PDS and Operational Research in Indonesia for More Effective Control of HPAI

International Livestock Research Institute

Participatory Epidemiology

- Collection of Epidemiological Intelligence using the techniques of participatory rural appraisal
- Research and decision-oriented Information

Participatory Disease Surveillance

- Surveillance = Information for Action
- Application of PE to surveillance systems
- Existing Veterinary Knowledge
- Local language disease terms and descriptions

Existing Veterinary Knowledge

- Traditional terms and case definitions
  - *Tetelo* (NCD, Indonesian)
  - *Tetelo Baru (HPAI)*
  - *Berenung kuat* (HPAI, Karonese)
- Clinical presentation
- Pathology
- Epidemiologic patterns
- Risk factors
  - Introduction and transmission in poultry
  - Human exposure

PDS

Clinical Case Definition

Flock of Bangkok fighting chickens, presentation consistent with clinical case definition, Lampung Province September 2006.

Antigen Test

Positive Anigen test, same flock.

Institutional Impacts

- District level
- National level
- Consensus views and leading to better policies
- Parallel system?
  - Institutional analysis and surveillance channels
- Sustainability?

Operational Research

- What is Operational Research
- Objectives and Overview
- Potential Activities in Yogyakarta

Young girl presenting her pet chicken to culling team during a mass cull, Indramayu District January 2006. Photo by Peter Roeder.

Operational Research

- Applied research to evaluate activities conducted in the midst of on-going programs
- Rapid learning
- Real-time
- Action-oriented

Kampong chicken trader picking up stock at Bandung City drop off point, for sale to restaurants and households in the city, 2006.

Objectives

- Evaluate the feasibility of a suite of control interventions
- Assess the epidemiological impact of control alternatives
- Provide answers to specific targeted research questions

Dr. Henni, PDS trainer Bogor LDCC, conducing an interview in Bakasi District, 2006.

Longitudinal Study

- Establish impact monitoring system
- Implement treatment packages
- Measure degree of implementation
- Measure changes in disease incidence by apply PDS to a random sample of RTs

PDS trainees, Bandung LDCC, conducting an interview during introductory training, 2006.

Treatment Packages

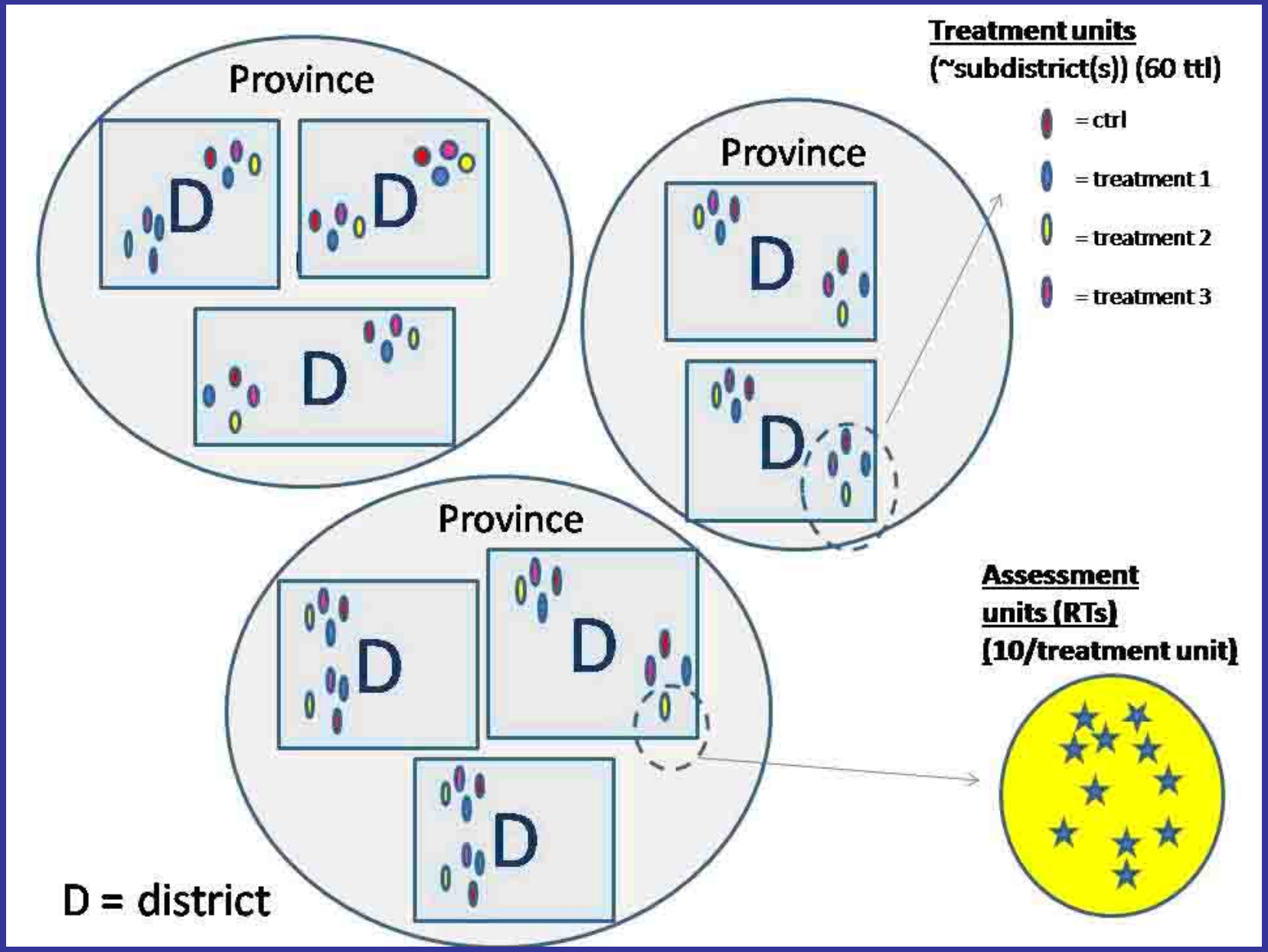
1. Baseline PDSR
   - Control group
2. Mass vaccination against AI + PDSR
3. Mass vaccination against AI and ND + PDSR
4. PDSR with compensation for culling

Culling of infected flock by PDR trainees, Lampung District September 2006.

Treatment Groups

- Cluster of sub-districts
  - 100,000 poultry
- Sets of three
- Could be more than one set per district
- Baseline profile
  - Markets
  - Sector 2 and 3

Poultry wet market slaughter area, Bandung City 2006.


Province
D
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Treatment units
(~subdistrict(s)) (60 ttl)
= ctrl
= treatment 1
= treatment 2
= treatment 3
Assessment
units (RTs)
(10/treatment unit)
D = district

Impact Assessment

- Builds on PDS
  - Random sample of 10 RTs per treatment area
  - Outbreaks in last 3 months
- Measures Implementation
- Measures disease incidence
- Measures changes due to interventions

Villagers mapping an active outbreak with a PDS team to identify households with infected chickens, document the spread of the disease, and identify risk factors, Bogor LDCC 2006.

Targeted Research

- Neighbourhood vaccination study
- Sensitivity and Specificity of PDS
- Strengthening analysis
- Estimation of transmission parameters
- Economic analysis

PDR training of trainers, Yogyakarta 2006.

Resources and Benefits

- Inputs
  - Vaccine
  - Compensation
  - Personnel
- Information
  - Disease situation
  - Risks
  - Control points
- Local Knowledge
  - In-depth
  - Comprehensive
  - Causes

Try and cull this chicken