Biosecurity

BACKGROUND

In New Zealand, biosecurity is the key method for eliminating the risk and spread of vector-borne disease. Biosecurity involves the protection of the economy, environment and health of the population from the introduction of foreign risky organisms, as well as the mitigation of the effects of organisms already present in the environment (MAF BNZ 2008a). From a human health perspective, early detection of biosecurity threats is a central part of the International Health Regulations 2005, which require countries to carry out surveillance in order to prevent the spread of public health emergencies (WHO 2008).

The importance of biosecurity is becoming increasingly recognised as the interconnection between the environment and human health becomes better understood (McMichael 2005). Risky organisms entering the country can pose serious threats to the environment and to ecosystems, which are the networks of interactions between organisms, vital for providing life support systems and as a buffer to human health and wellbeing (Parkes and Weinstein 2004). Disruptions can affect the entire ecosystem, including its long-term resilience and stability.

Biosecurity also has an impact on commerce, industry, research and environmental sustainability. In New Zealand, biosecurity efforts are led by the Ministry of Agriculture and Forestry's Biosecurity New Zealand (MAF BNZ), as well as a number of other key agencies and groups. The broad ecosystems approach to biosecurity is reflected in the key values of MAF BNZ which include economic, environmental, health and social/cultural values (including values of Māori) of New Zealand that are threatened by risky organisms (MAF BNZ 2008b). MAF BNZ considers the impact of the risky organism or the proposed response options on the following: the sustainable economic growth and prosperity for New Zealanders; healthy New Zealanders and a vibrant rural community; and maintained and enhanced economic, social and cultural benefits for New Zealanders from the natural environment (MAF BNZ 2008b).

In New Zealand, driving forces such as the growing number of migrants and tourists, as well as the number of vessels and products entering New Zealand each year, continue to place pressure on biosecurity efforts, by increasing the risk of a border incursion of pests or infectious agents (MAF BNZ 2008a). Environmental factors such as climate change can also put pressure on biosecurity efforts, for example by increasing the availability of suitable habitats for disease vectors such as mosquitoes within New Zealand (Woodward et al 2001).

Biosecurity surveillance and intervention in New Zealand occur at three stages, namely pre-border, border and post-border. Each stage progressively reduces the risk of a biosecurity breach (MAF BNZ 2008). Through the deployment of appropriate surveillance and intervention systems, the residual risk at each stage reduces, although it does not disappear completely. While biosecurity can come at a substantial cost, surveillance and control efforts are considered far more cost-effective than not addressing the problem and allowing it to escalate, an approach with costly negative economic and/or health impacts (MAF BNZ 2008a).

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The risk of vector-borne disease is very small in New Zealand. However, it is still important to monitor because of a number of separate but inter-related factors that, when combined, increase the risk of vector-borne disease in New Zealand. These factors include: increasing movement of people and goods worldwide; climate change (creating more suitable habitats for vectors in New Zealand); and the close proximity of, and close relations with, a number of countries in the Western Pacific and South East Asia, where vector-borne diseases are endemic

References

- MAF Biosecurity New Zealand. (2008a). Biosecurity Surveillance Strategy 2020. Wellington: Ministry of Agriculture and Forestry.
- MAF Biosecurity New Zealand. (2008b). Policy for MAF's Responses to Risk Organisms. Wellington: Ministry of Agriculture and Forestry.
- Parkes M, Weinstein P. (2004). An Ecosystems Approach. In: Cromar N, Cameron S, Fallowfield H (eds). Environmental Health in Australia and New Zealand. Melbourne: Oxford University Press:45-65.
- Woodward A, Hales S, de Wet N. (2001). Climate Change: Potential Effects on Human Health in New Zealand: A report prepared for the Ministry for the Environment as part of the New Zealand Climate Change Programme. Wellington: Ministry for the Environment.
- World Health Organization. (2008). International Health Regulations (2005) (2nd edition). Geneva: World Health Organization.