



# Public and Industry Benefit in a Government/Industry Agreement

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## About this paper

A Government/Industry Agreement (GIA) is about government and industry working together to manage biosecurity risk through readiness and response. Once an industry has signed a GIA the cost share proportions are determined for the pests identified as a priority. These cost shares are determined using the proportion of public benefit relative to industry benefit. There are no prescriptive or definitive methods available to allocate benefits (and subsequent cost-shares) in a deterministic manner.

This paper explains the characteristics of public and industry benefits and provides an approach drawn from economic theory and relevant practicalities.

## WHY IS COST SHARING NECESSARY FOR IMPROVING BIOSECURITY READINESS AND RESPONSE?

The 2005 Biosecurity Funding Review considered that industry was best placed to determine the relative costs and benefits of readiness and response activities for pests of industry concern. The review considered that industry should have greater involvement in readiness and response decision-making and funding for these pests.

Ensuring we have an effective biosecurity system that protects both industry interests and public values takes a joint effort. All New Zealanders – industries, individuals, government and other organisations need to play their part.

Currently the government funds most biosecurity preparedness and response activities. This reduces the focus industry might otherwise have on weighing up spending on responses against the alternatives of spending on better readiness, or adapting to new pests and diseases (pests). This makes it difficult for industry to advise MAF of industry priorities and for MAF to have confidence in that advice. It also reduces incentives for industry to focus on and invest in readiness activities.

Including industry in decision-making through cost sharing will ensure signals on key priorities are clear. GIA will tap into industry expertise and innovation and harness greater capability than MAF or industry have on their own. Through GIA, primary industries will have an opportunity to receive:

- faster and more effective responses that will reduce costs by maintaining or quickly regaining market access and reducing damage to production;
- a guaranteed “say” in how prioritised risk organisms should be responded to;
- improved priority setting ensuring the best use of limited resources;
- expanded scope and capability for readiness and response activities; and
- Government support and advice for preparedness.

## WHEN WILL THESE CHANGES TAKE PLACE?

To ease the transition for industries, cost sharing will be gradually implemented over 8 years. Initially, joint decision-making and cost sharing will first apply to readiness (e.g. surveillance programmes), and extend to responses to new pests after 3 years. MAF will fund administration costs of the agreement for the first 6 years.

## ECONOMIC THEORY

Economic theory on public and industry goods provides guidance on which party should pay for which readiness and response benefits. Treasury has produced guidelines on the application of the theory and we have applied that in developing this paper (see *Guidelines for Setting Charges in the Public Sector December 2002* <http://www.treasury.govt.nz/publications/guidance/planning/charges>). The Controller and Auditor-General has also produced guidelines in “Charging fees for public sector goods and services” (these can be accessed via the Treasury link).

Attachment One provides a discussion on how economic theory might be applied to GIA.

Drawing on the theory and practicalities, the following sections outline the benefits that Government and industry are most likely to be interested in paying for. It is proposed that the approach outlined below be used to inform decision-making on cost categorisation for priority pests.

## WHAT BENEFITS WILL THE GOVERNMENT BE MOST WILLING TO PAY FOR UNDER A GIA?

Under a GIA the Government will be most willing to pay to avoid, delay or reduce pest impacts that accrue most directly to the general public. These include pest impacts on:

- human health;
- environmental values;
- social/cultural values;
- backyard growers and home gardeners; and
- the macro-economy (i.e. causing a macro-economic shock).

Each impact is described in more detail in the following paragraphs.

**Human health** impacts include the likely number and severity of pest related health cases in the general public and their associated medical costs and loss of work force productivity.

**Environmental** impacts include:

- ecosystem changes such as changes in species composition and communities, changes in distribution, fragmentation and coverage of the habitat and changes in keystone species;
- ecosystem process changes such as loss of air quality, water cycling and nutrient cycling. Impacts on these processes result in degradation of the services that healthy ecosystems provide; and
- impacts on individual species of nature conservation value, particularly those identified by the Department of Conservation as nationally threatened, and species native to New Zealand, including marine and aquatic species.

**Social/cultural** impacts include impacts on:

- characteristics associated with New Zealand’s identity or heritage, e.g. iconic places, such as Milford Sound;
- functioning of communities, and social cohesion;

- the enjoyment of amenities including the availability and enjoyment of recreation and sporting activities and outdoor pursuits;
- public amenities such as urban plantings and clean air and water;
- peoples' companion animals and pets; and
- the relationship of Maori and their culture and traditions with their ancestral lands, waters, sites, waahi tapu, valued flora and fauna, and other taonga.

Many pests of industry concern will also impact on **backyard growers** and home gardeners. The Government is likely to be willing to pay a share of the cost to avoid these impacts where a response is feasible or a readiness programme would reduce risks because a high proportion of the public is engaged in backyard growing.

Treasury and the Reserve Bank have indicated that a **macro-economic shock** is one that:

- occurs suddenly and persists for 12 months or more; and
- results in a loss of 0.5 percent of gross domestic product or more.

If impacts are smaller, occur gradually or persist for only a short period the economy is generally able to adapt without the need for government intervention and the Government would have a lower willingness to pay to avoid these impacts.

## THE GOVERNMENT MIGHT ALSO PAY AS A FUNDER OF LAST RESORT

There are situations when the cost of collecting levies from beneficiaries is too high as a proportion of the revenue collected (e.g. for hobby scale producers who do not sell through regular supply channels). In these situations the government might be expected to pay as a funder of last resort.

## FLOW ON IMPACTS OF PESTS AFFECTING INDUSTRY

There are impacts that flow from pests affecting industry, particularly when pests reduce the output from an industry. These include loss of:

- employment (and increased costs of unemployment benefits);
- tax revenue; and
- multiplier effects.

Under GIA the Government is unlikely to be willing to pay a material share of any specific pest readiness and response activity to avoid these losses (although they are a reason why the Government pays for a generic biosecurity capability). The rationale for this position is that:

- protecting employment, tax revenue or multiplier effects in one sector can only be done by transferring wealth from other parts of the economy (through taxation) with no likely overall gain in wealth, income or productivity in the economy; and
- paying unemployment benefits does not affect country's overall wealth (it transfers wealth between parts of the economy).

## WHAT BENEFITS COULD INDUSTRY BE EXPECTED TO BE MOST WILLING TO PAY FOR?

Under GIA industry is likely to be most willing to pay to avoid, delay or reduce pest impacts on industry profitability and viability. These impacts include:

- loss of market demand and market access for animal and plant products (internationally and domestically);
- production losses or declines in productivity, including animal mortality and morbidity, declines in crop yield, and loss of product quality;
- increases in the cost of animal and plant pest management and the production of animal and plant products (this could include things like pest related specific occupational health issues and pests affecting industry infrastructure such as irrigation systems); and
- pest related business failures or costs of converting to other types of production.

## ATTACHMENT ONE

### Relevant economic theory

There is a body of economic theory which provides the principles driving the classification of benefits. The key economic theory relevant in these circumstances, in our view, relates to public goods and club goods.<sup>1</sup>

Public goods are those that are non-rivalrous in consumption and non-excludable. That is, one's person's consumption of the good does not result in there being less available for consumption by others and it is difficult (or impossible) to practically exclude people from benefitting from the good. Commonly cited examples of public goods include defence, lighthouses and environmental goods such as clean air, but in reality such pure public goods are rare.

Public goods are a form of market failure. Such goods have a "free-rider" problem - where people can benefit from the provision of the public good without contributing to its creation. Left to private (market) provision, producers of such goods cannot capture the entire volume of benefit and so too little of the good would be produced by the market- if it is produced at all. Government intervention may be warranted on efficiency grounds to produce the socially optimal amount of the good.

As mentioned above, pure public goods are rare. Impure public goods are less rare. In effect "impure" public goods exhibit some "public good" characteristics along with some private good characteristics.

Club goods are an impure public good. Club goods are typically non-rivalrous in consumption up to some point, (i.e. one person's use does not take away the benefit for others) but are excludable (i.e. it is possible to charge those who benefit from it, generally through some member payment system). They are essentially a private response to provision of goods with public good characteristics.

The classification into public, club (and by implication private) goods is only helpful for cost allocation purposes at a reasonably high level, however. Pure public goods would generally be funded by the Government while club goods would most likely be funded privately but it is not so clear how goods with some characteristics of both should be funded.

One of the major factors determining the feasibility and desirability of club formation is the extent to which members perceive benefits arising from joining that outweigh the obvious costs.

The best determinant of benefit or value is willingness to pay. This is a fundamental building block of economic theory – because individuals and groups can and do value even the same products differently. Unfortunately assessing true willingness to pay can be difficult to discern in multi-party negotiating environments but could theoretically be considering the question: *if no one else cared about this output what would you be willing to pay for it as opposed to not pay for it and see it not delivered?* Because this may vary disease by disease and pest by pest a range of values is likely to result. Notwithstanding the measurement and

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<sup>1</sup> It is important to distinguish the meaning of a public good in economics from the more common use of the term to describe something as in the public good. The former has a particular meaning based on characteristics the good possesses while the latter is used as a synonym for "public interest" or "of wider benefit."

estimation difficulties, the concept of willingness to pay is helpful in identifying the nature and extent of benefits that accrue to different agents and is therefore relevant to cost-sharing negotiations.

In the case of biosecurity, the benefits of biosecurity responses – such as the ability to restore market access, lower pest costs etc, typically benefit a number of groups of people – some relatively easy to define and other less so and often do not benefit others at all. Consequently they could have both public good and some common good characteristics, depending on the nature of the pests and diseases in question. Again, this suggests a range of possible values and benefits (and subsequent cost allocations) exists, rather than a unified “these types of costs should always be Government funded and these types of costs should always be industry funded” approach.

## Objectives

The principles used to negotiate cost-sharing arrangements should be:

- based on established economic theory;
- consistent with relevant public sector charging guidelines produced by Treasury and the Office of the Auditor General;
- pragmatic, and flexible enough to suit a negotiating environment;
- cognisant of principles of equity and fairness; and
- easy to understand and apply (i.e. robust yet straightforward).