



Activity Update and Critical Information on HPAI Control in Animals

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Animal Control Programme

■ Surveillance

- Supporting local government surveillance activities
 - DIC: surveillance and diagnostic support
 - PDSR: Village-based poultry surveillance (FAO)
 - Equipment to support local government surveillance (rapid tests, PPE, vehicles)
- Epidemiology training to national, provincial officers, and private sector (USDA)

■ Control

- Supporting local government control activities
 - PDSR: Village-based poultry outbreak control (FAO)
 - Equipment and supplies (vaccine, PPE, disinfectant, sprayers)
 - Compensation
- Vaccine development: MoA/Bbalitvet, OFFLU/FAO



Animal Control Programme

■ Prevention

- Supporting local government IEC and prevention activities
 - PDSR: Village-based poultry prevention (FAO)
- CBAIC: Village-based volunteers supporting community-based AI prevention and mobilization (DAI)

■ Research

- Dutch MOA
- OR (ILRI, FAO, JSI/Deliver)
- Western Java Commercial Profiling (FAO)
- LBM Environmental Contamination Study (WHO-FAO-MOH-MOA)
- Market chain studies in Bali, North Sumatra, Jakarta (FAO, Dutch MOA)
- Duck epidemiological and vaccine study (ACIAR)
- Duck Vaccination Study in Kalimantan (FAO, Dutch MOA)



Support Activities

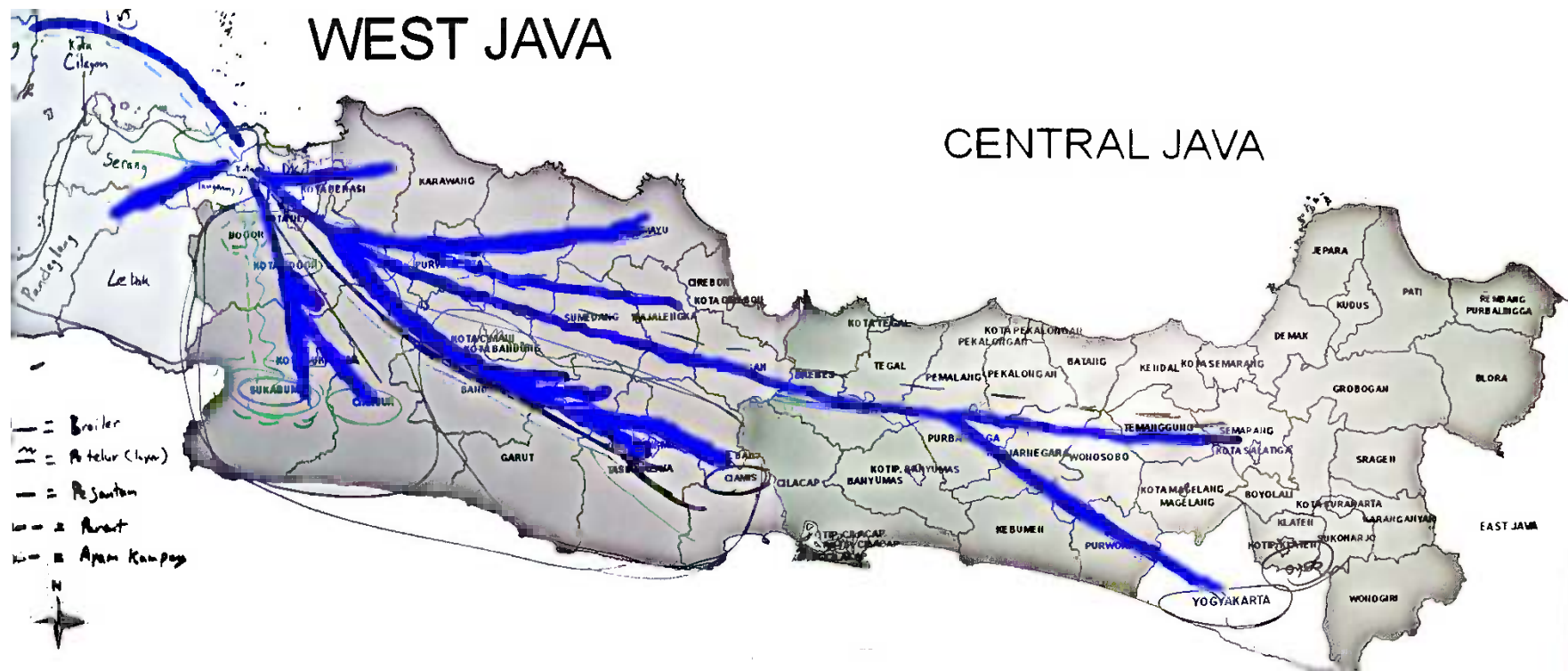
- **Laboratory Strengthening and Support**
 - Disease Investigation Centers, Bbalitvet and Provincial Animal Health Laboratories
 - Quality Assurance
 - Capacity-building, Equipment, Infrastructure support
 - With support from AusAID-CSIRO, JICA, USDA, Dutch MOA, KfW, BEP (US State Dept)
- **Information, Education, Communication (IEC)**
 - AI Bulletin
 - PDSR Newsletter
 - HPAI Q&A brochures
 - Community radio call-in shows and community workshops
 - Focus group discussions with farmers and traders
 - Integrated IEC within PDSR activities



Key Message

- **ALL poultry production systems are affected by HPAI**
 - NOT only in village/sector 4 poultry
 - NOT only in small-scale producers
 - NOT only in large-scale producers
 - NOT only in ducks
- ALL major production systems (sector 1-4) and breeds (layers, broilers, ayam kampong, ducks) appear affected.

Poultry Movements



Virus affecting both humans and local poultry may not be locally produced, but instead introduced from outside sources



Village (non-commercial) Poultry

- Effective surveillance established throughout most endemic areas (PDSR)
- Revised PDSR Information System integrates village activities within an overall disease control programme
- HPAI found on all islands where PDSR active, however Java (western and central) and Lampung province appear more heavily effected
- Key control points: empowering communities to produce healthy poultry, rapidly controlling outbreaks of HPAI, monitoring effectiveness of overall Control Programme through structured surveillance





Commercial Poultry

- Broilers
- Layers
- Native Chickens
- Ducks



Broilers

- Minimal biosecurity
- Growers do not vaccinate for AI
- Rapidly sell remaining flock during high mortality events without performing diagnostics
- Product moved through intermediate collector yards for both immediate slaughter and LBM. May move long distances (e.g. from East Java to Jakarta)
- Integrated farms:
 - vaccinating parent stock for AI
 - investing in AI control
 - Requested a pox-vectored AI vaccine to be registered so that DOC can be vaccinated
- Key control points: hatcheries (DOC) and collector yards







Layers

- Minimal biosecurity
- Rely heavily on preventative vaccination (e.g. AI, ND, Gumboro, pox)
- Frequently experience outbreaks of killer diseases (ND, HPAI, fowl cholera)
- Most eggs produced and spent layers are marketed into LBM system
- Manure used for agricultural production
- Key control points: primarily reducing on-farm risk by preventative vaccination and improving biosecurity, supported by DOC vaccination (cross-cutting with broilers)



Native Chickens (*Ayam buras*)

- Highly dispersed, but frequently linked by associations and trade networks: most producers raise their own DOC with most farms very small (<200 birds/farm)
- Minimal biosecurity
- Vaccination practices unknown
- Marketing is local via petty traders and LBM, as well as long-distance trade for specific markets (e.g. Central Java growers to Jakarta LBM)
- Key control points: primarily on-farm (vaccination and biosecurity). Aggregate collector points and marketing chains for long-distance trade have not been elucidated yet. PDSR has contact with the smallest-scale producers.



Ducks

- Two distinct systems: layers/growers vs nomadic (one flock may move over multiple provinces)
- Decentralized production similar to native chickens, although DOD hatcheries also exist
- Sero-surveillance in Yogyakarta, Central Java indicates 0-6% seroprevalence of H5, ducks PCR positive in Bali LBM.
- Marketed primarily through LBM.
- Clinical disease of H5N1 infection is mild, therefore duck producers not highly motivated to control H5N1 in their flocks
- Key control points: limited tools available – preventative vaccination, movement restrictions, flock certification. Effectiveness of DOD vaccination and intra-flock infection dynamics are still unknown



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Poultry Movements

- Most poultry supplying JABODETABEK produced in West Java, but also from Central Java, East Java, and Lampung to lesser extent.
- Poultry may move very long distances to each of the JABODETABEK markets, increasing risk of spread along the market chain.
- Peri-Jakarta collector yards are contaminated with H5 A1 strain (PCR and VI in 29 out of 40 yards tested– Dutch MOA)
- Collector yards seem to specialize by breed and outlets which they supply, not all are government regulated.
- Key control points: collector yards which receive from many distant farms and collector yards which supply LBM. Further analysis of Java poultry movements necessary.









Live Bird Markets (LBM)

- Heavily contaminated with H5N1 in peri-Jakarta area, public health risk
- Live birds leaving LBMs present risk to local poultry populations and potentially to human populations
- Key control point:
 - Immediate: where political support available, regulatory interventions in high-risk LBMs to reduce environmental contamination and risk of spread to local poultry populations.
 - Long-term: Aim must be to remove poultry production and marketing of live birds from major urban centers.



Vaccine Development

MoA/OFFLU

- 234 samples recently sent to AAHL, Geelong
 - 64 already fully characterized (from Denpasar DIC)
 - 28 samples from commercial industry (virus isolation underway)
 - 40 from Wates DIC (virus isolation underway)
 - 100 for PhD study from Wates DIC
- Following sequencing, isolates to be examined by SEPRL and VLA
- Piloting of nationwide field sample collection underway via PDSR (Yogya and Bandung)



Vaccination Research

- **Sukabumi field vaccination trial (Dutch MOA)**
 - Goal: To learn lessons at pilot level on vaccination effectiveness, vaccination strategies, and development of biosecurity methods
 - Key activities: pilot testing of vaccination strategies -- vaccination of poultry farms and village chicken in adjacent zones, sampling, monitoring & surveillance
 - Results:
 - Layer farms: >70 % protection; Native broilers: > 60 % protection; Village chicken: > 20 – 50 % protection
 - Village vaccination campaigns need good preparation
 - Sentinels are effective for DIVA but not easily accepted by farmers
 - Biosecurity is poor and not easy to improve
 - Vaccine efficacy cannot be demonstrated (yet)
 - Good collaboration of all participants / stakeholders (CIVAS, Dinas Peternakan, farmers, laboratories)
 - Need for quality assurance programmes in laboratories



Vaccination Research

- Vaccine testing in transmission studies (Dutch MOA)
 - Goal: quantification of the potency of vaccines to reduce virus transmission in a well-vaccinated population
 - Results: Both H5N1 and H5N2 vaccines can reduce/prevent transmission in properly vaccinated population
- Kalimantan duck vaccination study (FAO, Dutch MOA)
 - Goal: Test a duck vaccination protocol in commercial duck farms for decreasing viral shedding, and thus decreasing viral transmission and maintenance of HPAI in Indonesia
 - Study currently underway



Operational Research

■ **Lessons Learned**

- Genuine interest at district/local level in improving the HPAI control programme
- Coordination of activities at all levels is essential and time consuming
- Vaccination preparations very useful – improved understanding of cold chain requirements, training material for community vaccinators and their supervisors
- Compensation – development of robust and efficient mechanism not easy

■ Lessons learned

- Difficult to diagnose HPAI in poultry on clinical signs alone
- High poultry mortality is common, especially in sectors 3 and 4
- Many producers and traders still not clear about the difference between HPAI and other killer diseases of poultry, e.g. Newcastle disease
- Many poultry workers and traders believe that H5N1 is not a problem for them but rather that the disease more frequently affects people who interact with poultry infrequently
- Salvage strategies employed by owners based on short-term financial/livelihood objectives
- Most animal health professionals and communication specialists have little knowledge about poultry and their owners

PDSR newsletter



PDSR NEWSLETTER

THE 4TH EDITION/DECEMBER 2007



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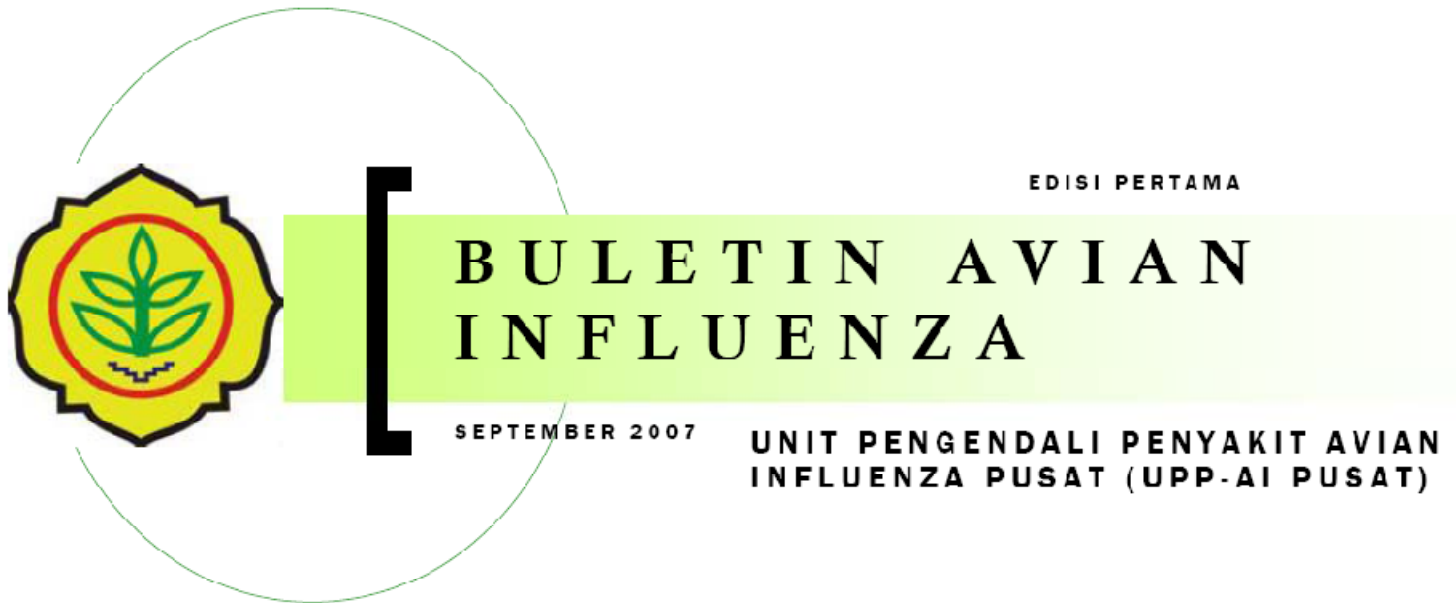
LATEST NEWS:

FROM THE EDITOR

New Year, New Form

Welcome to the fourth edition of PDSR Newsletter in the beginning of year 2008. It's been three and a half years since we are working together in Avian Influenza disease control, but we have not seen the concrete result yet. It happens because the number of infected districts/cities is increasing from time to time although there is a decrease in number of mortality. What is this phenomenon about? It needs more laboratory and epidemiology researches. In facing this situation, we need to sharpen and improve the efficiency of work and task of PDS and PDR by changing its name to PDSR.

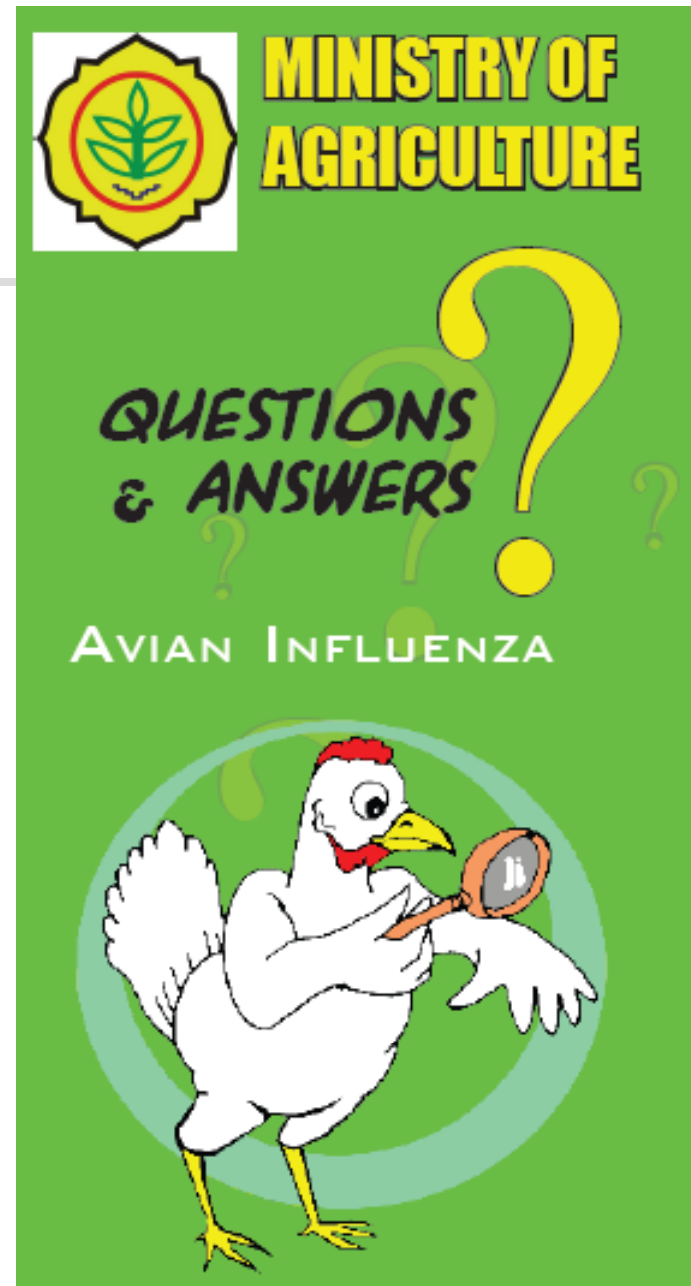
MOA Avian Influenza Bulletin, Indonesia



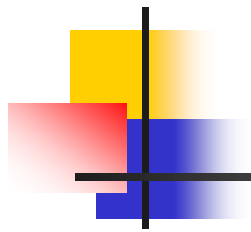
- Contains abstracts from papers by both national and international authors
- First edition published in September 2007, quarterly publication
- Supported by FAO

HPAI Q&A brochure

- What is bird flu?
- Is it the same as Newcastle disease?
- How does it spread?
- How do we prevent the spread?
- Are people at risk?
- How can we protect ourselves?
- What else can farmers do to prevent bird flu?
- What else can we do to prevent bird flu during food preparation and handling?
- What is the government doing to prevent and control bird flu?



Supported by FAO



THANK YOU