

# Highly Pathogenic Avian Influenza (HPAI) Risk Reduction Strategies



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# Purpose

- To aid decision makers in developing pro-poor HPAI control and prevention strategies that are
  - cost-effective
  - efficient
  - livelihood enhancing, particularly for the rural poor in developing countries.

Project Period: 2007 – 2010, funded by DFID

# Purpose

## Considering that:

- HPAI is not solely a veterinary problem: it is a crisis for society as a whole — especially smallholders and the poor
- Acceptable preparation and risk-reduction strategies can only be successfully implemented with the involvement of small holders
- Despite international pressure to act quickly on control measures, one size will not fit all, or even most, local conditions.

An international expert team was formed to develop an the research agenda in collaboration with national partners. The team includes veterinary and economic scientists.

# Project Partners



## International Food Policy Research Institute (IFPRI)

- Economic and livelihood analysis, institutional and policy analysis, risk analysis and communications



## International Livestock Research Institute (ILRI)

- Epidemiology and risk analysis, economic, livelihood and institutional analysis



## FAO

- Communication, advocacy and capacity building; economic and livelihood analysis and pro-poor policy development



## Royal Veterinary College, University of London (UK)

- Epidemiology and risk analysis



## University of California, Berkeley (US)

- Economic and institutional analysis

# Countries in the Project



Countries covered:

Asia: Viet Nam, Cambodia, Thailand

HPAI Endemic: Viet Nam in some parts

Sporadic: Cambodia, Thailand

Objective: Assess policy responses to the threat of HPAI in the Mekong countries

5<sup>th</sup> and 6<sup>th</sup> of June 2008, DFID Stakeholder workshop Veterinary Faculty GMU, Yogyakarta

# Countries in the project

Countries covered:

Africa: Ghana, Kenya, Nigeria, Ethiopia

Asia: Indonesia

HPAI Endemic: Indonesia

Sporadic: Nigeria and Ghana

“Free”: Kenya, Ethiopia

Objectives:

- spatial spread of AI and risk assessment
- evaluating the cost-effectiveness and livelihood impacts of alternative control strategies,
- assessing institutional response capacity

# Why is The Project Needed

- Much of the effort to date has focused on implementing prevention & control
- Despite significant scientific advances made towards understanding HPAI knowledge gaps remain:
  - Disease ecology and epidemiology
  - Economic impact of HPAI and its control: less emphasis has been placed on the effects of alternative mitigation strategies on livelihoods
  - Limited understanding of the institutional arrangements most suited for disease control in different production systems

Those gaps exist due to the following factors...



# Why is The Project Needed

## Lack of :

- Integrated approach
- Specific focus on the impact of HPAI outbreaks & control strategies on small holders
- Understanding of appropriate institutional settings and incentives in support of efficient and effective HPAI control
- Effective risk communication and advocacy

# Key issues

- Addressing knowledge gaps
- Urgent needs in terms of risk analysis, livelihoods and institutions that may emerge during the project's life, using existing information
- Emphasis will be given to key priority issues within each project country depending on the current situation and needs.

# Main areas of work

- Pathways by which HPAI can spread to poultry and likelihood for each pathway
- Epidemiological impact of various control strategies and their economic costs and benefits
- Identification of the institutions and incentive mechanisms that would support adoption of strategies that are both effective and targeted to small holders
  - How can these be facilitated by interaction with international institutions?

# Main areas of work

- Types of decision and communication processes needed to ensure that research findings are reflected into policies and plans
- Identification of the similarities and differences among various control and prevention strategies, institutions and incentive mechanisms for different countries (depending on their epidemiological/economic situation)
  - Develop cross-country lessons

# Results to support decision makers:

- distinguishing between the short-term and long term impacts (economic and epidemiological);
- assessing the livelihoods impacts on various categories of stakeholders, especially the poor;
- providing proposals for cost-effective prevention and control strategies and the necessary institutions and incentive mechanisms;
- capturing the effects of alternative policies on the local and the long-distance spread of HPAI

# Implementation

- Dec. 2007 Inception workshop (December in Chiang Mai)
- Mar-May Background paper, country specific
- June Country specific workshops and research meetings
- July onwards... Implementation of agreed activities

# Implementation – Background paper

- First step in initiating this project
- Compile and assess the current state of knowledge of :
  - poultry systems, their place in the larger economy,
  - the current HPAI situation
  - institutional experiences with its control
- Information of critical importance to support existing data, identify research gaps, and better target further research activities

# Background paper - Indonesia

*Overview on poultry sector and HPAI situation for Indonesia with special emphasis on The Island of Java*

Bambang Sumiarto, Faculty for Veterinary Medicine,  
Gadjah Mada University, Yogyakarta

Bustanul Arifin, University of Bogor,  
International Center for Applied  
Finance and Economy



# Background paper - Indonesia

- *Vital country statistics*
- *Poultry sector overview and actors*
- *Bio-security and control*
- *Situation for AI and other poultry diseases*
- *Economic impact of AI*
- *Current policies, laws and legal and regulatory systems related to the poultry sector and AI*
- *Structure of AI management in Indonesia*
- *Risk factors*
- *Previous research*
- *Gaps*

# Specific country activities - Indonesia

(a) Disease risk cluster

(b) Institutional cluster

- Institutional analysis (response capacity) and mitigation practices (and related risk) – questions to be answered
- Assessment of the market interactions, linkages, and incentives in poultry markets
- Development and implementation of experiments to understand economic feasibility of alternative interventions

(C) Economic and livelihoods cluster - impacts of HPAI on different stakeholders

(D) Cross- country similarities - differences

# Specific country activities - Indonesia

## (a) Disease risk cluster - proposed activities

- Development of risk maps
- Define the potential pathways through which HPAIV can spread to and within populations for individual epidemiological strata (risk pathway diagrams)
- Qualitative and quantitative risk assessment models for individual epidemiological strata
- Development of mathematical models for evaluating hypotheses in relation to transmission dynamics and control options for individual epidemiological strata

# Specific country activities - Indonesia

## (b) Institutional cluster

- Institutional analysis (response capacity) and mitigation practices (and related risk) – questions to be answered
  - What were mitigation efforts
  - What were the outcomes
  - What influenced outcomes
  - What would be ideal
  - Implications for institutions, decision making resources, policies
  - Capacity
  - Structure
  - Communications

# Specific country activities – Indonesia

## (b) Institutional cluster -

- Institutional analysis (response capacity) and mitigation practices (and related risk) – activities
  - Map institutional framework (Before and actual)
  - Describe process and evolution
  - Mitigation history/timelines
  - Extend of implementation, constraints and impact
    - Secondary success
    - Key informant interviews Poultry farmer interviews
    - Impact changes in disease incidence and distribution
    - Impact on institutions
  - Drivers of outcomes
  - Analysis

# Specific country activities - Indonesia

## (b) Institutional cluster

- Assessment of the market interactions, linkages, and incentives in poultry markets - activities
  - Expert consultation (to identify stakeholders, market interactions and current incentive mechanisms)
  - Development of field instruments to conduct value-chain analysis of poultry sector, key linkages, market failures...with risk pathways
  - Fieldwork/rapid assessment to characterize poultry value chain and critical control points
  - Expert consultation to disseminate results from value chain analysis
  - Cross country synthesis

# Specific country activities - Indonesia

## (b) Institutional cluster

- Development and implementation of experiments to understand economic feasibility of alternative interventions
  - Review of past practices, institutional settings, and analysis of intervention opportunities (background report)
  - Focus groups, design surveys, and semi-structured interviews for stakeholder analysis
  - Interviews, focus groups and stakeholders survey to understand the perceptions on the impact of interventions
  - Country-level reports on mitigation programs
  - Cross-country synthesis reports on HPAI mitigation practices

# Specific country activities - Indonesia

## (c) Economics and livelihoods cluster

- Development of qualitative and quantitative models to understand economic impacts of alternative interventions at different levels of analysis:
  - Household impacts, including livelihoods effects
  - Sector impacts
  - Macro-economic impacts (non agriculture, tourism, etc.)
  - Use of different modelling platforms (partial equilibrium, CGE models, etc) based on data and gaps identified in background paper



**5<sup>th</sup> and 6<sup>th</sup> of June 2008, DFID Stakeholder workshop Veterinary Faculty GMU, Yogyakarta**