



Simulation Exercise: Veterinary Case Studies

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Training Workshop on Emergency Management and Disaster Response

How to Conduct Simulation Exercise (Sim-Ex)

10 -12 December 2025, Manila, Philippines



Sim-Ex: some examples...

- Multiple reports from more developed and livestock focused countries
- Fewer reports available from our region
- Indonesia: a hybrid discussion/functional field/lab exercise
- Bhutan: Sim-Ex exercises and Programme
- Australia: a more complex multi-faceted discussion/functional exercise



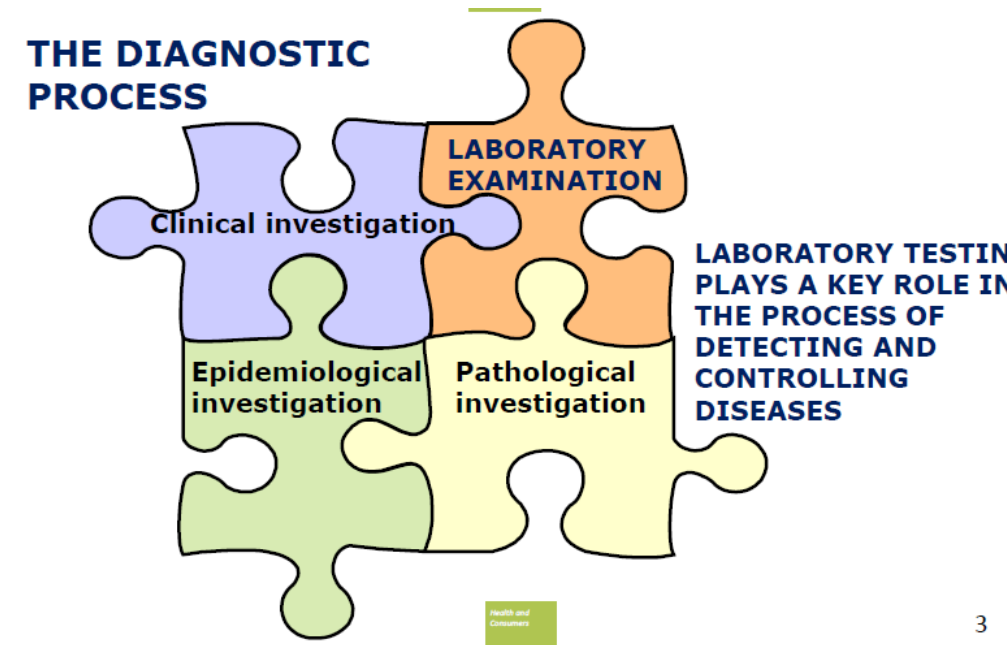


Indonesia: field sampling-lab exercise



Aims & Objectives

- Strengthen diagnostic readiness for possible FMD
- Test specimen collection, packaging, and referrals
- Validate reporting pathways
- Assess coordination between field veterinary services, labs, and local/central government



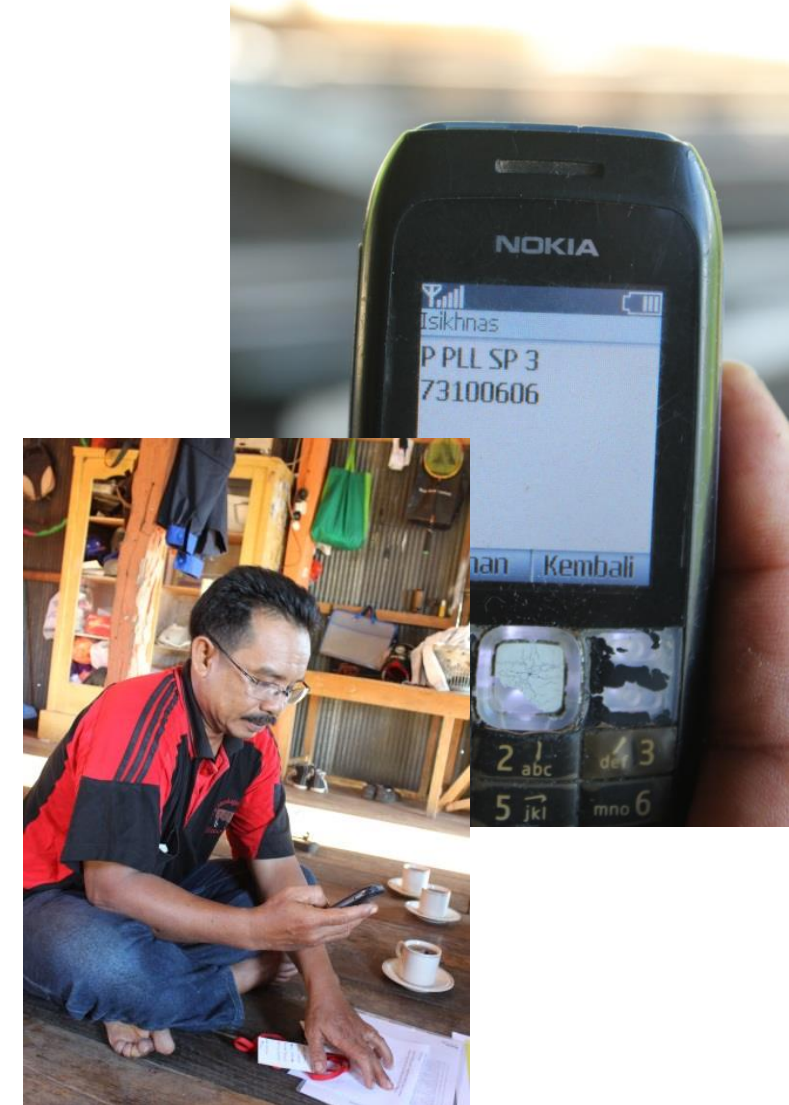


Indonesia: field sampling-lab exercise



Design and scope

- Hybrid exercise: discussion-based + functional
- Participants: field/district/central vet services and labs
- Scenario: Suspected FMD outbreak
- Focus: field investigation, sample flow, lab workflow, chain of command, communication, and emergency activation



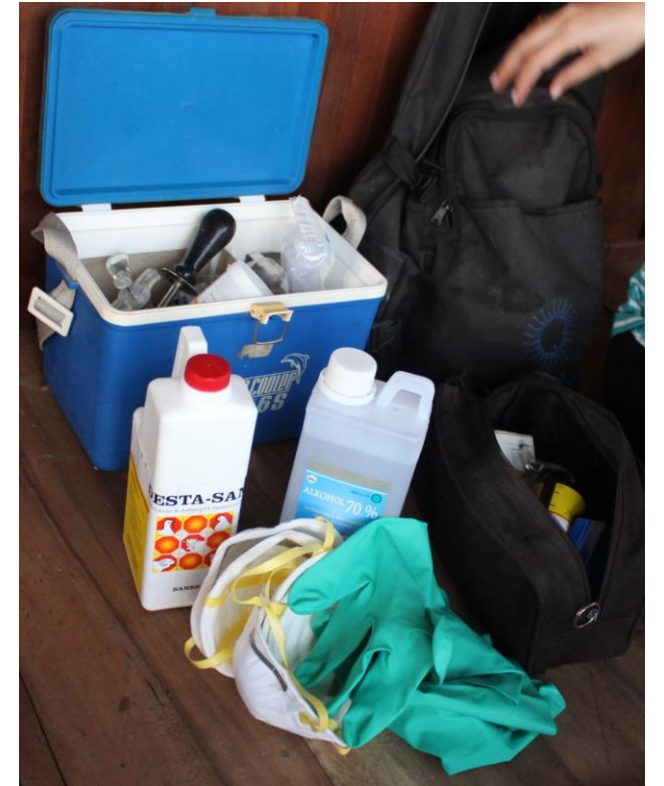


Indonesia: field sampling-lab exercise



Implementation

- Simulated field investigation with sample collection, packaging, and cold-chain preparation
- Transport of samples to lab with 'testing' and workflow simulation
- Drill for reporting, alert levels, and ministry coordination.



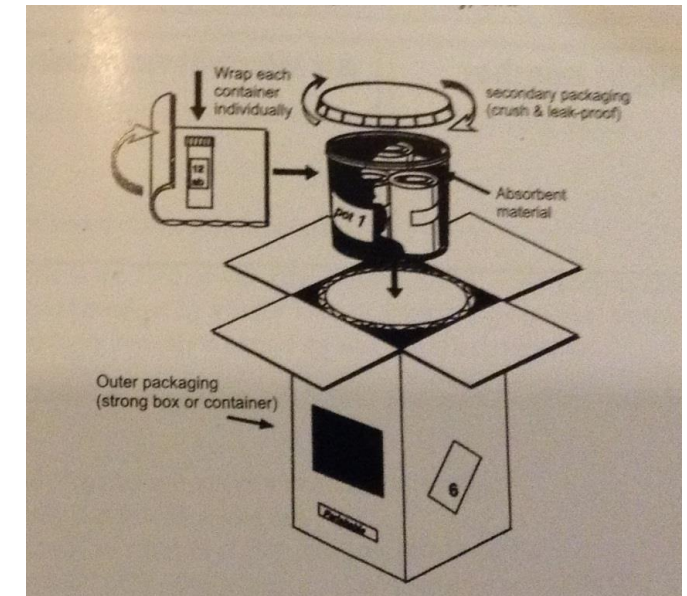


Indonesia: field sampling-lab exercise



Outcomes/lessons learnt

- Transport delays identified with need for improved routing and courier systems
- Increased familiarity with emergency SOPs and laboratory reporting
- Gaps in PPE use and biosafety during field sampling and in labs
- Need for surge staffing plans and consumables stockpiled



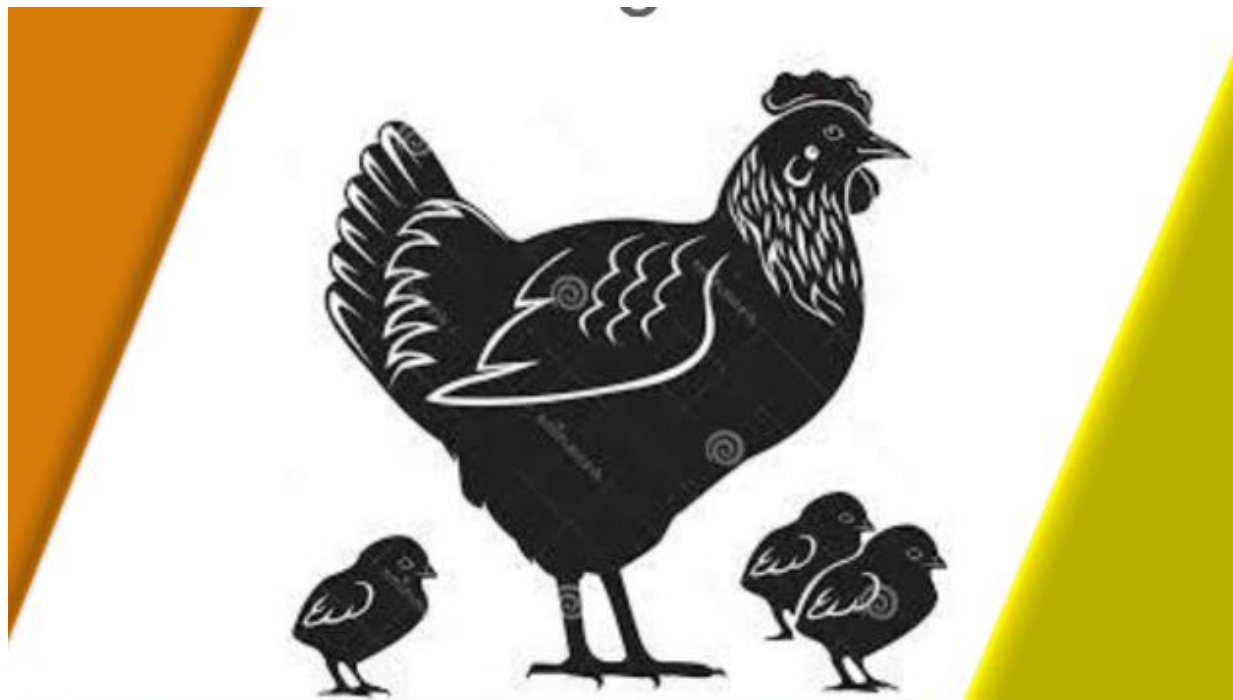


Indonesia: field sampling-lab exercise



Category	Key Recommendations
Sample transport	Courier routing, cold-chain kits, contingency plans
Field biosafety	Better PPE training, supply stockpiles, biosafety checklists
Lab surge capacity	Staffing rosters, stockpile modelling, workflow redesign
Documentation	Standard labels/forms, digital submission, chain-of-custody
Communication	Clear reporting triggers, electronic pathways, role clarity
Exercise cycle	Recurrent exercises, scenario rotation, external observers
Coordination	Defined roles across DIC–district–province–MoA
AAR & documentation	Templates, structured evaluation, follow-up tracking

Enhancing Bhutan's capacity to respond to HPAI outbreaks – Testing of National Plan with a Simulation Exercise



**NATIONAL INFLUENZA PANDEMIC PREPAREDNESS PLAN
&
STANDARD OPERATING PROCEDURES**

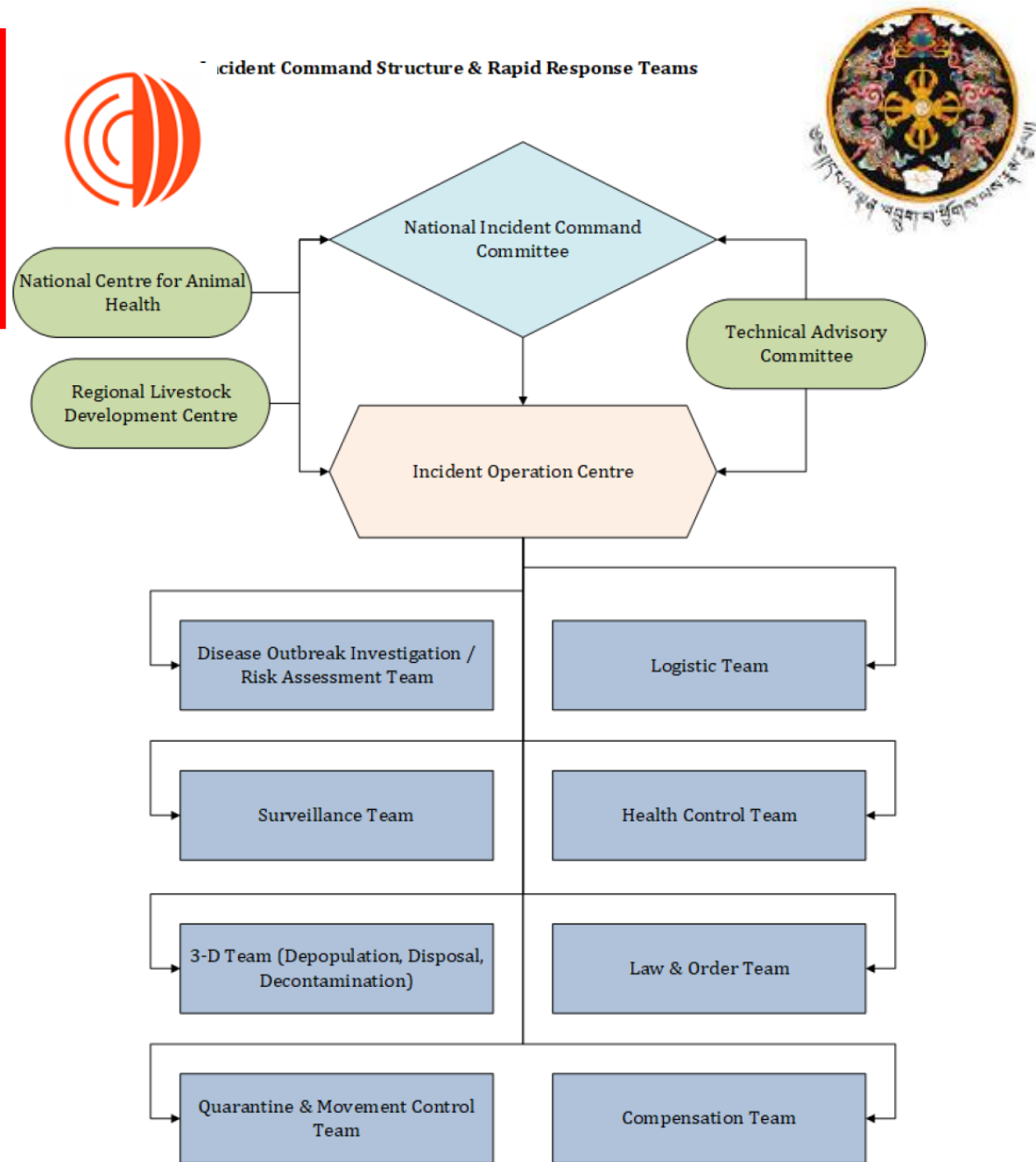
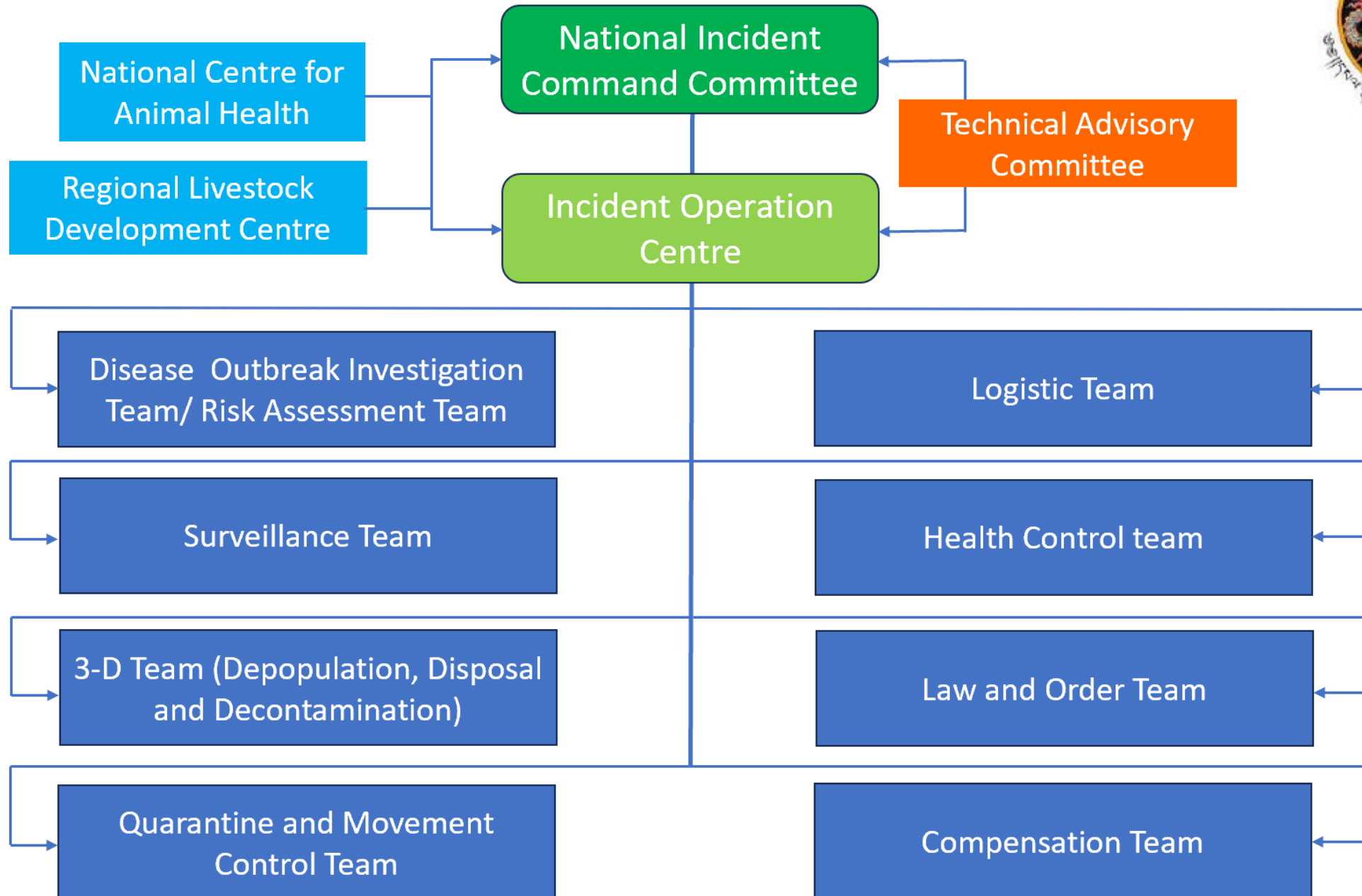


Figure 3 Incident Command Structure for the response to outbreaks of HPAI H5N1 / AI H7N9 / other notifiable avian influenza viruses



National Incident Command Structure and Rapid Response Teams





National Influenza Pandemic Preparedness Plan



2005 - 2007

NIPPP drafted

2008 - 2009

Desktop
exercise

2009

Field simulation
exercise (Oct 2009)

2010

First Outbreak of
HPAI (Feb 2010)

2010 - 2011

After Action
review



World Bank Bird
Flu Project
Aligned with
National Laws



Development of
SOPs and
guidelines for
different
components



Training on different
components of
response
(OI, surveillance,
sampling, lab, 3Ds
etc)



Further
improvement of
Plan and capacity
buildings
including study
tours



After action review
and improvement of
the plan and further
capacity building
including regional
Sim-Ex



NIPPP was the first national plan focused on responding to a possible pandemic.
The Livestock team contributed in drafting the Bhutan Disaster Management Act
NIPPP adapted for other diseases (FMD, ASF, LSD, PPR etc)



National African Swine Fever Prevention and Control Plan - 2021

Bhutan



National Peste des Petits Ruminants (PPR) Prevention, Control, and Eradication Plan 2020

NPPR-PCEP
2020



NATIONAL LUMPY SKIN DISEASE PREVENTION AND CONTROL PLAN 2021 BHUTAN



NATIONAL FOOT AND MOUTH DISEASE PREVENTION AND CONTROL PLAN - 2020

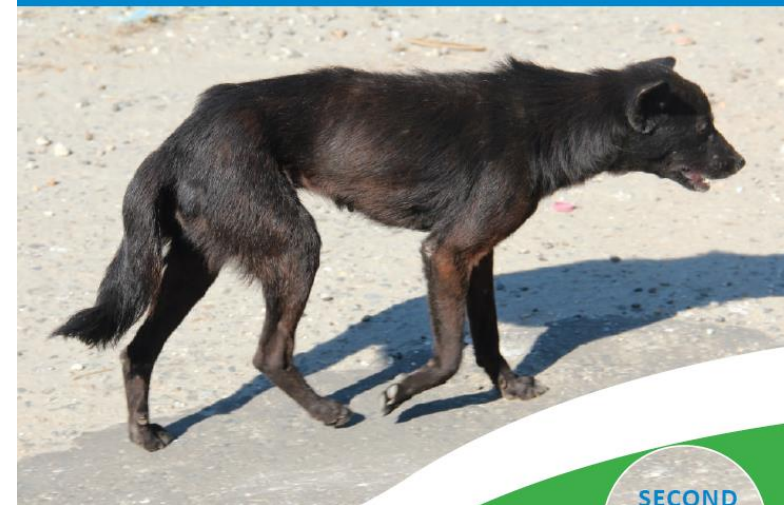
National Centre for Animal Health
Department of Livestock
Ministry of Agriculture & Forests
Royal Government of Bhutan



National Centre for Animal Health
Department of Livestock
Ministry of Agriculture & Forests
Royal Government of Bhutan



National Rabies Prevention and Control Plan



SECOND
EDITION
2017



Australia: Exercise Waterhole



Aims and objectives

- Test national laboratory network readiness for LSD and HPAI
- Assess surge capacity across state/territory labs
- Evaluate sample flow, prioritisation, and reporting times/speed
- Identify operational, logistical, and workforce gaps

Exercise Waterhole report





Australia: Exercise Waterhole



Design and scope

- Multi-phase national exercise (workshops + functional exercise).
- Participants: Government and labs at multiple levels
- Scenario: concurrent LSD (north) and HPAI (south)!!!
- Focus on workflows, coordination, and information systems.





Australia: Exercise Waterhole



Implementation

- Workshops (Sept–Oct 2023) to test planning and coordination
- Three-day functional lab exercise in Nov 2023
- Simulated high sample load and supply constraints
- Tested communication channels, regulatory triggers, data flow





Australia: Exercise Waterhole



Outcomes/lessons learnt

- Surge limits identified, especially in small labs
- Need for integration of information systems
- Limitations in SOPs
- Workforce, consumables, logistics shortages
- 18 recommendations produced for national strengthening!





Australia: Exercise Waterhole



No.	Recommendation	Theme
1	Review laboratory contingency plans to ensure alignment with current legislation and regulations.	Planning & Compliance
2	Enhance knowledge and application of legislation/regulations via targeted laboratory training.	Training & Capability
3	Ensure emergency animal disease (EAD) management plans reference SSBA Regulatory Scheme requirements.	Regulatory Integration
4	Optimise laboratory workflows for high-volume events (receival, processing, recording).	Workflow Efficiency
5	Establish national specimen-labelling standards across laboratories.	Standardisation
6	Develop training for all laboratory staff that can be deployed pre-response and during response.	Workforce Development
7	Manage staff fatigue and ensure WHS compliance during high-volume events.	Workforce Safety
8	Develop tools and triggers to adapt “business-as-usual” operations during emergencies.	Business Continuity
9	Regularly practise, review, and update laboratory contingency plans.	Preparedness
10	Ensure internal/external communication arrangements are documented in contingency plans.	Communication



Australia: Exercise Waterhole



No.	Recommendation	Theme
11	Provide administrative support to the coordinating body to ensure effective national lab coordination.	Coordination
12	Work toward full integration of Sample Tracking and Reporting Systems across laboratories.	Information Systems
13	Provide dedicated onsite IT support for lab information systems during responses.	IT Support
14	Review arrangements for surge staffing, especially for sample receipt.	Workforce Surge
15	Understand financial implications and plan cost-sharing arrangements under EADRA.	Finance & Resourcing
16	Review lab layout to minimise movement distances and improve efficiency/biosecurity.	Physical Infrastructure
17	Review stockpile arrangements for consumables, reagents, PPE and ensure timely access.	Supply Chain
18	Review courier/transport arrangements to ensure capacity during high-volume events.	Logistics & Transport

Thank You



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