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Minister for Biosecurity

PROPOSED IMPROVEMENTS TO BIOSECURITY DECISION-MAKING

Proposal

1. *This paper proposes the development and implementation of an integrating framework for prioritisation of biosecurity activities. It has been prepared during the development of a proposed Government response to the finalised Biosecurity Strategy for New Zealand. The proposed Government response is set out in a suite of four Cabinet papers to be considered during August 2003, and the framework outlined in this paper will be integral to the implementation of that response.*

Executive summary

2. A generic, integrating framework is proposed to address needs for greater consistency in agency prioritisation of biosecurity activities and a mechanism for prioritisation of activities across the biosecurity continuum - from pre-border to pest management - and across sectors - conservation, agriculture and forestry, marine and human health. Associated with this framework are assessment of, and the processes for reaching informed decisions at appropriate levels of responsibility on, activities to which to allocate resources. This framework is not intended to dictate these decisions, but represents a tool to assist in making informed and robust decisions more consistently and transparently.
3. The framework is designed to be applicable in prioritisation of all biosecurity activities, including risk management measures, vote budget bids and research, new and existing, to provide for reallocation of resources from lower to higher priorities. It may be applied within categories of activities, but its ultimate purpose is to provide for comparison across all biosecurity activities to determine the best uses of resources across the biosecurity continuum and sectors.

4. The structure of the framework is:
 - an initial intervention test of whether an activity is justified and appropriate intervention by central government biosecurity agencies, consistent with domestic legislation and international agreements and mandatory in nature and level; followed by
 - prioritisation of acceptable, discretionary activities according to technical, practicality, benefit-cost, strategic and acceptability criteria, where benefit-cost encompasses the full range of effects across all sectors.
5. Development of the framework would be difficult due to:
 - the wide range of effects to be assessed - on the economy, environment and people;
 - considerable joint product issues; and
 - considerable uncertainty in the information base.
6. Proposed, therefore, is application of this framework as a common, conceptual core, for consistency, but in a flexible manner, across different contexts. Development of this integrating framework would be evolutionary and require full buy-in from relevant agencies to ensure rigour, comparability and acceptability of results.
7. It is proposed that the framework be trialed through application in:
 - assessment, according to the proposed intervention test and subsequent prioritisation and benefit-cost assessment criteria, of management of an established conservation pest;
 - assessment, according to the proposed intervention test and subsequent prioritisation and benefit-cost assessment criteria, of exotic organism incursion response;
 - prioritisation in import health standard development in Ministry of Agriculture and Forestry Animal Biosecurity;
 - prioritisation of Ministry of Agriculture and Forestry Biosecurity Authority expenditure, across groups;
 - prioritisation of Votes Biosecurity new initiative budget bids, within and across agencies;
 - prioritisation of biosecurity research topics across agencies; and
 - prioritisation of surveillance programmes across agencies.
8. Implementation methods and tools would be refined through these applications. Further work is required to develop approaches to particular difficulties in assessment.
9. It is proposed that the framework and its implementation methods and tools be reviewed and prospects for wider application scoped, following the above trial applications, and findings reported to the appropriate Cabinet committee by 28 February 2005.
10. Also proposed are improvements to the processes for reaching informed decisions at appropriate levels of responsibility on the allocation of resources to biosecurity activities.

Background

11. The interagency Biosecurity Working Group was established to address a range of biosecurity issues, focusing on the recommendations of recent reviews of New Zealand's biosecurity programme and providing a proactive government response to the release of the Biosecurity Strategy in July 2003. The Biosecurity Strategy proposes to raise performance through improvements in a number of key areas, including decision-making and priority-setting [EDC Min (02) 7/4].

Overall goal and objectives agreed

12. The overall goal for biosecurity is the exclusion, eradication or effective management of risks posed by pests and diseases to the economy, environment and human health. Through the Biosecurity Strategy development process, there is now strong agreement to the goals for New Zealand biosecurity and their expression. Prioritisation follows from this expression of vision and goals and aims to identify the best uses of limited resources available to achieve outcomes sought.

Inconsistencies and deficiencies in current decision-making

13. The Biosecurity Working Group has reviewed current approaches in prioritisation and assessment of activities and aspects of current processes for reaching decisions on the allocation of resources to these activities. The focus has been the biosecurity activities of the four main central government biosecurity agencies – the Department of Conservation, Ministry of Agriculture and Forestry, Ministry of Fisheries and Ministry of Health.
14. In short, the main problems currently are inconsistencies and deficiencies in agency prioritisation and assessment procedures and decision-making processes and the absence of a framework for prioritisation of activities across the biosecurity continuum and sectors. These undermine confidence that decisions are robust and consistent, accurately reflect relative priorities and, in aggregate, achieve best use of available resources and an appropriate balance in emphasis and resource distribution.

Comment

Proposed framework

Purpose

15. A generic, integrating framework is proposed to address needs for greater consistency in agency prioritisation of biosecurity activities and a mechanism for prioritisation of activities across the biosecurity continuum - from pre-border to pest management - and across sectors - conservation, agriculture and forestry, marine and human health. Associated with this framework are assessment of, and the processes for reaching informed decisions at appropriate levels of responsibility on, activities to which to allocate resources. This framework is not intended to dictate these decisions, but represents a tool to assist in making informed and robust decisions more consistently and transparently.
16. Central to the framework is the articulation of decision criteria that have reference to the objectives of biosecurity risk management and are sufficiently transferable to ensure consistent application in different contexts. The nature of application of the framework would vary according to type of activity, ranging from highly procedural for operational decisions to more descriptive and indicative of areas of focus for high-level policy decisions. In biosecurity, however, there are a large number of decisions for which development of an appropriate decision tool may be of great use.

17. The framework is designed to be applicable in prioritisation of all biosecurity activities, including risk management measures, vote budget bids and research, new and existing, including long-term and ongoing, to provide for reallocation of resources from lower to higher priorities. It may be applied in annual operational, work programme and budget planning cycles or used to assess additional needs arising over the course of the year. It may be applied within categories of activities, such as in prioritising surveillance programmes or import health standard development. Ultimately, however, its purpose is to provide for prioritisation across all activities, such as in comparing a proposed surveillance programme with not only other surveillance programmes, but also other biosecurity activities, including in other sectors, to determine the best use of the resources required. It might also be used to determine priority areas for action, in order to guide development of activities and longer-term strategic planning.

Evolutionary development

18. Agreement is sought to the general approach rather than the specific application. There are considerable methodological issues and the following are proposed:
- an orderly development path;
 - functional development of the tools; and
 - clear buy-in from agencies as a prerequisite.
19. Clearly, our expectations of progress in addressing such complex issues must be moderate. Development is likely to be organic and evolutionary, but also, with clear reference to a common conceptual core and a common objective function, progressive and self-reinforcing.

Structure of the framework

20. The structure of the proposed framework is an initial intervention test, followed by prioritisation of acceptable, discretionary activities, assessed according to a range of criteria, including benefits and costs, for comparison with alternative uses of resources.

Intervention test

21. The purpose of the first step in the framework is to identify activities that should not or, alternatively, must be undertaken. This is to enable such activities to be rejected or accepted, respectively, without further assessment, avoiding unnecessary prioritisation against alternative uses of resources.
22. Three fundamental criteria are proposed as an intervention test to assess whether an activity is:
- justified and appropriate - for central government biosecurity agencies;
 - consistent - with domestic legislation and international agreements; and
 - mandatory - under domestic legislation and international agreements.
23. The first of these criteria questions the need for or value of government intervention and the role in this of the central government biosecurity agencies in light of the outcomes sought for New Zealand biosecurity.
24. The second questions whether the activity satisfies conditions of domestic legislation and international agreements to which New Zealand is party, such as the Biosecurity Act 1993 and the Agreement on the Application of Sanitary and Phytosanitary Measures 1994.

25. The third questions whether there is an imperative to undertake the activity, under either domestic legislation or international agreements, such as the Fisheries Settlement Act 1992 and obligations to the World Health Organization.
26. The decision rules at this stage comprise rejection of activities that fail to meet either of the first two of these criteria and acceptance, without prioritisation, of activities that meet all three criteria. Remaining activities, which are acceptable but discretionary in nature or level, proceed to the second step in the framework of comparison with alternative uses of resources.

Prioritisation procedure

27. Prioritisation procedures are the core of a decision-making system. Decision criteria are embedded in prioritisation procedures. These criteria tend to be very similar across sectors and deal with questions of technical feasibility, efficiency, effectiveness and equity. The absence of agreed decision criteria is very noticeable in biosecurity, with predictable results. The criteria proposed in this paper are comparable with criteria and processes in operation within agencies, as well as, for instance, the criteria developed by the Biosecurity Working Group on funding of biosecurity services.
28. It is proposed that activities found, under the intervention test, to be acceptable but discretionary be assessed according to the following categories of prioritisation criteria:
 - technical;
 - practicality;
 - benefit-cost;
 - strategic; and
 - acceptability.
29. The first of these concerns technical feasibility, suitability and probability of achieving the activity's objective.
30. Practicality provides for consideration of logistics, resourcing, timing, such as urgency in incursion response or length of time import health standard requests have been awaiting action, opportunities and risks and past achievements that decision-makers may be reluctant, or find difficult in the face of strong opposition, to abandon. This category also includes a stability criterion, which addresses the need for some degree of security in committing resources and maintenance of some level of capability, despite varying needs and relative priorities, and incorporates constraints on the rate of change.
31. Benefit-cost is defined broadly as impact of the activity, most directly reduction in risk (defined as the combination of the magnitude and probability of consequences), achieved for the resources required and encompasses the full range of positive and negative effects across all sectors. This criterion links assessment of activities to biological risk analysis and operational capability and effectiveness.
32. Strategic factors include contribution to the goals and key priorities for New Zealand biosecurity and of the Government, sector, agency and group and investment for long-term benefits, including development of capability and potential future growth sectors, relative to addressing more immediate needs. Further criteria in this category comprise synergy in terms of support for the objectives and achievements of other activities, including where one is conditional on or in conflict with another, and coverage in terms of contribution to the range of activities.

33. The final category of acceptability reflects stakeholder interest or concern, responsiveness to the needs of Māori, international interests, including trade (encompassing wider trade implications), environmental and human health, distributional considerations, including the interests of particular groups and the incidence of benefits and costs, and risk preferences.

Assessment of benefit-cost

34. Criteria in assessing benefit-cost comprise the scope of effects to be considered. It is proposed that, for activities found to be acceptable but discretionary under the intervention test, assessment, involving identification of all effects and indication of their magnitudes, be undertaken from the perspective of the national economy, encompassing all sectors:
- environmental, including indigenous and valued introduced species, biological systems and biodiversity;
 - commercial, including primary production, industry and service sectors;
 - Māori cultural and spiritual values;
 - human health and well-being;
 - social, including personal property and lifestyle; and
 - public, in terms of use of taxpayers' money.
35. Whilst, for informed decision-making, all such effects should be considered, these may only provide grounds for sanitary or phytosanitary trade measures to the extent consistent with New Zealand's international obligations.
36. Compared with proposed expenditure or resource requirements would be all significant results and implications of activities, positive and negative, direct and indirect, tangible and intangible, short and long-term, incorporating probability and timing, and with regard to the need for, or benefits and costs of, other biosecurity activities.
37. This is clearly highly complex and challenging. The extent to which effects can be assessed is likely to be very dependent on the state of development of the tools available to the different sectors.

Development and application

38. Functional development of the framework is proposed, though trial application by 31 December 2004 in:
- assessment, according to the proposed intervention test and subsequent prioritisation and benefit-cost assessment criteria, of management of an established conservation pest;
 - assessment, according to the proposed intervention test and subsequent prioritisation and benefit-cost assessment criteria, of exotic organism incursion response;
 - prioritisation in import health standard development in Ministry of Agriculture and Forestry Animal Biosecurity;
 - prioritisation of Ministry of Agriculture and Forestry Biosecurity Authority expenditure, across groups;
 - prioritisation of Votes Biosecurity new initiative budget bids, within and across agencies;
 - prioritisation of biosecurity research topics, across agencies; and
 - prioritisation of surveillance programmes, across agencies.

39. Implementation methods and tools would be refined through these applications.
40. Also proposed is progressive development of approaches to address the following particular difficulties in assessment, including initial guidance by 30 June 2004:
- scope of effects considered;
 - assessment of non-market effects, particularly environmental and cultural;
 - uncertainty and risk preferences;
 - long-term effects;
 - irreversibility;
 - distributional considerations; and
 - aggregate and cumulative risks.
41. It is proposed that the framework and its implementation methods and tools be reviewed and prospects for wider application scoped, following the above trial applications, and findings reported to the appropriate Cabinet committee by 28 February 2005.

Decision-making processes

42. Also proposed are improvements to the processes for reaching informed decisions at appropriate levels of responsibility on the allocation of resources to biosecurity activities. These include development and implementation by 31 December 2003 of:
- standard operating procedures for incursion response technical advisory groups;
 - quality assurance processes for decisions below and at chief technical officer levels; and
 - procedures for monitoring and review in implementation of decisions.
43. It is proposed that the criteria for escalation of decisions, to chief technical officers, agency chief executives and, ultimately, ministers, as appropriate but not unnecessary, comprise:
- magnitudes of benefits and costs, particularly where proposed expenditure, effects of the activity or impacts if the activity is not undertaken are substantial or net benefit is marginal;
 - distribution of benefits and costs, particularly where there exist trade-offs;
 - level of uncertainty, particularly in assessing non-market effects;
 - benefits and costs relative to other prioritisation criteria – technical, practicality, strategic and acceptability;
 - how critically the activity compares with alternative uses of resources;
 - where there exist differences of opinion between agencies that it has not been possible to resolve; and
 - where the decision may invoke a change in policy that has not previously been considered by the Government.
44. Further improvements to biosecurity decision-making, including to institutions and mechanisms for making and overseeing decisions and stakeholder participation and Māori involvement in decision-making processes, are proposed in the accompanying cabinet papers arising from the work of Biosecurity Working Group.

Recommendations

45. It is recommend that you:

- a) **note** the contents of this briefing;

noted

- b) **agree** to trial application of the proposed integrating framework for prioritisation of biosecurity activities, comprising:

- an initial intervention test; followed by, for activities found to be acceptable but discretionary;
- a prioritisation procedure; incorporating; and
- assessment of benefits and costs;

agreed/not agreed

- c) **agree** to intervention test criteria of whether an activity is:

- justified and appropriate - for central government biosecurity agencies;
- consistent - with domestic legislation and international agreements; and
- mandatory - under domestic legislation or international agreements;

agreed/not agreed

- d) **agree** to the following criteria for prioritisation of activities found, under the intervention test, to be acceptable but discretionary:

- technical - feasibility, suitability and probability of success;
- practicality - logistics, resourcing, timing, opportunities, risks, past achievements and stability;
- benefit-cost - encompassing the full range of effects across all sectors;
- strategic - contribution to goals and key priorities, long-term benefits, synergy and coverage; and
- acceptability - stakeholder concern, needs of Māori, international interests, distributional considerations and risk preferences;

agreed/not agreed

- e) **agree** to the criteria for assessment of benefit-cost, for activities found to be acceptable but discretionary under the intervention test, as effects across all sectors:

- environmental, including indigenous and valued introduced species, biological systems and biodiversity;
- commercial, including primary production, industry and service sectors;
- Māori cultural and spiritual values;
- human health and well-being;
- social, including personal property and lifestyle; and
- public, in terms of use of taxpayers' money;

given that these effects may only provide grounds for sanitary or phytosanitary trade measures to the extent consistent with New Zealand's international obligations;

agreed/not agreed

- f) **agree** to trial application of the proposed prioritisation framework by 31 December 2004 in:
- assessment, according to the proposed intervention test and subsequent prioritisation and benefit-cost assessment criteria, of management of an established conservation pest;
 - assessment, according to the proposed intervention test and subsequent prioritisation and benefit-cost assessment criteria, of exotic organism incursion response;
 - prioritisation in import health standard development in Ministry of Agriculture and Forestry Animal Biosecurity;
 - prioritisation of Ministry of Agriculture and Forestry Biosecurity Authority expenditure, across groups;
 - prioritisation of Votes Biosecurity new initiative budget bids, within and across agencies;
 - prioritisation of biosecurity research topics, across agencies; and
 - prioritisation of surveillance programmes, across agencies;

agreed/not agreed

- g) **direct** officials of the Department of Conservation, Ministry of Agriculture and Forestry, Ministry of Fisheries and Ministry of Health to undertake further work by 30 June 2004 to develop initial approaches to the following difficulties in assessment:
- scope of effects considered;
 - assessment of non-market effects, particularly environmental and cultural;
 - uncertainty and risk preferences;
 - long-term effects;
 - irreversibility;
 - distributional considerations; and
 - aggregate and cumulative risks;

agreed/not agreed

- h) **direct** officials to review the framework and its implementation methods and tools and to scope the prospects for wider application, following trial applications according to recommendation f), above, and to report to the appropriate Cabinet committee by 28 February 2005;

agreed/not agreed

- i) **direct** officials to undertake further work by 31 December 2003 to develop and implement the following proposed improvements to the processes for reaching decisions on the allocation of resources to biosecurity activities:
- standard operating procedures for incursion response technical advisory groups;
 - quality assurance processes for decisions below and at chief technical officer levels; and
 - procedures for monitoring and review in implementation of decisions;

agreed/not agreed

- j) **agree** to the criteria for escalation of decisions, to chief technical officers, agency chief executives and, ultimately, ministers, as:
- magnitudes of benefits and costs, particularly where proposed expenditure, effects of the activity or impacts if the activity is not undertaken are substantial or net benefit is marginal;
 - distribution of benefits and costs, particularly where there exist trade-offs between sectors;
 - level of uncertainty, particularly in assessing non-market effects;
 - benefits and costs relative to other prioritisation criteria – technical, practicality, strategic and acceptability;
 - how critically the activity compares with alternative uses of resources;
 - where there exist differences of opinion between agencies that it has not been possible to resolve; and
 - where the decision may invoke a change in policy that has not previously been considered by the Government;

agreed/not agreed

- k) **forward** a copy of this briefing to the following Ministers for their information:
Minister of Finance, Minister of Conservation, Minister of Fisheries, Minister of Health, Associate Minister for Biosecurity.

agreed/not agreed

M A Sherwin
Director-General

Hon Jim Sutton
Minister for Biosecurity
/ /2003