

Controlling Avian Flu and Protecting People's
Livelihoods in the Mekong Region

Market Uncertainty and Animal Health

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Outline

- Consumer and risk- branding- and product differentiation
- Producers and risk
- Using markets to enhance livelihood and reduce health risk
- Market and environmental health risk

What Do We Know About Demand for Food?

- People are interested in characteristics: taste, ease of preparation, **safety** (more than health)
 - Accidents and the resulting fear may lead to a drastic reduction in demand
- Choices are affected by social customs
- Income and prices matters
- Taste are diverse
- Willingness to pay for food like other product is affected by uncertainties about the particular product

Risk, Consumer Demand and Food

- People may avoid buying products because of concern about quality, performance and fit
- Marketing efforts aim to build confidence in product: sampling, demonstration, guarantees
- One example tool is brand: a signal of quality based on past performance
- Not used much in foods but then
 - There are value differences among varieties, regions
 - People build trust in sellers, and sample
 - There are grading systems and high premium to quality indicators
 - You can gain from differentiation: safety combined with other features can do the trick

Producers and Risk: Incentives for Reporting on Sick Chicken (1)

- Farmers are less likely to invest in improving health risk (eliminating sick chicken) without incentives
- Can be penalties or carrots, but major problem information
- It is difficult to know who sold a sick chicken, non-point
- One approach, **collective penalty**, all the chicken in a region are condemned once a sick is discovered:
expensive
 - A modification: **collective punishment with self reporting** - exempt the region from collective punishment if people self-report
 - Require regional collective action to compensate reporter

Producers and Risk: Incentives for Reporting on Sick Chicken (2)

- Another approach, **traceability**, builds mechanisms to identify the producer: moves from non-point to point
 - Can be a voluntary approach - participants will be exempt from collective penalties
- A third one, **branding for safety**, develop an indicator communicate to consumers that chicken are healthy
 - Needs monitoring, traceability is a must
 - To get higher premiums include other quality features (locally grown birds may be more desirable), which make safe locally grown birds a good differentiated product

Taking Advantage of Crisis: Developing Brands of Healthy and Tasty Chicken

- Need to identify how people consume chicken, and what they value
- Identify magnitude of Willingness to pay for quality, both who is willing to pay and how much
- Importance to design a program with large appeal
 - maybe several quality levels (products) are needed
 - alternatively, a gradual approach: demonstrate the concept with the high end of the market, then let it trickle down
 - a third alternative, combining marketing with regulation: develop a minimum safety requirement and make non-participants liable
- Any shift to increased differentiation may lead to extra contracting and concentration and may hurt some of the poor - need mechanisms that allow them to join

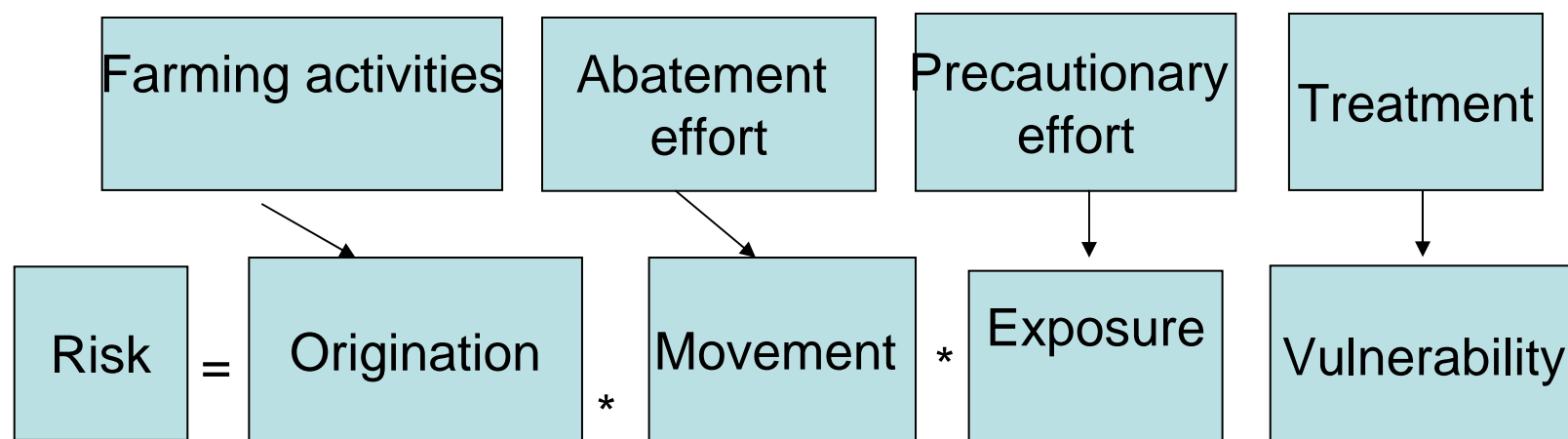
Policy and Risk

- The impacts of policies are uncertain, and the environment is subject to stochastic forces.
- Methodologies to both model risk and analyze choices under risk are crucial for effective policymaking.
- There are alternative approaches to risk. Economic and decision theoretic models measure risk as deviations from the norm or average. They emphasize assessing the impact of such deviations on behavior and their cost.
- Public health develops risk assessment techniques that define risk explicitly as the probability of data outcome.

Modeling Environmental Health Risk

- Environmental health risk - is measured by probabilities of bad outcomes (fatalities) to members of populations
- The risk generation function links it to the basic processes
 - Problem origination
 - Disease Spread and exposure - within and between species
 - Monitoring
 - Treatment
- Each process is subject to effects and decision variable
- Policy making
 - Determine policy parameters to reduce risk given a budget
 - Or to minimize cost to reach a risk target
 - Or to minimize cost to reach a risk target given equity constraints

Generic Modeling of Risk



Each of the efforts to control the various stages of risk generation is dependent on policies

- Incentives for care in farming
- Regulation and incentive for movement control
- Education to lead to precaution
- Medical treatment

Why Risk Modeling for Policy

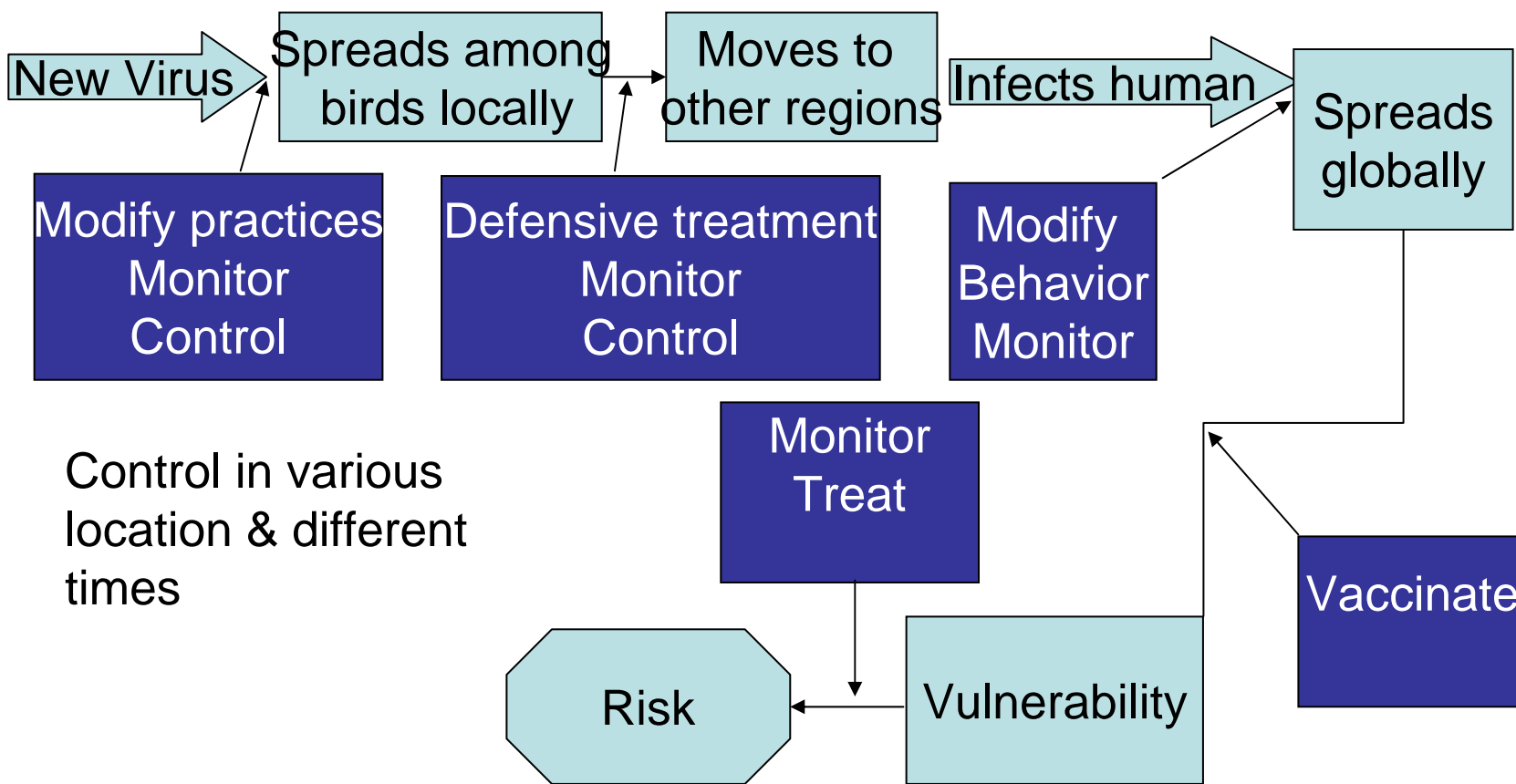
Explicit modeling of risk generation adds complexity especially as it reveals losers and winners. But

1. Estimated overall risk level provides a good bench mark for overall performance
2. Knowing the various processes and their contributions to risk reduction and welfare leads to identify and help assess interventions

Risk Assessment for Avian Flu

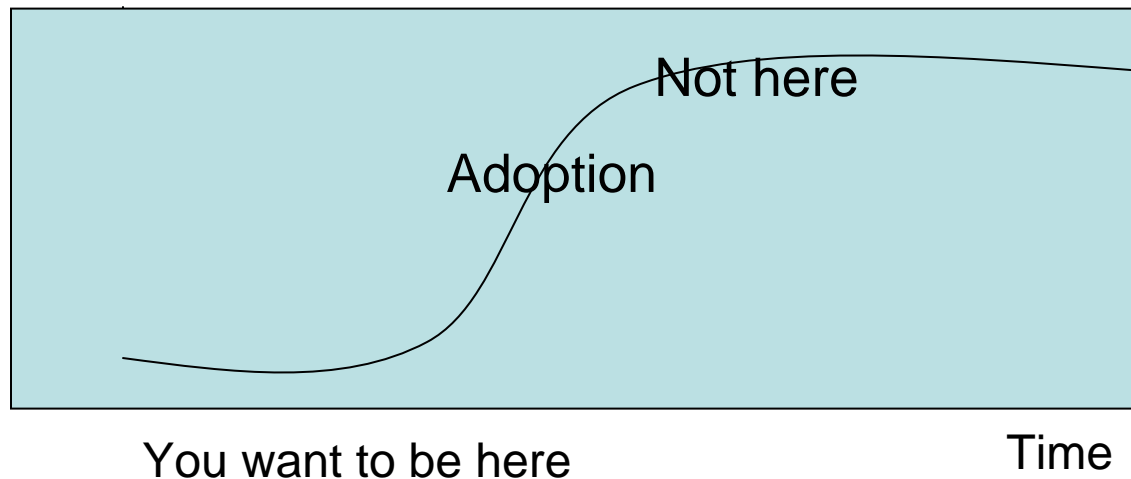


Generation of Avian Flu Risk



Complexity: Time and Heterogeneity (1)

- AV risk policies consists of incentive to take preventive activities, to accelerate reporting of incidence and accelerate protective measures
- Timing is essential for a successful AV
 - Emphasis on monitoring
 - Intervention at earlier stages of various process before the take off of infestation processes.



Complexity: Time and Heterogeneity (2)

- Activities in various region
- Asia-
 - Monitor for outbreaks (among animals and human)
 - Provide Incentives
 - For early self-reporting
 - For eradication and other controls
 - Vaccination and treatment
- Africa Europe
 - Monitor bird migration and disease spread
 - go to

A Bigger Picture

- Food safety or invasive species policy are affected by several parties
 - Consumers wanting cheaper food
 - Consumers concerned about risk
 - Domestic producers-competing or using imported products
 - Exporters
 - Tax payers
 - Environmentalists
- There is a growing literature on welfare maximizing regulation - less on political economy
- Here we consider policy that aims to address a health risk problem and poverty problems - we need to understand the economics, political economy and recognize the limitation of our approaches

An End

