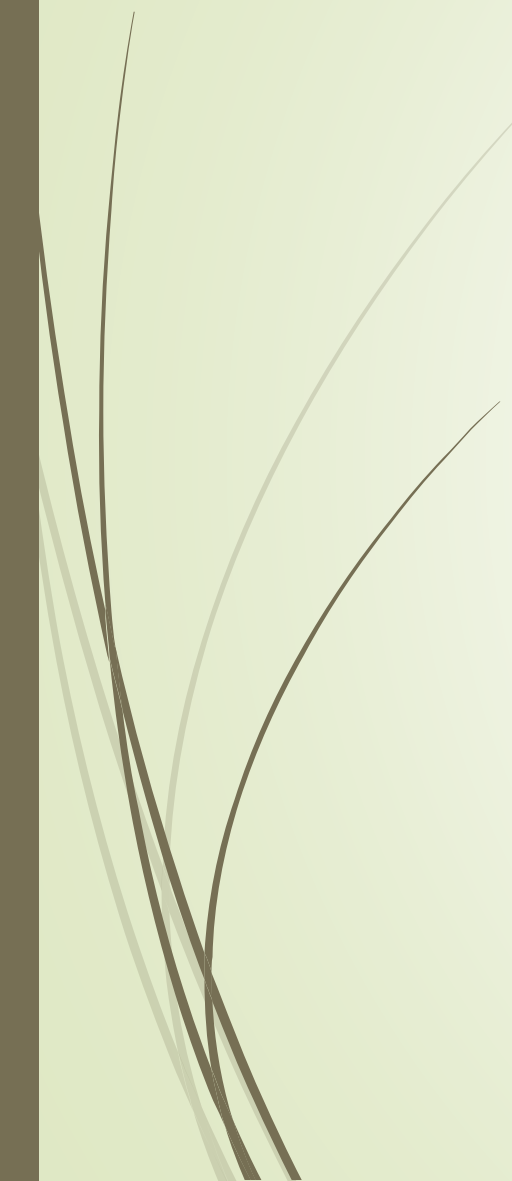


# Documentation

- Provides evidence of biosecurity, surveillance, traceability, and that management practices are being applied effectively
- Animal movements, feed sources, vehicle movement, records of production, mortalities, illnesses, lab tests, treatments, visitors log books, medication
  - Are all critical for evaluation of compartment status including by would be trading partners

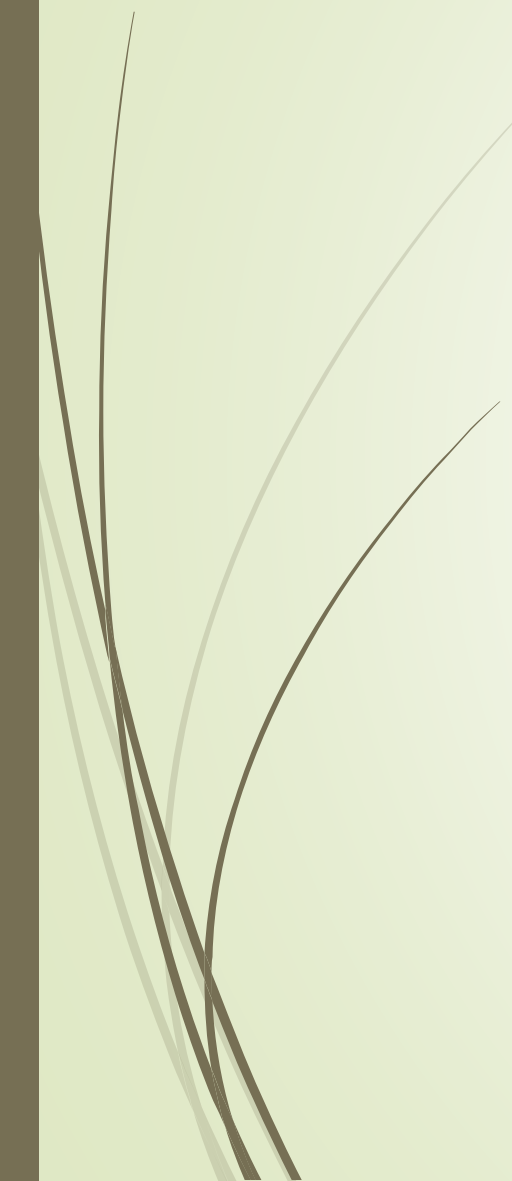


# Role of Management

- Develop biosecurity plan with assistance from veterinary services
  - Enhance awareness of owners and workers of biosecurity principles
  - Prompt reporting of disease or its suspicion to the veterinary services
  - Management of biosecurity in all components of the compartment, standardized using the SOPs
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# Prospects

- Stud farms, Dairy farms, i.e intensive production systems
  - Feedlots (with limitations)
  - Not suitable in extensive production systems
  - Industry driven, the farmer takes the lead
  - Usually market driven, requires skills in sales
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# Discussion

