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A Cross Sectional Study of African Swine Fever In Neverland

Indonesia

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Objectives & Expected outcomes

A. Objective

- Understand Source of Virus Introduction into the Country
- Transmission routes between households, villages and regions
- Contributing risk factor
- Which type of farms and regions are at higher/lower risk of infection

B. Outcomes

- Prevalence or Incidence of ASF in Neverland Country

Target group and case definition

- Epidemiology Unit : Herd (consist of farming & backyard household or commercial piggeries)

Case Definition

A. Herd with Suspected ASF

- Herd with One or more pig seen with High Fever, anorexia, fatigue, dermal ptekhie, mortality > 5%

or

- Herd with sudden death >30% with or without clinical sign

C. Herd with Confirmed ASF

- Every herd that meet criteria of Herd with Suspected ASF and have been isolated and identified ASF virus with PCR method in government reference laboratory.

Stepwise approach of investigation

- Ensure if an outbreak occurs by go directly to the site of outbreak or contact the regional veterinarian to confirm the case report (if conditions do not allow contact by telephone)
- Disease Confirmation : Suspected case (clinical signs, pathologic lesions; epidemiological findings) and confirmed cases (with laboratory test result)
- Define cases and count the number of cases
- Determine the population at risk (infrastructure e.g backyard household, social factor e.g swill feeding, share equipment, presence of wild boar, and biosecurity)
- Describing outbreak by animal, time (disease timeline), and space (visualization of outbreaks and assessment of biosecurity levels)
- Identify risk factors and create hypotheses
- Control the disease
- Reporting

Study size

Region Name	Population (heads)	Sample Taken
Region 1	72000	87
Region 2	75000	91
Region 3	35000	42
Region 4	65000	79
Region 5	45000	55
Region 6	65000	79
Region 7	55000	67
Region 8	60000	73
Region 9	70000	85
Region 10	30000	36
Region 11	40000	49
Region 12	50000	61
Region 13	53000	64
Region 14	54000	66
Region 15	31000	38
	800000	971

Estimated Proportion	0.35
Desired precision of estimate	0.03
Confidence level	0.95
Population size	8e+05
Large population	972
Population = 8e+05	971

Sample Needed 971
Herd choosed by random sampling
Household choosed by random sampling

Assumption :

Herd consist of farming & backyard household or commercial piggeries

Herd population all the same with 250 population

ASF estimated prevalence in Neverland was 50%

Stakeholder involved

- How are pig households and/or piggeries accessed (who is sampling, who administers a questionnaire)
- Who provides information, who are local people to be involved
- Farmer (farming and backyard household)
- Commercial Piggeries
- Traders/live animal market
- Para Veterinary worker in the village (herd)
- Slaughterhouse
- Veterinary Regional Officer
- Traditional market (risk of swill feeding)
- Restaurant (risk of swill feeding)
- Border Quarrantine

Source and transmission

- Which risk factors should be investigated and what questions should be asked (design a short questionnaire, include only relevant information)
- Person (Farmer, Veterinarian, Para-Veterinary, Trader, and Visitor)
- Fomites (Farm Equipment, Vehicle, etc)
- Animal (domestic Pig and wild boar, Pig Product)
- Swill feeding

Production loss

- Develop criteria and questions to evaluate the production loss associated with mortality and morbidity due to ASF at the household level.
- Animal death
- Condemn carcass
- Cost to decontaminated area

Summary /discussion

- ASF sources in Neverland can be from international movements of Pigs and its product that carry ASF Virus, aircraft foodwaste
- Herd with backyard farming type have higher risk of ASF introduction because of presence wild boar
- Herd that practicing swill feeding, borrowing farming equipment from outbreak area have higher risk of ASF
- Production loss come from high mortality, dead pig must be disposed properly, and cost to decontaminated area (equipment, environment, and building)