Editorial

Ministry for Primary Industries helping to control foot-and-mouth disease in Southeast Asia

Since 2015, the New Zealand Ministry of Foreign Affairs and Trade (MFAT) has committed considerable funds to the Southeast Asian region (approx. US$12 million) for control of foot-and-mouth disease (FMD). The Ministry for Primary Industries (MPI) has helped the work programme by providing technical expertise. During 2019, this involved contributing to technical oversight, hosting and training technical staff from Southeast Asia, developing new surveillance methods for FMD, and field-trialling a mobile PCR-testing unit being developed in New Zealand. In previous years, a range of technical inputs to the programme have been provided by staff (**Figure 1**). Some of the activities are described in the literature (e.g. van Andel et al. 2019 a,b; Rawdon et al. 2020), and have also included training government officials in biosecurity, outbreak investigation, geographic information systems (GIS) and surveillance.

In New Zealand, MFAT has a role in providing aid based on its strategic intentions (MFAT 2020), while MPI's core business focuses on prosperity, sustainability and protection of our primary industry (MPI 2020). MPI's involvement in the South East Asia China Foot-and-Mouth Disease (SEACFMD) programme is an example of a government organisation providing aid where this is not part of its direct mandate. One reason for participating in this programme is that focusing control of FMD at source may help mitigate the risk of an incursion in New Zealand. However, control of FMD in Southeast Asia is a very long-term venture given the endemicity of FMD virus in the region. Over and above this, there are other significant benefits for all parties involved: MPI, MFAT, and the country receiving the aid.

New Zealand is free from a number of significant animal disease pathogens (OIE-listed diseases). As a result, our practical experience with programmes to exclude, manage or eradicate these pathogens is limited. However, the present biosecurity response to *Mycoplasma bovis* has augmented MPI's general disease control experience and in the past we have responded to outbreaks of *Theileria orientalis* Ikeda; and endemic disease programmes are ongoing to control bovine tuberculosis, enzootic bovine leucosis and leptospirosis. But gaining hands-on experience with managing FMD is problematic, as the disease is not present and has never occurred here. Experience has been gained in the past by MPI staff helping in outbreaks overseas, for example with the UK's response to an FMD incursion in 2001. Staff have also participated in a European Union FMD (EuFMD) training programme to develop front-line capability to investigate suspect cases of FMD. The EuFMD courses are structured around simple epidemiological and clinical investigation of field cases, with a focus on further developing field capacity. However, managing a significant animal disease response requires additional skills, so EuFMD only partially fulfils MPI's need to further develop its capability. Hence the benefits of involving MPI staff in the SEACFMD programme.

These MPI staff that have been enlisted to assist the programme already have a wide range of skills, including experience of managing on-farm investigations of FMD. Many have postgraduate qualifications in epidemiology, immunology, virology and molecular biology; field experience in production-animal disease and medicine, diagnostic laboratory experience and past experience in biosecurity responses to significant disease events. The SEACFMD programme has offered an avenue by which these skills can be improved and used in a real and practical way to combat diseases of significant importance to New Zealand. Application of these skills provides practical experience as well as theoretical knowledge. In addition, MPI contributors have often been called upon to develop their own skillsets to help solve complex problems. This was particularly apparent with some of the early work on identifying "hotspots" for the purpose of targeting vaccination against FMD.

From the perspective of MFAT, devolving some interest in a programme to another agency also needs justification. At a philosophical level, an advantage to MFAT of MPI's discretionary participation is that there is no vested interest that is likely to influence critical review. As a result MPI has provided free and frank advice, and independent review. With aid investments there is constant pressure on all organisations involved to make a pronouncement of success, regardless of real outcomes. For instance, with donor countries there is political pressure to show that funds provided have had a positive impact. There is also the same pressure on the service provider to show value, thus ensuring a continuation of funding, and on the recipient country to indicate positive impacts in order to continue to receive funds – regardless of any outcomes. Thus, overall there is a bias toward ignoring failures and selectively highlighting examples of success. In addition, positive impacts may be due to factors other than the aid spend. It can be hard to have the level of critical review that would diminish the direct association between a given aid programme and the positive impact observed. Involvement of a non-partisan government organisation for oversight, review and direction offers additional accountability to aid spending.

MPI has not been paid directly for the service it provides. Thus, the client has always been considered to be the recipient country of the aid funding, rather than necessarily the funder. This has meant MPI has been very responsive to meeting the needs of the recipient country of the aid. MPI staff have become involved for a variety of reasons and a key reason (over and above the obvious technical stimulation, learning opportunity and skill development) is that they want to contribute to another country and its culture. The motivation of staff involved does influence attitudes and the way staff are perceived. It is

likely that the involvement of MPI staff over many projects has contributed directly to positive relationships with in-country staff and resulted in goodwill from the programme as a whole. This has been one of the most significant benefits to "New Zealand Inc".

Involvement of MPI staff in the New Zealand-funded OIE FMD disease control programme has provided significant opportunities to maintain and develop staff capability. Developing people is an important part of our ability to respond to exotic diseases. Contribution by MPI, a government agency with no direct responsibility for aid, is a new way of doing business and has significant advantages to all parties involved. It is significantly different from past aid programmes and represents a valuable model for future New Zealand aid programmes, but also for other countries that are considering following our model.

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Figure 1: MPI contributors to work on FMD during 2019. From left: Emma Bramley, Kelly Buckle (kneeling), Richard Swainsbury, Nelly Marquetoux, Doug Begg, Rudi Bueno (kneeling), Tom Rawdon, Andy McFadden (New Zealand leader), Barbara Binney. (Absent: Richard Spence, Mary van Andel, Ben Phiri.)

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