POLICY CHOICES & INSTITUTIONAL OPTIONS: HOW DO THEY AFFECT DISEASE COSTS?

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Paper presented at

Symposium on

The Market and Trade Dimensions of Avian Influenza

Rome, Italy,
14 November 2006

in conjunction with
the 21st Session of the Inter-Governmental Group on Meat and Dairy Products

POLICY CHOICES AND INSTITUTIONAL OPTIONS: HOW DO THEY AFFECT DISEASE COSTS?

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Highly pathogenic avian influenza (HPAI) has so far caused losses that can be linked to: direct disease impact; implementation of control measures; market shocks caused by media and consumer reactions; and human deaths. Within this context, trade has been important in disease spread (although this is not entirely understood[1]), and has also been affected due to control actions and market shocks. These impacts have highlighted and magnified the need for clear and well implemented animal health policies that include:

- Disease control measures, implemented in recognition of their differential impact on sector wide stakeholders;
- International coordination of donor agencies;
- Coordination of the Ministry of Agriculture with other Ministries such as Health, Finance, Education and with NGOs, CSOs and donors;
- Coordination between public and private sector organisations; and
- The need for better risk communication.
- Mechanisms for private sector engagement in the animal disease control process.

The paper will attempt to examine the role of policies, review the requirements for successful implementation, and identify roles that public and private organisations, through policies and strategies, need to play to mitigate the impact of avian influenza and other transboundary diseases.

Taking a step back: understanding policies

The first challenge is to clarify what we mean by policies and strategies and distinguish between the intent and the implementation process.. The authors identify an environment where government policies are made and are implemented through laws, programmes and projects (see Figure 1). Policies at government level or strategies within the private sector are simply statements of intent and to have impact they require implementation tools. The impact of policies can take place across the food chain. Examples of policies (and their cooresponding implementation measures) would be:

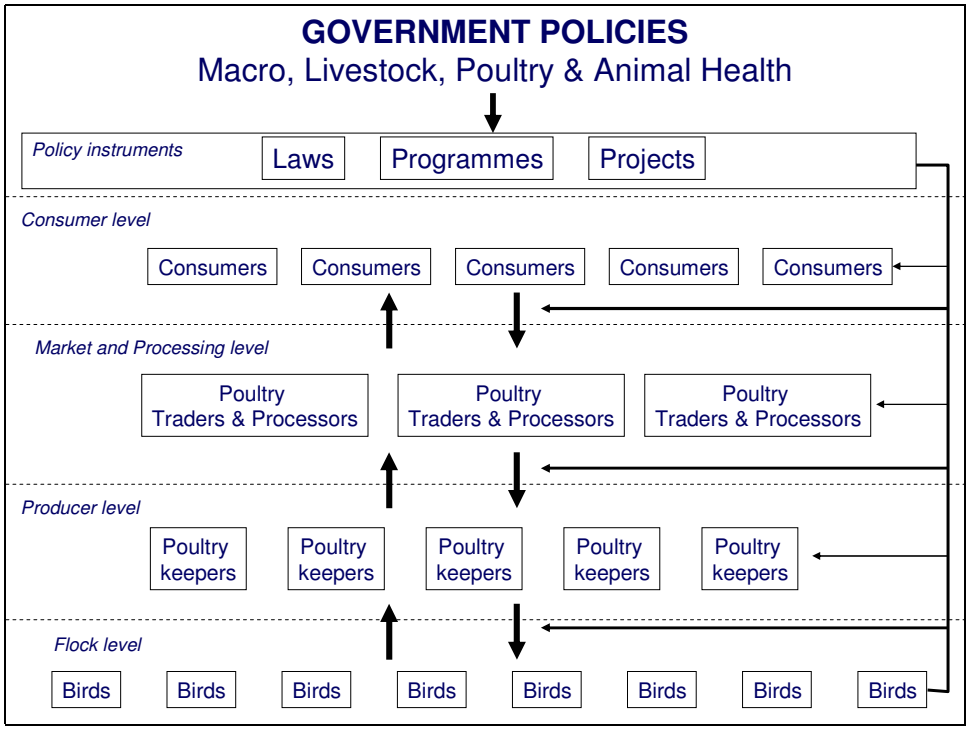
1. A policy to increase government revenues could be implemented through **laws** that put value added tax on livestock and livestock products. Similarly, a policy to improve the nutrition of urban consumers could be implemented through **laws** introducing subsidies on domestically produced livestock products, or conversely lowing tariffs on imported products. This would influence the economic relationship between livestock product traders, processors, producers and consumers.
2. A policy to empower women may be implemented by **extension programmes** which target women with messages on training and information. This would influence the intra-household dynamics of the livestock keepers. A national compensation **programme** for AI would outline the principles underlying funds distribution to producers whose birds are culled as a animal disease control measure.
3. A policy to increase livestock production may be implemented through a **project** that introduces high yielding breeds of animals that directly affects the herd or flock level. Similarly, a project to control AI may reinforce the national laboratory system.
4. A policy to increase the efficiency of feed resource use could be implemented by **projects focused on** improving herd or flock fertility management in order to generate more young stock per breeding female. This would influence the relationship between the herd or flock and the livestock keepers.

The landscape within which people, governments, private sector, and other organisations interact, called the "institutional environment" which establishes the rules of the game, is set within a framework of public regulations, culture and private regulations. A priority focus, particularly with animal health, is placed on the importance of public regulation. In more developed countries, whilst public regulations

[1] The role of trade in disease transmission is linked to the structure of livestock markets, the nature of trade linkages and product movement (both national and cross-border), as well as the institutional relationships between various actors in the chain.

are very important, increasingly, private regulation has a powerful effect on private organisations, the institutional environment, and the behavior of individuals. Certainly in the case of animal health, private implementation of control strategies can be an effective way of creating cost and risk sharing mechanisms. In less industrialised countries, private regulation may be operating in a weak policy environment characterized by lack of implementation mechanisms for animal disease control. Figure 1 provides a framework outlining the policy environment as set by a government and its influence across the food chain.

Figure 1. The levels of analysis to generate evidence based approach for policy analysis and decision making (modified from Rushton et al, 2005)



Within the public sector, there are different organisations at different levels influencing animal health policy. At international level, the WTO, through the OIE and *Codex Alimentarius,* play a critical role in setting international animal health policies. International discussions and dispute arbitration mechamisms on animal disease control measures, particularly those linked to trade-affecting outcomes, are available through the WTO's Sanitary and Phytosanitary Committee (SPS).

At national level, animal health policies are influenced by:

- Veterinary services which are usually an integral part of the Ministry of Agriculture or Livestock. Many countries now have veterinary agencies with some independence from the Ministry.
- Food hygiene standards will involve a crossover of responsibilities with the Ministry of Health. There is often confusion of roles which, in some countries, leads to duplication and conflict.
- Compensation schemes and financial requirements for rehabilitation initiatives require input and consultation with the Ministry of Finance and possibly the Ministry of Social Security
- Communication on animal health measures may be influenced by the Ministry of Information while the Ministry of Trade provides the underpinning policy and legislation for market access for livestock products.

Moving beyond government policies to practices, involving the private sector ….

Animal health measures are also influenced by private strategies for the poultry sector which are set at farm level by individual producers, at the company level by vertically integrated operations, or nationally by industry associations. Their collective decisions to participate in measures such as movement controls and vaccination are often the key to success. Producer or sector level associations have

influence based on shared vision and formal agreements or peer pressure within looser groups. The aim in such associations is to improve operations and stabilise market environment. Across the value chain, dominant actors may set strategies that essentially govern how these chains operate. Such a situation is found in strongly integrated companies and where dominant market actors such as large supermarkets are aiming for market share and sustainable growth. Important cross-boarder private sector coodination is also provided by regional or international industry affiliations, such as the ASEAN Federation of Poultry Producers or the recently conceived International Poultry Council.

Understanding the importance and potential linkages between public policies and private strategies in animal health control is a good starting point when addressing a crisis such as the control of highly pathogenic avian influenza. The following table presents a general comparison of public policies and private stategies.

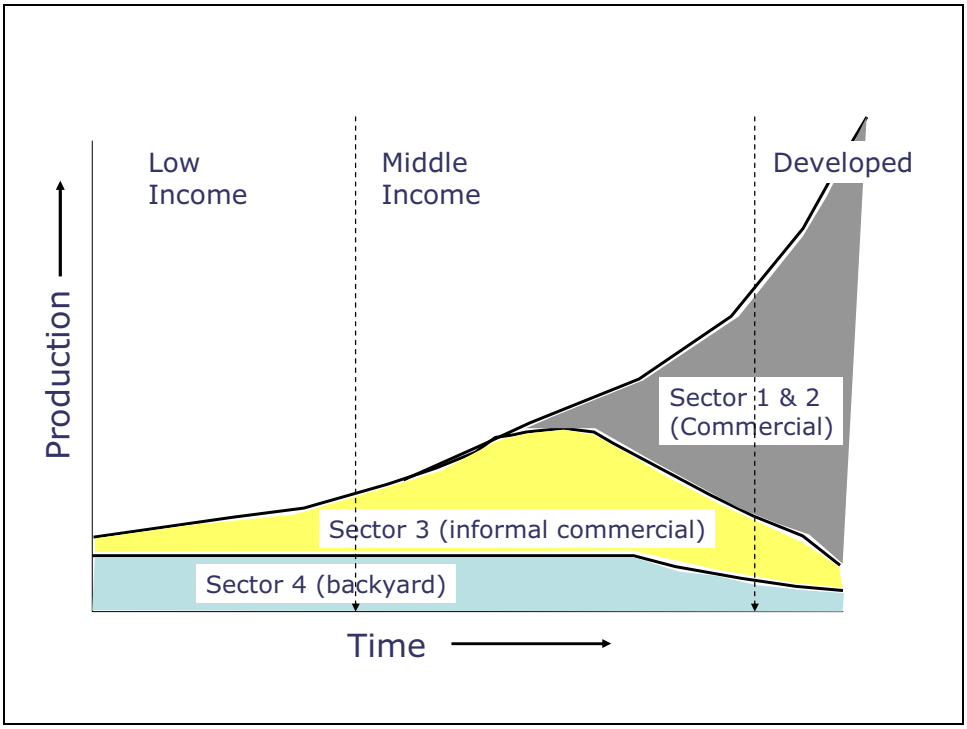
Characteristic	Public		Private		
	International	National	Farm	Association	Value Chain
Orientation	Protection of free areas, expansion of animal health standards	What should be done (ideal world)	Private interest	Group Interest	Market (consumers)
Enforcement	Trade restrictions	Obligation (penality and reward)	Profit and risk minimisation	Peer pressure	Market incentives
Prerequisites for successful implementation	Export orientation	Strong and respected veterinary services	Access to affordable technologies and services	Strong code of conduct	Attractive markets that pay for quality (hygiene, presentation)
	Strong national veterinary services	Effective and respected government	Educated producers	Ability to punish members who break the rules	Business management
	Strong national private sector	Strong legal system	Access to financing	Strong legal system	Internal enforcement processes
	Well trained and informed producers	Market & Private incentives closely match policies			

The above framework highlights, in the context of public policy making, the potential and influential role that private strategies hold for effectively realising the results of a animal health policy. Consequently, influencing and directing private strategy is an innovative means of implementing animal health interventions with private animal health implementation an effective means of cost and risk sharing.

…. requires an good knowledge of the poultry sector

Public organisations, in order to effectively mobilise the private sector in coordinated animal disease control, need to understand the dynamics of the poultry sector. Rapid changes of the poultry sector at national and international level in the last 20 years has created very complex poultry value chains. The world has seen the rapid development of poultry sectors where there have been a massive increase in the poultry populations in industrial poultry sectors. The traditional or backyard systems have continued, but their share of poultry markets and poultry numbers has reduced. Problematic in the development is the growth in a middle sector that is described by FAO as sector 3 which has rustic and less bio-secure conditions of production, particularly in breeding and broiler fattening units. As countries develop, more and more birds and production become part of the organised industrial sector (see figure below.)

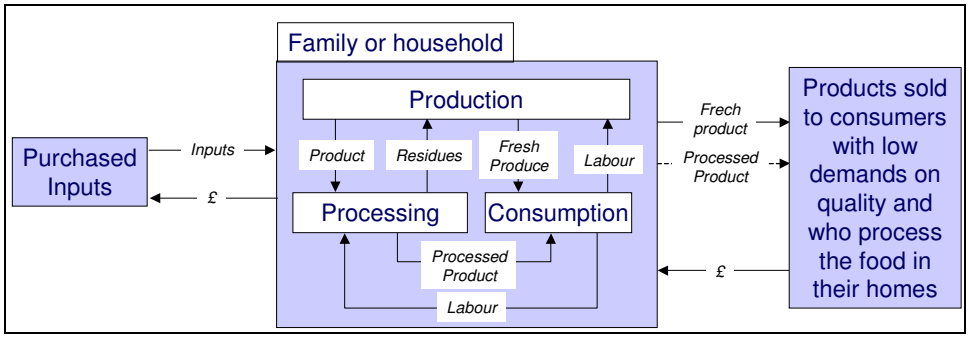
Poultry sector development



Linking knowledge to policy formulation

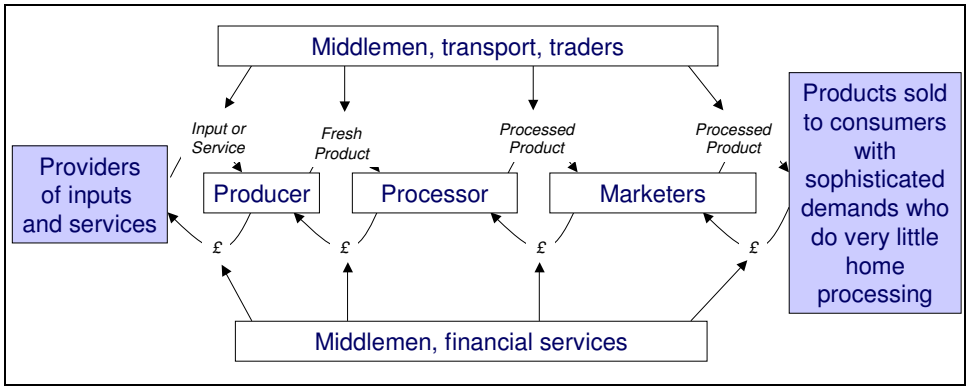
However, the evolution of the sector has not been matched by knowledge in policy formulation on animal disease control and an understanding of the implications for public interventions. In a simple food chain (see Figure below) there a relatively limited number of interventions and a relatively clear role for public organisations.

Simple food value chains (from Rushton & Viscarra, 2006)



However in the complex food value chains, now prevalent in many parts of the world, primary production has complex relationships with consumers through processing and marketing channels. The links in the chain are maintained by middle men, transport companies and finance groups. Where the value chains become integrated, i.e. owned and controlled by one company, the middlemen disappear. In addition, the consumer demands have become more sophisticated for processed food and food with zero risk of food-borne diseases (see the next figure).

A schematic diagram of the dominant complex food value chains (Rushton & Viscarra, 2006)



In the complex food chains, there are a large number of potential interventions and the role of public organisations and the effectiveness of public policy is less clear. It is increasingly evident from an evaluation of the impact of animal disease controls that no one policy mix will suit all countries because the poultry sectors will be in different levels of development.

In *developed countries* the majority of production will come from a commercial sector and the largest interest group will be CONSUMERS who demand reasonably priced protein sources that is well presented and produced in ways that are hygienic and increasingly in welfare friendly ways. In *middle income countries*, an increasing proportion of the population are found in urban areas. This population demand cheap protein sources, which is satisfied by an rapidly developing informal commercial sector. In *low income countries,* the rural population continues to be important and backyard systems are important in providing protein and regular cash needs. However, it should not be forgotten that even in countries with predominant backyard operations, most of urban supplies come predominantly from commerical and semi-commercial operations located in peri-urban settings.

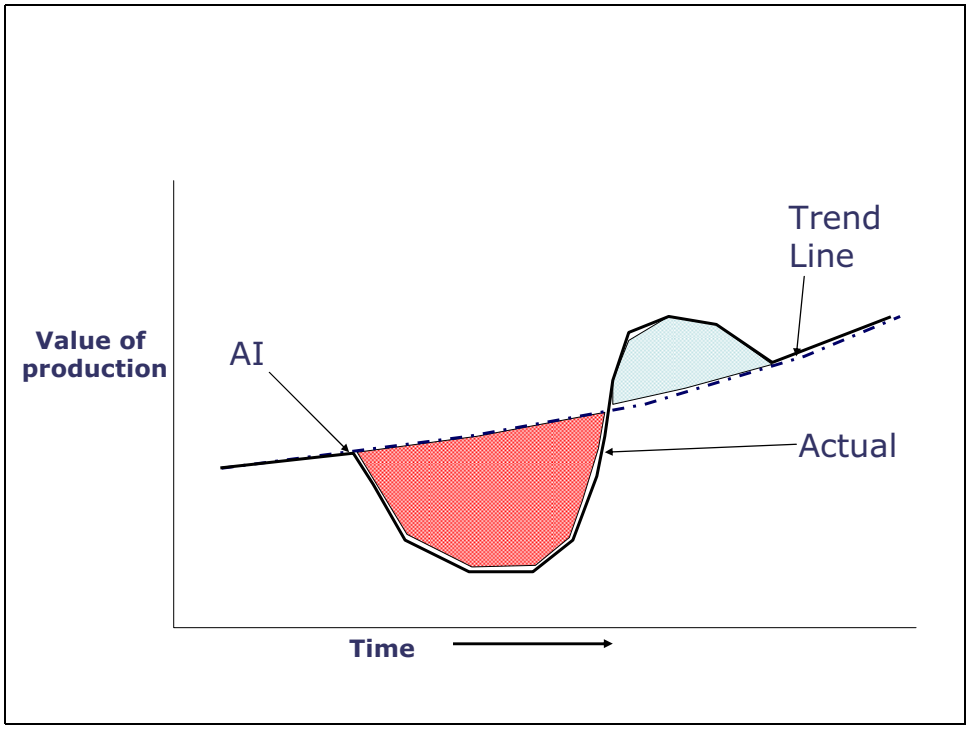
In an emergency disease situation, matching policy to the poultry and its level of development will be important in achieving successful control. Therefore policy makers and poultry sector participation need to review policy objectives and disease control mechanisms within the context of their sectors and be wary of general recommendations.

The policy challenges related to AI disease control

With a context of various typologies of poultry sectors, it is important to review and link the policies for animal disease control, their market impact shocks and mitigation measures that arise from a highly pathogenic avian influenza. This assessment requires a review of the experiences of market shocks due to HPAI around the world. In general, the countries worst affected have experienced initial periods of low urban consumer confidence in poultry products which has led to a sharp fall in prices and the quantity of products consumed. Where the disease has also been present, there has also been a sharp decrease in supply due to the high bird mortality and also the control responses which includes culling diseased and at risk and movement restrictions in and around affected areas.

As consumer confidence returns, there is often a problem with satisfying growing demand with local production. In countries with protected poultry sectors, such as Egypt, this has led to large increases in price for poultry products as the poultry sector recovers. Producers who recover quickly from the disease are well positioned to benefit from these changes in the market price. However, if the breeding sector is affected, either through disease or cut backs in laying activities, the only short term solution is the import of meat products, or, more problematically, by illegal cross-border trade of potentially infected birds and breeding stock. A schematic representation of an AI market shock, induced by a disease outbreak or by consumer resistence to eating poultry, is shown in the following diagram.

Market impact shock



It is clear from experience that preventing and controlling disease where trade and markets are heavily disrupted is very difficult. Consequently the challenge for both policy makers and industry participants is how to **reduce the peaks and troughs around an avian influenza announcement and/or outbreak?**

The first step is to understand:

1. Who loses during the initial market shock and subsequent disruptions due to HPAI and its control?
2. Who is best placed to recover?
3. Who requires assistance in the recovery period, what type of assistance is needed, does the provision of this assistance have to originate from government, what support can be mobalised by private sector.

Within a broader context, the following policy issues need to be reviewed when dealing with an highly pathogenic avian influenza market shock:

- Is the communication policy adequate for both risk communication and control measures?
- Will control measures create medium to long term supply problems, disrupt markets, and lead to long term restructuring of the industry?
- Are there policies and lack of supportive institutional capacity (such as credit availability), that will hinder recovery?
- Do the market impacts generated by AI have differential impact on different market participants within the sector?
- Are there policies adopted during the HPAI epidemic that will have negative impacts on the poultry sector?
- Who are the losers and why?
- What are political, social (poverty, gender & nutrition), cultural, environmental and biodiversity impacts?

In attempt to examine these questions, the following core public policies and roles have been identified:

- Surveillance (disease and the sector)
    - rapid response, minimise breadth/length of outbreak and reduce culling
- Border and movement control

    - prevention measure at the border
    - understand movements within sector to apply most cost-effective movement control before and during outbreak
- Coordination and direction of field disease control operations
    - compensation mitigates some effects of culling but not all
    - vaccination preserves birds but does not take away all market shock
- Monitoring of disease control measures
    - monitor progress in real time to decide when to modify field actions
    - zoning and compartments require a demonstrable capability to monitor
- Rehabilitation measures
    - large depopulation and movement control affect restocking
    - movement control affects market access
    - other actors besides producers are affected (but not compensated)
- Communication
    - balance risk for public health against producing a market shock
    - clear messages on effective and achievable disease control measures by sector

It is increasingly recognized that governments are not the only actors in animal disease control; private sector are normally the implementers, beneficiaries, and risk takers in control measures and have core strategies and roles in effective HPAI control measures. These roles are identified as the following:

- Coordination, communication and cooperation with the public sector, critical within this are activities that correspond to surveillance. It is often forgotten that the frontline of the surveillance system are the producer who see and monitor their birds every day.
- Promote farm and local level biosecurity measures within the industry – effective self-policing
- Procurement and distribution of vaccines
- Transparency and honesty in disbursement of compensation funds

In conclusion, setting public policy requires an understanding of the poultry sector, the dynamics of change within this sector and the private strategies that govern this sector. Preparedness plans for possible outbreaks (control and communication strategies) need to include policies, strategies and implementation of actions that will mitigate the impact of an announcement on avian influenza and/or its presence. This is in recognition of the fact that if markets are badly disrupted, control of highly pathogenic avian influenza will be difficult if not impossible. To achieve effective market mitigation, there needs to be a matching of veterinary actions with market realities and incentives. Finally successful and cost-effective implementation requires coordination between public and private sector organisations.