

Refining the Approach to Compensation – An Insurance Based Risk Management Approach

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There are few established insurance programmes for animal diseases (see Anton, this issue). As a consequence compensation tends to be reactive in nature and does not fully incorporate available market systems to motivate desired farmer behaviour. I argue that the success in the use of private insurance has been limited due to three basic reasons:

1. Insurance companies are unwilling to be involved in underwriting where the extent of the risk exposures are unknown and may be affected by decisions taken by public agencies during disease control activities.
2. Data are lacking to develop models of assessing insurance risks – a lack of actuarial confidence
3. Disease control measures effectively create a ‘catastrophic loss’ in the area of disease management – a lack of proportionate reaction to disease presence.

These gaps suggest a need to consider a different approach to livestock compensation.

Using a systematic approach to compensation policy

Public compensation programmes are essentially an insurance cover for risks which are not commercially insurable and/or where the person ‘insured’ cannot afford to pay for available insurance. In insurance language public agencies are essentially acting as the re-insurer of the risk. The insurance industry has a significant amount of experience in designing programmes that deal with information that might be hidden by the people they insure, which creates moral hazard and adverse selection.. Therefore public agencies would be well advised to consider the insurance industry approach in developing public policies on compensation.

Insurance coverage development uses a structured approach. It is specifically designed to motivate desired behaviour by stakeholders — in the case of animal diseases this would logically include consideration of the areas of surveillance compliance, biosecurity and emergency response (BMS Subsidiaries & Serecon Management Consulting Inc., 2010). This is really an exercise in structuring risk management activities in a way that minimises the risk faced by the insurer and maximises the available coverage to the insured for the specific risk being covered.

Using the elements of this structured risk management approach (SRMA) would significantly benefit public policies by allowing their development to be more strategic in the design of risk transfer solutions (Otte *et al.*, 2012). If done effectively the resulting SRMA will reduce the potential of a disease outbreak, the cost of responding to it and the need for compensation after it has been contained.

This can be accomplished by focusing on four main goals that a commercial re-insurance market would consider in developing a new policy:

- Fully engage all stakeholders in the identification of the most effective prevention, control and recovery policies and risk management protocols — an activity that can be outsourced to a certified third party;
- In the case of a public–private insurance scheme determine the willingness of agriculture and finance ministries to engage;
- Clearly outline how the benefits and resulting costs are defined and how they can be divided between national public agencies, the private sector, and the international community at large, including re-insurers; and
- Ensure that the programme has both implicit and explicit forms of enforcement and cross compliance between compensation (indemnification) and desired risk management behaviour.

Engaging producers involves understanding their production and marketing systems. Farmers producing for personal consumption, sale for live markets, or as part of a larger collective all face market decisions. Activities to manage disease will disrupt their systems and create costs that need to be recognised and where possible insured against. With this information a successful SRMA will develop and implement solutions that vary according to the needs of the producers and their systems in a country. Unfortunately, public agencies typically develop and implement a programme for the ‘average producer’, which rarely exists.

An example of the need for flexibility is the very significant consideration of livestock market values. Market value for long cycle, speciality and breeding stock is typically the subject of dispute during compensation discussions. While the cost of replacing the stock lost may be relatively easy to determine, this value often will not reflect the true loss experienced by the individual producer. Problems occur when the replacement stock is actually not available, or is part of an operating cycle where one breeding barn is used to fill two laying barns (in poultry). As a result the flock cannot be replaced at one time, meaning that the producer faces significant business interruption costs. In addition, the compensation value often does not consider the costs associated with the significant cleaning and disinfection, disposal and or other costs faced by producers. A more systematic assessment of life cycle costs typically involved in the development of a more complete indemnification plan can address these costs; which can be more than double the replacement value of the birds destroyed based on the policies currently being established in Canada for Avian Influenza (AI) (BMS Subsidiaries & Serecon Management Consulting Inc., 2010).

The tailoring of the solution to the production and marketing system places emphasis on the process of solution development and implementation rather than the solution itself. If approached in this fashion, risk management and transfer markets can be used to address the concerns of the specific system in question. More importantly, the distinction in the roles of public and private stakeholders can also be dealt with in a systematic fashion.

Design process – coverage requirements, cross compliance and evolving roles

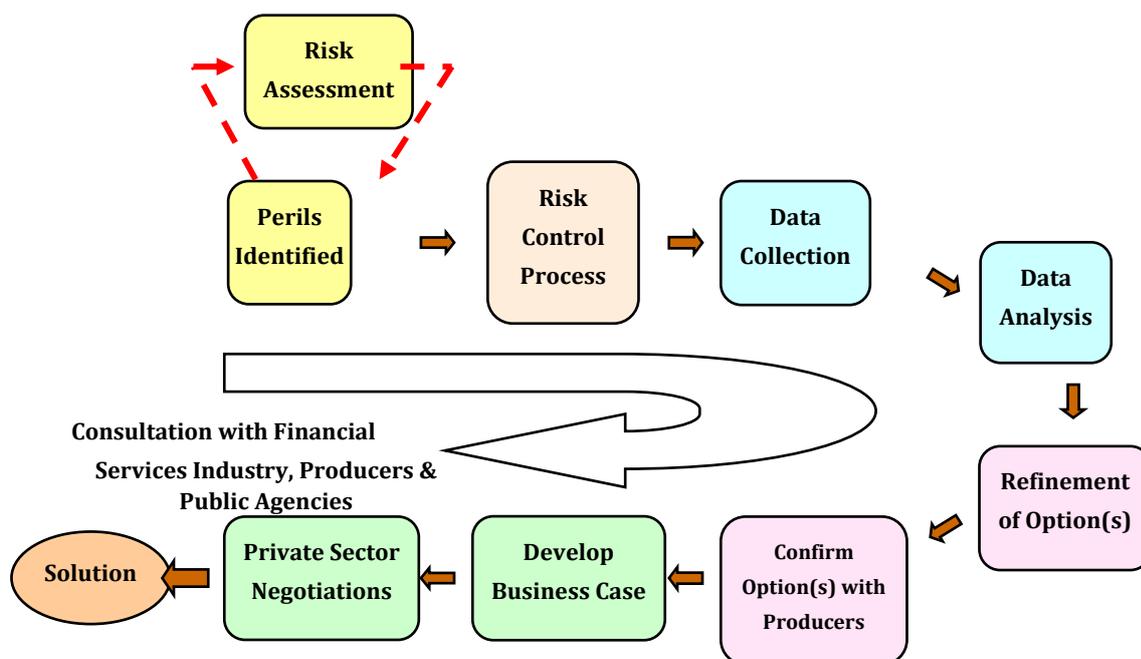
A gap analysis is an initial step for an SRMA in order to identify the needs of, and gaps in current risk management coverage, which could be public compensation, private insurance, a producer’s own system of risk coverage or a combination. A typical private insurance policy

development process is outlined in Figure 1. The main focus of the exercise is to identify the specific risk exposures – the perils – and outline actions that could mitigate their impacts. Once these are clearly understood for the specific production and geographic context, risks need to be quantified in order to provide information for a business case for an intervention.

The final solution will range from pure public compensation plans operated by a dedicated agency to that of a pure private insurance option delivered by a party external to the livestock system. A simplified spectrum of options would be:

- Compensation Plan: an agreement between parties where one provides support to the other under specifically defined situations;
- Reciprocal/Captive or Other: contractual agreements through which producers formally share risks amongst themselves;
- Traditional Insurance: a more restrictive formal structure providing financial coverage to address specified losses sustained by stakeholders resulting from stated risk exposures.

Figure 1: Steps in insurance policy development



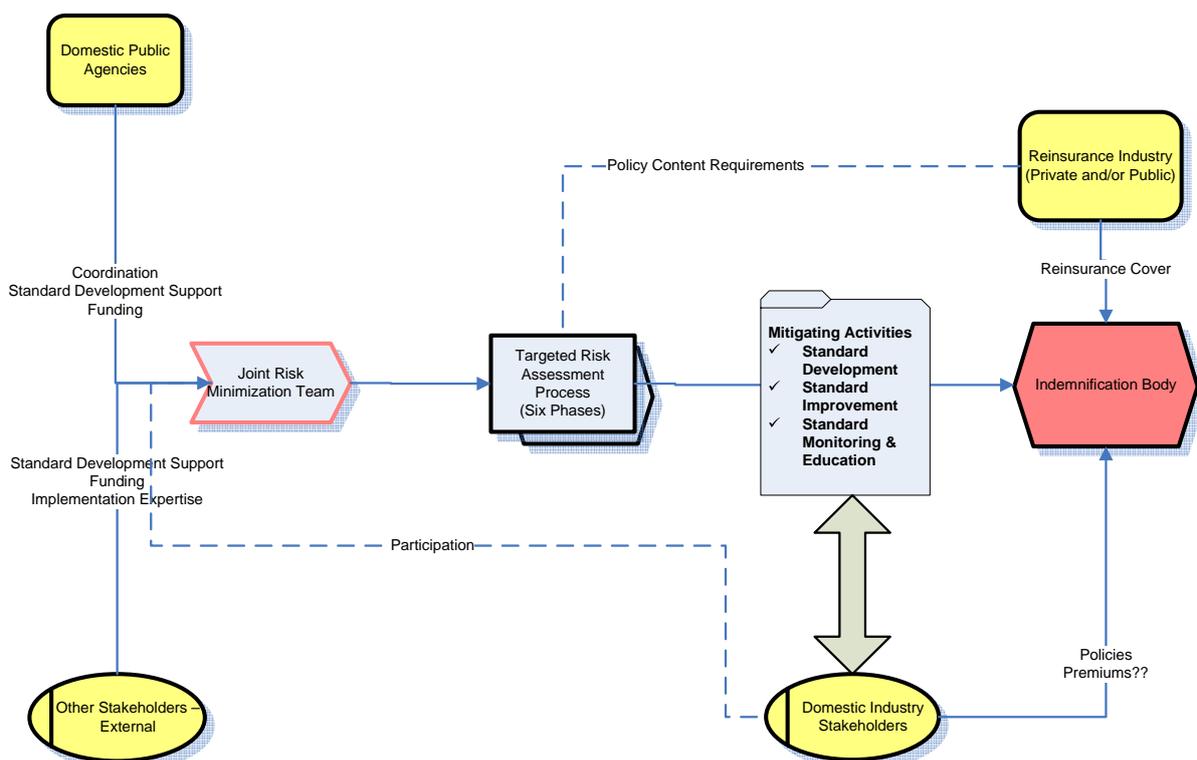
Source: Agriculture and Agri-Food Canada, Private Sector Risk Management Partnerships (PSRMP) Program Client Booklet.

It is vital to establish a formal risk mitigation team that is used objectively to link actions to risks taken by the people involved in the livestock sector and then use this information as the basis for a formal risk assessment. It is important that this risk mitigation team includes representatives from the public and private sector in order to objectively assess the actual risks in the system. A word of caution – producers, while obviously involved in the implementation of the standards may participate on this team, but it is essential that the team be allowed to assess risk objectively and not be biased through excess producer input.

Once the risk mitigation team completes the risk assessment this information would form the basis of standards and indicate how these standards could be improved and monitored. The costing exercise of the insurance policy can be performed based on the risk assessment results. If the situation involves a public-private insurance based on subsidising insurance premiums, these premiums can be calculated and subsidies established based on the current national public policies regarding rural and social development.

Information from the risk assessment provides the basis for the indemnification or compensation process which in a private insurance scheme would engage the re-insurance industry. It is important to recognise that a national insurance company will not engage in a new insurance product without the back up of the re-insurer group who will share the risk of insurance. At the same time, no national insurance company will issue a new insurance product unless they are able to evaluate/calculate the risk associated with this new insurance product, which is the reason that the risk assessment described above is so critical. Figure 2 outlines the steps taken in an SRMA which would lead to the development of a new insurance product. Again emphasis is placed on the process of developing the solution that is tailored to the context.

Figure 2: Formal structure of an SRMA



Design Considerations – financing options and evolving public & private sector roles

The implementation of an SRMA, results in a number of important benefits:

- It forces the livestock producers and others affected by disease risks to clearly state the perils they face and clarify the specific elements of this that they want covered – *a recognition and quantification of the contingent liability they face;*

- It results in an assessment of the probable maximum loss resulting from an outbreak¹ – *helping to allocate costs to the main beneficiaries;*
- It helps to provide the incentive to motivate the control measures that would be implemented – *adjusting market structure in a desired way and reducing the exposure that public agencies face with their compensation programmes.*

An SRMA also has the advantage of providing the information necessary in order to enable loss coverage to be divided among a number of agencies/stakeholders. It allows roles and responsibilities to evolve as the market matures. Ultimately it can even be outsourced and performed by a third party who consults all stakeholders so as to evaluate risk. Flexibility can be seen in the way that:

- Different agencies can select specific perils and provide full coverage;
- Costs can be shared within a specific peril;
- Exhaustion points (where one level of coverage runs out and another must kick in) can be identified for each level of coverage and/or each peril.

Importantly, this process requires the ability to build a reciprocal fund to cover any claims. The initial years would require public agencies to finance the fund with producers contributing marginal dollars per unit of output sold. Producer dollars eventually replace the up-front public involvement to a pre-agreed level. If the fund has to be used, specific arrangements for re-financing the fund can be developed. Further explanation of these points can be found in the additional readings.

The Private Sector Risk Management Partnerships Program (PSRMP) – the application of an SRMA

Agriculture and Agri-Food Canada (AAFC) developed the Private Sector Risk Management Partnerships Program (PSRMP) as part of the Business Risk Management (BRM) suite of programmes to work in partnership with the industry. The programme supports financial and technical assistance to producers and producer groups in the design and implementation of market-based solutions. The ultimate goal is to have a fully private sector insurance solution, recognising the reality that the larger the exposure the higher the likelihood of public involvement.

One of the most successful examples is the Salmonella enteritidis (S.e.) coverage programme developed by the Ontario Broiler Hatching Egg and Chick Commission (OBHECC).² Using the PSRMP process,³ this group of primary producers designed and implemented financial protection for broiler breeder producers who were in full compliance with biosecurity requirements (as designed and monitored by the producers themselves). This involved the development of an administrative structure, the Poultry Insurance Exchange Reciprocal of Canada (PIEX), and funding of a reciprocal. The development of the reciprocal with its associated self discipline resulted in the attraction of the reinsurance market. Poultry producers control the Board of the PIEX and can thus adjust the policy based on their needs.

The table egg industry in Canada has recently employed this process and has just developed S.e. insurance for layers, pre-lay and breeders for all provinces. This programme is managed by the Canadian Egg Industry Reciprocal Alliance (CEIRA). Canadian producers have also seen the

potential benefits of linking the approach with public compensation programmes. An SRMA was used by both Ontario and British Columbia in the development of AI insurance that would cover those areas of loss not currently covered by the Health of Animals Act compensation.

In addition to the application of the insurance approach for compensation, the SRMA has also been used in order to quantify the potential costs and benefits of intervention as a way of defining roles and responsibilities for public-private partnerships. The FAO has utilised this approach in the negotiations among stakeholders in Egypt as a way of bringing them to the table in order to discuss industry activities and the design of compensation programmes. (Burden, 2010).

Another example of the process is in the work conducted in the spring/summer of 2011 with the Guangzhou Animal Health Inspection Institute (Guandong province, China) as the basis on which biosecurity improvements for a wholesale poultry market were designed and implemented (Burden, 2011). The real benefit of the process was in defining the roles for the various stakeholders and how they would contribute to the process.

The FAO has used variances of the approach in several other countries – Vietnam, Armenia, Cote d'Ivoire, Nigeria, Senegal, Mauritania, The West Bank and Gaza, Serbia, Bosnia and Herzegovina. The FAO is also currently engaged in elaborating a public-private insurance scheme in Peru in order to cover producers (bovine, poultry and porcine) against transboundary animal diseases. This is being performed with the technical assistance of the Spanish national entity of agricultural insurance (ENESA). ENESA has a long experience in agricultural insurance and livestock insurance. Spain's animal production is insured/covered against foot and mouth disease, brucellosis, avian flu, blue tongue and others.

Scope for enhancing compensation schemes

In conclusion, there would appear to be considerable scope for enhancing current animal disease compensation schemes. A collaboratively designed SRMA can be tailored to specific industry/disease situations and more effectively cover losses while promoting good disease risk management practices. The system can also be used to provide a mechanism to assign the share of costs across producers and between producers and government.

Other policy instruments are obviously needed and must work in a complementary way with any system of compensation payments. This would include, but not be limited to things like enabling legislation, possible taxation by means of producer levy payments, and appropriate institutional arrangements to administer the scheme and other measures. On the other hand, by engaging all people involved in the livestock sector with exposure to risks of disease in a structured process, commitment to a disease management process including insurance is strengthened. In this way the SRMA clearly defines both roles and responsibilities for all involved, thus reducing the potential need for the compensation in the first place.

Notes

¹ It is important to note that while the actual loss in developing countries may not be directly describable in a monetary fashion (genetic stock, protein source etc.), the mitigation of the loss certainly can be.

² The table egg producers in Ontario (Egg Farmers of Ontario) joined PIEX as of late 2011.

³ The development of this risk management programme in Ontario actually pre-dated the introduction of the PSRMP; however, it was the nature of the approach used for the industry/government discussions that formed the basis for the PSRMP.

Further Reading

- BMS Subsidiaries & Serecon Management Consulting Inc. (2010). Project Report on the *Development of an Avian Influenza Insurance Program for the Poultry Sector of British Columbia, Canada Agriculture and Agri-Food Canada*. A report completed for the British Columbia Risk Mitigation Steering Committee.
- Burden, R. (2010). *Proposed Strategic Plan for HPAI Compensation in Egypt (FAO)*. A project report under the overall policy guidance and program responsibility of the FAO Chief Veterinary Officer (CVO) and Head of Emergency Centre for Transboundary Animal Disease (ECTAD), the operational guidance of the ECTAD Head of Operations, the technical guidance and back stopping of the Public-Private Partnership Project Manager (AGAH, FAO Rome), the functional guidance of the FAO Representative in Egypt, the direct supervision of the ECTAD Chief Technical Advisor for Egypt in Cairo
- Burden, R. (2011). *Public/Private Partnerships in Poultry Markets – Using PPP to Make Adjustments to Wet Markets in China (OSRO/INT/805/USA)* FAO An End-of-Assignment Report for a mission in Beijing & Guangzhou China – July 9th, 2011 to August 8th, 2011
- Otte, J., Roland-Holst, D., Pfeiffer D., and Zilberman D. (2012). *Human and Environmental Health and the Future of Animal Agriculture*, FAO.

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Summary

Compensation schemes can encourage timely reporting and cooperation, as well as the undertaking of good risk management practices, and mitigating catastrophic losses by livestock holders. However, such schemes can be costly with difficulties in setting payments at the right level. Overcompensation may lead to livestock owners relaxing their prevention activities, a case of *moral hazard* (incentive for excessive risk taking), and under-compensation could lead to under reporting. Therefore, compensation schemes need to be tailored to specific disease contexts and recognise specific industry operating realities. Private insurance for risks related to epidemic livestock diseases can be a good instrument to assist in achieving this, but a good delineation of responsibilities is required to make it work. A structured approach to compensation is presented using a method that incorporates the typical practices used in the development of traditional insurance products. This structured risk management approach (SRMA) can significantly benefit public policies by allowing their development to be more strategic in the design of risk transfer solutions. If done effectively the resulting SRMA can reduce the potential of a disease outbreak, the cost of responding to it and the need for compensation after it has been contained.

Pullquote

“Enhanced animal disease compensation schemes involve the people in the livestock sector exposed to risk.”