

# Disease risk findings

- Estimate of level of actual risk of transmission through any pathway is uncertain in Africa
- Risk of transmission is increased when a disease outbreak occurs
  - farmers fear the effects of disease controls on their livelihoods
- Risk of transmission should not only look at biosecurity but also at the number of potential contact points for infected materials
- Risk of indirect transmission via infected materials is highest where multiple visitors visiting multiple farms – transporters, traders, veterinarians, surveillance officers, etc.

## Main findings -livelihoods

- **Consumer panic** foremost factor in the reduction of poultry production outbreak => **education campaigns** will be crucial;
- Most small-scale poultry producers on average tend to have **diversified income** portfolios and thus unlikely to be significantly affected by HPAI shocks (however there are livelihood hot spots where there may be more of an affect)
- **Under the assumption of no animal source food substitute**, reduced poultry consumption from a simulated sustained **HPAI shock** => **could have significant detrimental impacts** in terms of stunting, height for age, and hemoglobin concentration for children 1-3 years old

# Policy implications-livelihoods

- Education and awareness campaigns will be crucial at limiting the reaction of consumers due to perceived risks;
- If outbreak occurs, there has to be contingency plans for livelihood strategies esp. targeted to small-scale producers –not necessarily restocking
- Prioritize the intervention in areas where there is congruence between disease risk and livelihood risk hotspots
- Government assistance to be provided to small-scale poultry producers for implementing bio-secure management options;
- If sustained **HPAI shock** Governments may want to target nutritional support programs for children of 1-3 years old

# Institutional Mechanisms: Alignment of poultry sector actors with control measures

- Regardless of epidemiological status
  - Improved biosecurity is expected to have the most compliance across poultry value chains actors originating in sectors 3 and 4, but constrained by weak capacity to implement
  - In all the countries except Ghana, culling and compensation was the least accepted by value chain actors
- Regardless of epidemiological status mitigation agents ability to implement control measures varied
  - Highest alignment score to reporting and the least score to biosecurity in Indonesia and Kenya
  - Highest score to culling and compensation (Ghana and Ethiopia); opposite result than value chain actors
  - Highest score to movement control (in Nigeria)

# Main findings and policy implications- institutions and mitigation

- Improve the capacity to implement biosecurity
  - public awareness campaigns, focused training, promoting access to micro-credit services (not widely used in some study countries), implementing community-led initiatives
- Improve responsiveness from mitigation agents and build trust with the community
- Design movement controls such that transport of chickens and its products are allowed under certain conditions to avoid unreasonable or catastrophic losses
- Provide adequate compensation in cash or in-kind (e.g. free provision of feed to movement-restricted farms and businesses)

# Main Findings and Policy Implications-

## Evaluation of Risk Management Options

- In endemic/ high risk areas, producers had high level of HPAI awareness, **BUT** they actually had limited actual knowledge of HPAI symptoms, and variable knowledge of transmission, preventive measures, and disposal of dead birds => **education campaigns** need to be targeted to delivering these messages in effective ways;
- Regardless of disease status, number of socio-economic factor affecting knowledge of HPAI symptoms => **Education campaigns targeted to households that have lower levels of education, income, and past knowledge of symptoms of poultry diseases** will be imperative for effective control programs;

## Evaluation Risk Management options(cont.)

- **We know**=> HH implementing a larger number of biosecurity measures **have more WTP** for additional control methods.
- **It is important** to increase **education on knowledge of ways the disease is transmitted** in order to increase Household WTP for low cost control measures
- **TV was a positive way to increase peoples knowledge** of how to control for HPAI in countries that experienced HPAI

# Risk management –bioeconomic simulation model

- Optimal culling
  - **Endemic** : Optimal culling radius is considerably greater in more susceptible areas, i.e. areas in which outbreaks occur more frequently and spread more quickly
  - **No previous outbreaks** : Aggressive culling response needed but no more than half of the potentially infected area



## Bioeconomic simulation model (cont.)

- **Cost-sharing adoption biosecurity measures** (regardless of disease status)
  - **Cost-share subsidies** for adoption need to be similar across less and more susceptible areas
  - **Per bird subsidies** need to be greater for households with fewer birds, but there is little variation in per bird subsidies needed based on the size of the flock among producers of Sectors 3 & 4
  - **Greatest share of expenditures** on biosecurity measures should be allocated **to cages and netting**