OUTBREAK MANAGEMENT PLANNING FOR ASF – WHAT NEEDS TO BE CONSIDERED WHEN DEVELOPING/REVISING PLANS

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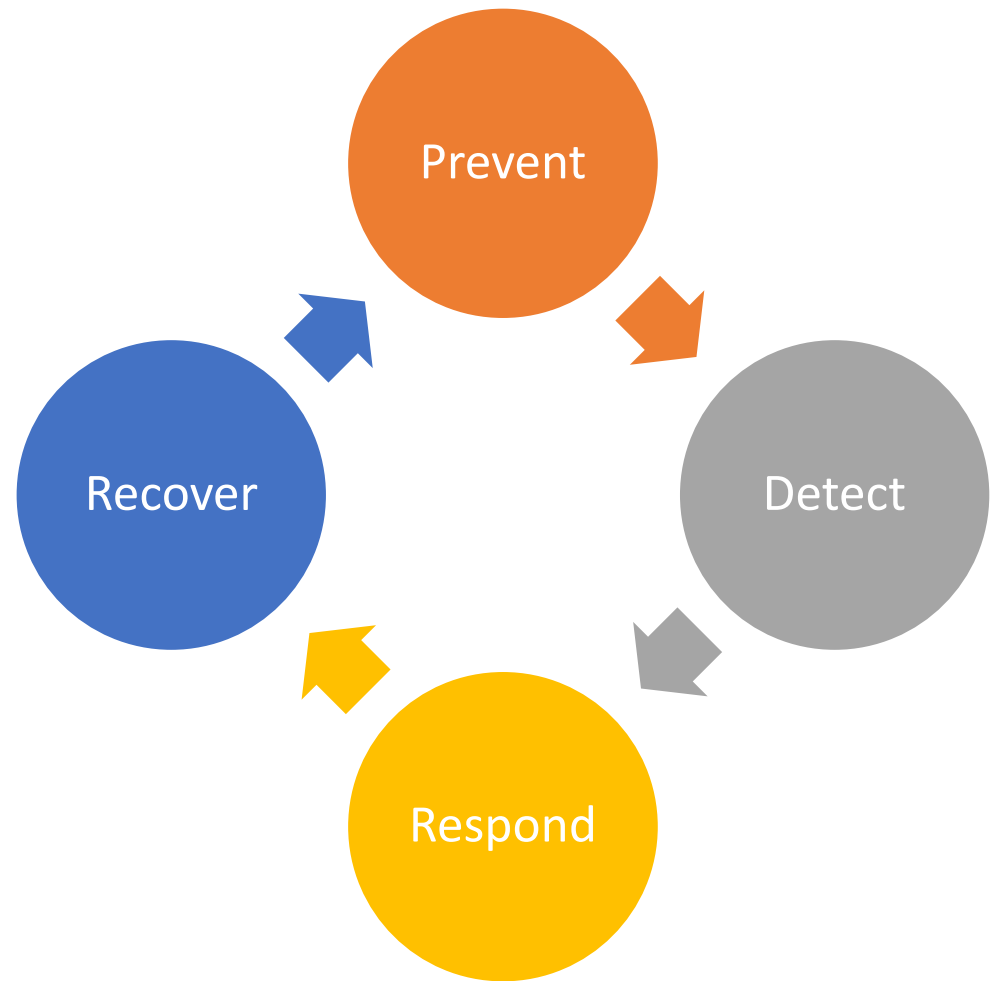Adjunct Professor (China Animal Health & Epidemiology Centre, Qingdao)

FAO ANIMAL PRODUCTION AND HEALTH

Prevent
Recover
Prepare
Detect
Respond

manual

GOOD EMERGENCY MANAGEMENT PRACTICE: THE ESSENTIALS

A guide to preparing for animal health emergencies

FAO

Prevent
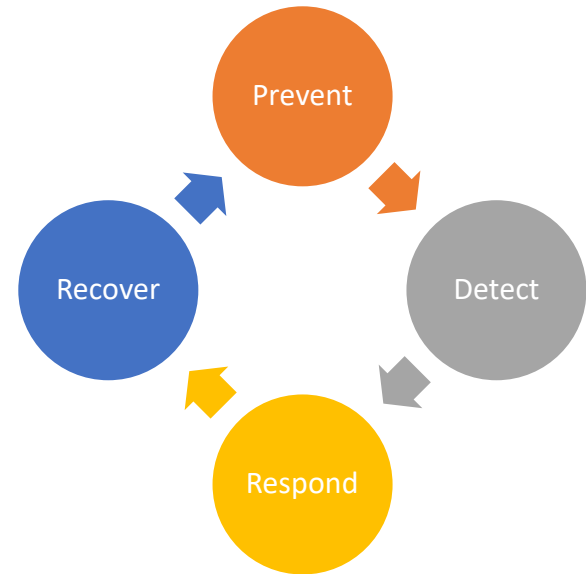
Detect

Respond

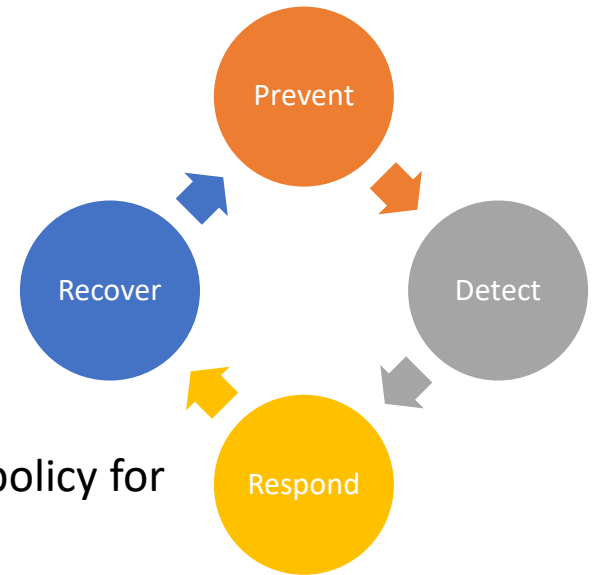Recover

Prevent and Detect

- Prevent
  - Enhanced biosecurity along pork value chain
    - Cleaning and disinfection
  - Safe management of pig swill feeding
  - Prevention of exposure to wild boar
  - Effective surveillance system
  - Quarantine measures
  - Zoning and compartments
- Detect
  - Surveillance system for early detection
  - Epidemiological outbreak investigation

Prevent

Detect

Respond

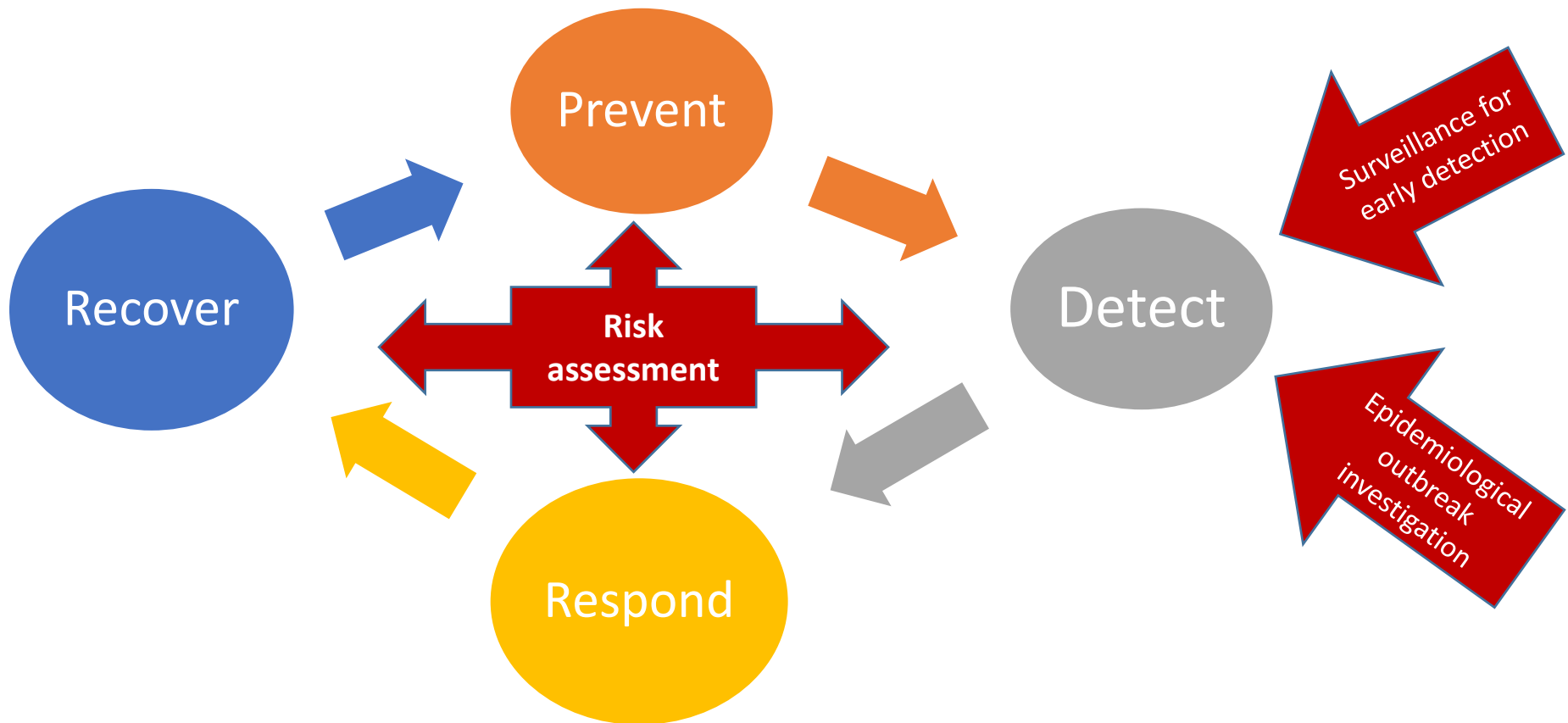Recover

Respond and Recover

- Respond
  - Epidemiological tracing (backward and forward)
  - Epidemiologically and socio-economically sensible policy for
    - Movement control
    - Culling/destruction of pigs (incl. safe disposal of carcases)
  - Effective decontamination through cleaning and disinfection

- Recover
  - Safe restocking
  - Recovery and rehabilitation of actors in value chain
  - Staying free
  - Zoning and compartments

Prevent

Detect

Respond

Recover

Risk Assessment and Good Emergency Management Practice (GEMP)

Risk Assessment for ASF Virus

- process of estimating risk(s) associated with ASFv
  - likelihood as well as biological and economic consequences of entry, establishment, or spread of ASFv to entity of interest (country, region, zone, compartment or farm)
  - decide whether risk is acceptable or whether it requires mitigation

- if mitigation is required
  - identify risk pathways
    - need to have sound understanding of pork food system
      - first develop pork value chain map
  - prioritise between different risk pathways and steps within pathways
    - to inform ASF prevention, detection, response and recovery
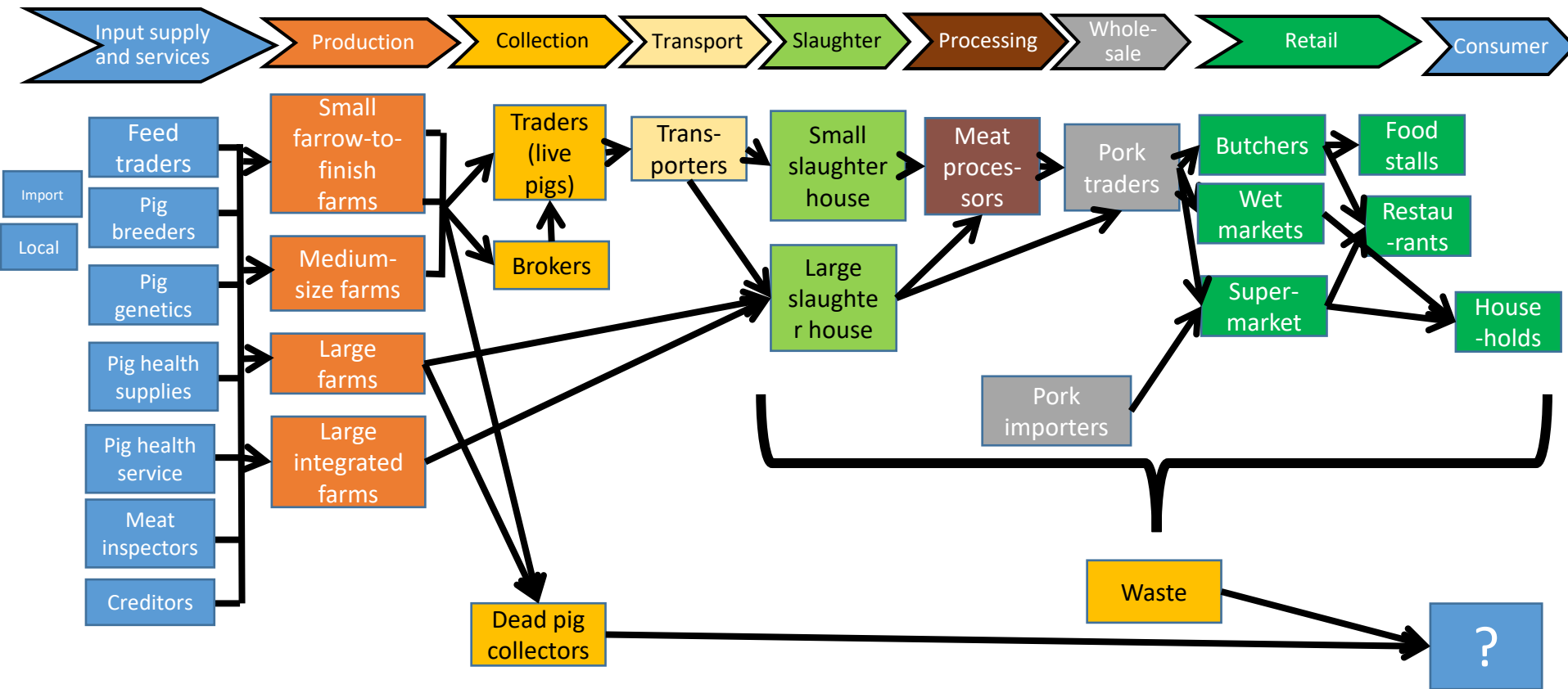 - if using OIE RA framework, consists of entry, exposure, consequence assessment

Value Chain for Pork Food System
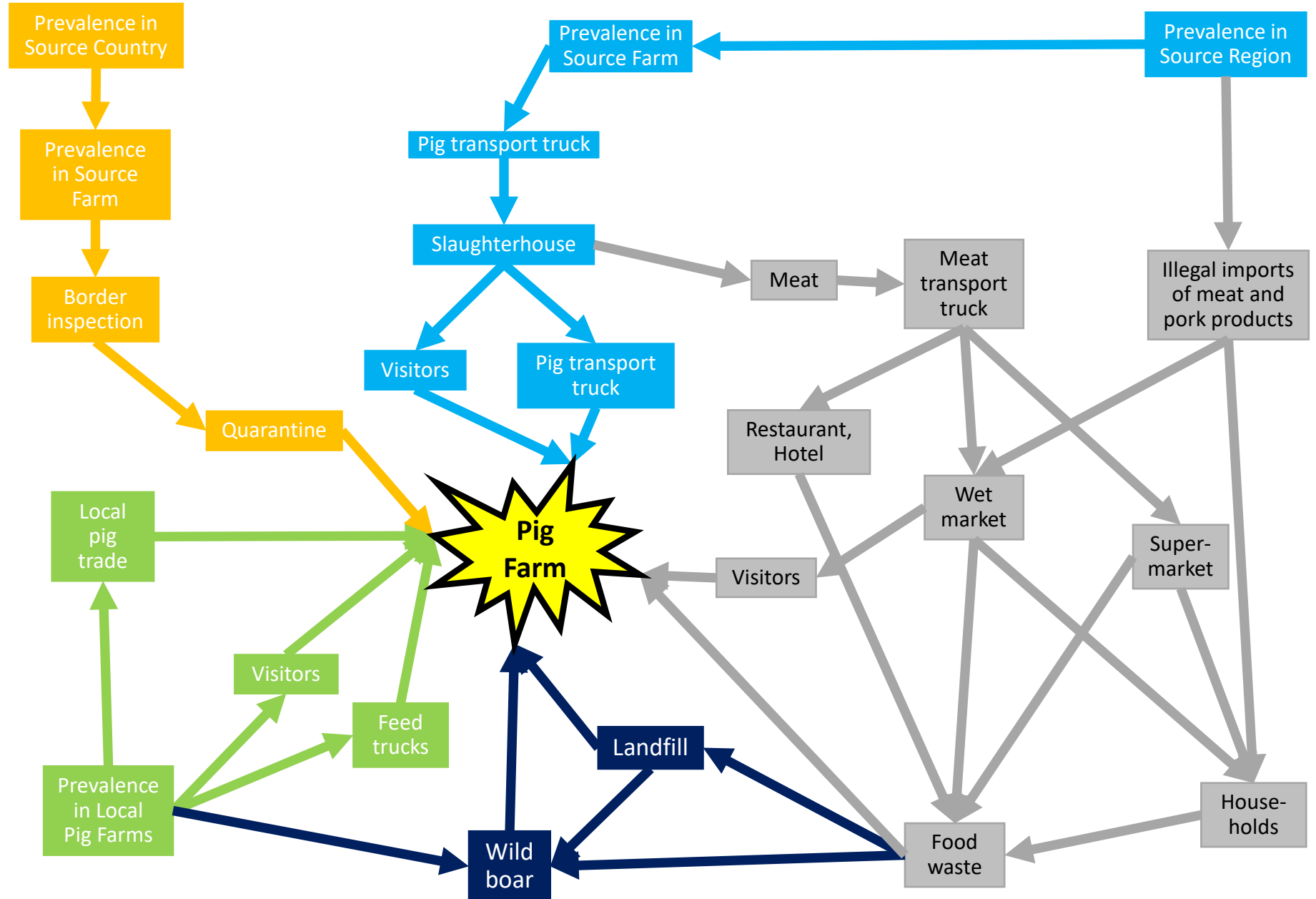
Risk Factors for ASFV Spread

- Domestic pigs

1. pig movement → direct contact
2. pork products (incl. swill feeding)
3. movement of vehicles
4. contamination of feed
5. movement of professionals and associated fomites
6. movement of people and associated fomites
7. pets and pests (mechanical vectors)
8. environmental contamination
9. spill-over into ticks → direct contact
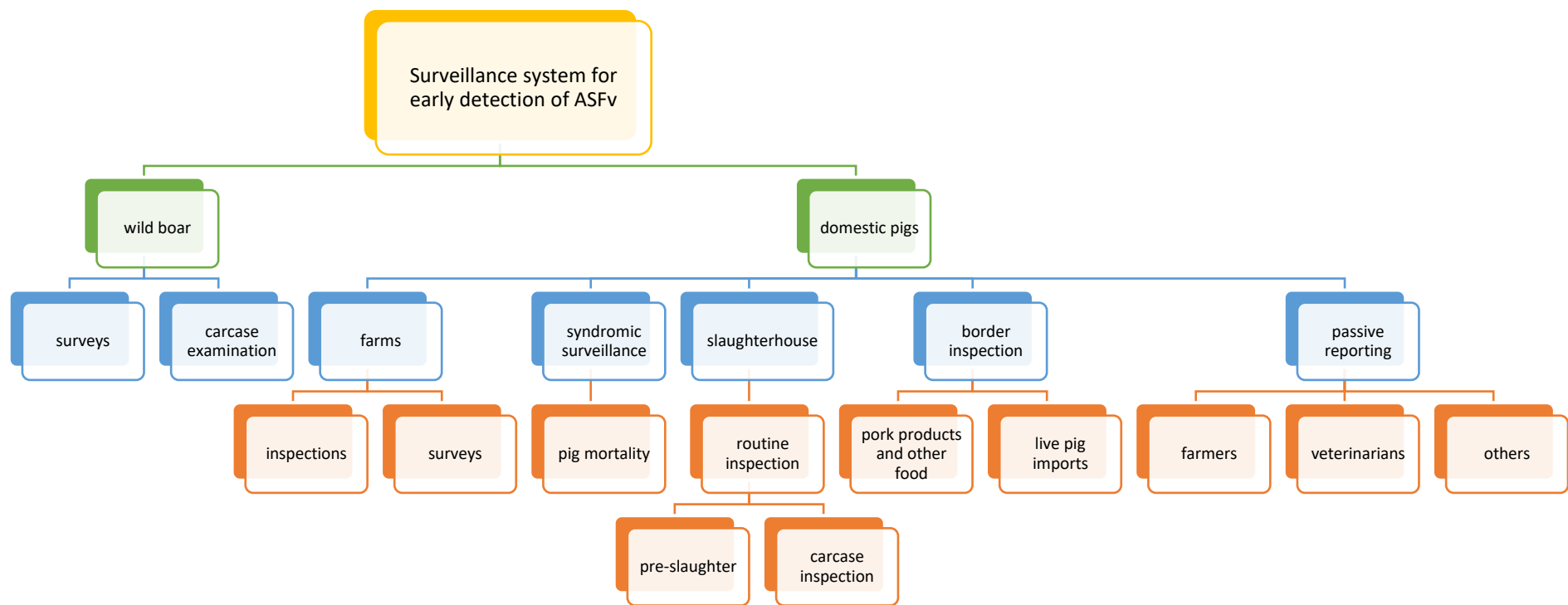10. spill-over into wild boar → direct or indirect contact

- Wild boar

1. ecology determining the behaviour of wild boar → direct contact between wild boar groups (including scavenging behaviour)
2. contamination of environment
3. hunting practice → between areas
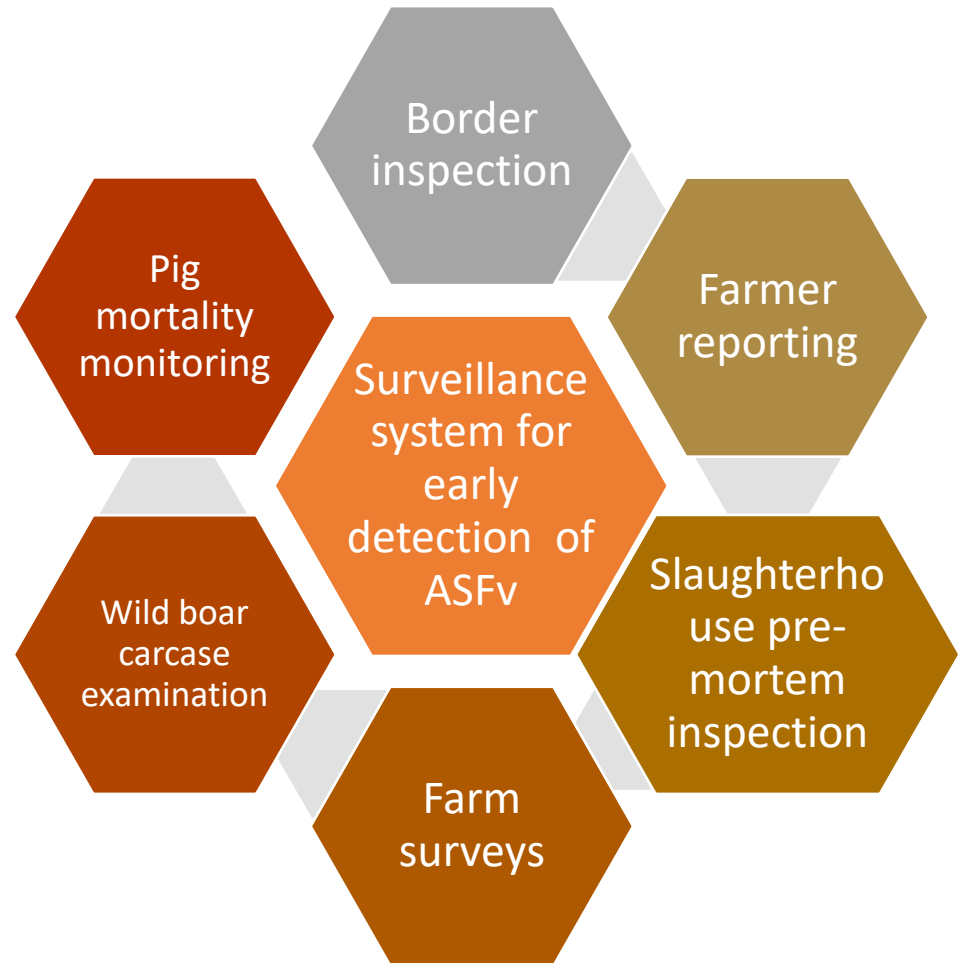4. spill-over into ticks → direct contact

Risk Pathways for Introduction of ASF Virus to Pig Farms

Surveillance System Components for ASFv

Example of Surveillance System for Early Detection of ASFv and Surveillance System Components

Another Example of Surveillance System for Early Detection of ASFv and Surveillance System Components

Outbreak Management - Suspicion Phase (before confirmed diagnosis)

- suspicion
  - characterise suspect premises
    - farms
    - slaughterhouses
    - temporary residences
      - markets
      - communal grazing etc.

- establish temporary zones

- start diagnostic process

- start epidemiological outbreak investigation

- communication

Outbreak Management – Outbreak Phase (on confirmed diagnosis)

- continue epidemiological outbreak investigation
  - identify source of infection
    - likely date of introduction
    - potential mechanisms of introduction
    - movements of animals, persons, products, vehicles, etc.
  - identify onward spread
    - dates and type of movements of animals, persons, products, vehicles, etc.
    - other contacts (e.g. wild boar ….)
- establishment of zones (protection and surveillance)
- control
  - culling of animals
  - disposal of carcases
  - compensation and valuation
  - preliminary cleaning and disinfection
  - exports
- communication
  - international notification

Resources

Food and Agriculture Organization of the United Nations

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paper

GOOD PRACTICES FOR BIOSECURITY IN THE PIG SECTOR

Issues and options in developing and transition countries

FAO ANIMAL PRODUCTION AND HEALTH

8

...ARATION OF
...WINE FEVER
...NCY PLANS

Conclusions

- need to have plan addressing considering prevention, detection, response and recovery (FAO's GEMP?)

- early detection of ASF is key to effective response
  - within herd spread more slowly than FMD
    - farmers may detect it one week or more after introduction

- need to prevent exposure of wild pigs to infection in domestic pigs
  - once ASFV endemic in domestic pigs, introduction into wild boar population difficult to prevent

- epidemiological outbreak investigation to inform response
  - identify likely source and potential onward spread

- need to have clear goals for response strategy
  - eradication?
  - culling? at what scale?

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