PDS and Operational Research in Indonesia for More Effective Control of HPAI
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
Flock of Bangkok fighting chickens, presentation consistent with clinical case definition, Lampung Province September 2006.

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, conducting 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.
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