

# QIMR Berghofer MRI submission on Intergovernmental Agreement on Biosecurity Review

## Draft Report

### Knowing and owning our roles and responsibilities

[Feedback request 1](#)      *The Review Panel seeks feedback on the draft roles and responsibilities of national biosecurity system participants.*

While community engagement is envisaged, it is more in providing information to, rather than an involvement in the development of the National Biosecurity System. For maximum engagement of the whole of the Australian community, community groups and interested individuals need to be involved in the development of the policies in order to feel they are part of it.

Parallels for how the community could get involved could be drawn with the strategies within the National Security Threat Alert System and reporting of potential threats through Hot lines and dedicated phone numbers.

The Panel considers opportunities exist to learn from the work on natural disasters, and these should be explored by all Australian governments (page 9 of report).

The Equine flu outbreak nationally and ongoing prawn white spot disease outbreak in QLD also provide opportunities to examine preparedness and where planning and preparedness can be improved. Parallels could also be made with the work on combatting pandemic flu and other human disease outbreaks (SARS Ebola) as these areas have had a lot of detailed work.

*Designating someone as a risk creator seems unlikely to engender a positive reaction. It may be more appropriate to recognise all stakeholders that interact with the system as ‘participants’—as is the case for New Zealand’s biosecurity system. ( page 10 of draft report).*

If participation is required the choice of wrong terminology or suggestions of blame of one party or another is not helpful. The NZ wording is much more appropriate.

*Table 1 Draft roles and responsibilities of national biosecurity system participants*

- The Table does not seem to have any responsibility for training of personal to raise expertise in: biosecurity preparedness,
- identification of pests/diseases,
- eradication/quarantine measures to control incursions

Based on the table, a number of the roles and responsibilities for the General Community revolve around “awareness”. This is not something they can take responsibility for as how are they able to be “aware” unless someone else makes them aware? These roles would seem to fall more under other participants where they would have a role of informing and publicising information to the general community

The “shared responsibility” that underpins the biosecurity system works well when the response required is sporadic and moderate (i.e. DAWR, airport authorities, state government and local government combine forces to respond to airport incursions), but unless responsibilities are clearly set out and resourced, those relationships will falter when the going gets tough (like local

government being expected to implement urban vector control responses on a regular basis). Responsibilities need to be clearly stated and in return the stakeholders need to know where the resources are coming from.

This report looks at the impact of incursions on a variety of aspects including agriculture, production environmental, tourism and the economy, yet the effect of incursions on public health and how these responsibilities will be shared do not seem to be covered in the same depth. For example this review should consider exotic mosquito incursions, invasions and geographic expansions (*Aedes albopictus* and *Ae. aegypti* as obvious examples). These invasions and expansions are inextricably linked to human health because those mosquitoes are 1) potential vehicles for the importation of viruses affecting humans, 2) new vectors of endemic viruses and 3) local vectors of viruses imported by human hosts.

The appearance and establishment of new mosquito vectors of disease will demand a public health response to virus importations in areas that previously had no competent vector. Alternatively, the establishment of an additional vector such as *Ae. albopictus* in Cairns and Townsville could largely negate the advantages of the existing *Ae. aegypti* Wolbachia program. The differing ecology and behaviour of *Aedes albopictus* and *Ae. aegypti* means that these require different control measures. For example, the successful *Ae. albopictus* control program in the Torres Strait, has a limited impact on *Ae. aegypti* (Muzari et al 2017 PLoS NTD 11(2): e0005286).

*Particular opportunities lie in the areas of priority setting, decision making and funding, policy development and implementation, and on-ground activities, such as surveillance, monitoring and reporting. (page 13 of report)*

Nationally there are a number of community-based activities that could utilise large numbers of individuals and be involved. For instance the National Bird Count run by Birdlife Australia and the Aussie Bird in Backyard annual observation week has thousands of individuals taking part all over the country. There are other groups like Faunawatch and Atlas of Living Australia that also have large numbers of participants that could be included in specific evaluation/observation and even eradication campaigns and the people all volunteer their time to these causes.

## **Market access is key**

### **Domestic trade**

Programs put in place to control trade across domestic borders need to include making the general public aware. With increased traffic within Australia members of the public are regularly transporting material across borders which could pose biosecurity concerns.

Programs should also consider not just domestic trade, but also changes within different regions. Surveillance systems are often focused at points of entry and borders but, in relation to mosquitoes, the biosecurity threat results not only from new invasions or establishments, but also from the changing landscape that we inhabit. For example, most Australian cities have housing developments that are expanding into areas that were once exclusively bushland or saltmarsh. A softening of planning regulations over the years has meant that developers no longer need to consider proximity to mosquito habitat or the inclusion of design features that reduce biting nuisance. This can lead to local changes in the disease risks posed by endemic mosquitoes. The dynamics of Ross River Virus transmission among humans appear to be shifting, but we don't know why.

[Feedback request 2](#)      *The Review Panel seeks feedback on the total effort and costs associated with demonstrating area freedom by jurisdictions, and the value of that trade.*

No comment on costs, but the recommendations seem reasonable.

[Recommendation 4](#)      *Jurisdictions' biosecurity surveillance activities should include pests and diseases that pose the greatest threat to our export markets*

Surveillance should include pests and diseases that may affect exports as well as tourism and Australian flora and fauna even if not of industry concern.

Although there are a variety of discussion papers around the issues of invasion, expansion, response and costs, there is no surveillance network in place, outside of the ports, that might identify the establishment or expansion of key urban disease vectors. Surveillance efforts and management plans are unsustainable, fragmented and state-specific. There is no effective national coordination. Proposing a generalised plan or making broad recommendations do nothing to ensure that the requisite methodological, analytical or human or financial resources are in place.

As evidenced by the recent scramble to respond to the Zika threat, mosquito vectors of disease are a major threat to health and well-being. Although there are some effective control and surveillance programs in place in north Queensland and the Northern Territory, there is little capacity elsewhere. Given the lack of a national surveillance network, it is unlikely that mosquito invasions would be identified in their early stages, but even if they were, most of Australia could not mount an expert response. We suggest the objectives of the biosecurity review highlight the importance of preparedness.

[Recommendation 6](#)      *IGAB2 should clarify the roles and responsibilities of the parties with regard to international and domestic market access, including proof of area freedom.*

Without clearly defined roles and responsibilities, dispute resolution will be difficult.

[Recommendation 7](#)      *IGAB2 should include an explicit commitment by jurisdictions to support financially, decisions agreed to under NEBRA, but look to put in place systems that ensure decisions are evidence-based and transparent, in keeping with best risk management principles, and that give confidence to governments and the community that funds are being committed wisely and appropriately.*

There needs to be a risk-based approach that is evidence-driven and transparent to all stakeholders.

[Recommendation 8](#)      *Jurisdictions should institute formal arrangements between agriculture and environment agencies to define the objectives of cooperation, leading and support roles, information flows, resources and deliverables. The Australian Government agriculture and environment departments should enter into a Memorandum of Understanding, modelled on those with health and immigration agencies.*

Good, as this limits duplication of resources and provides a cooperative framework when multiple agencies need to combat an emergency situation

[Recommendation 9](#)      *The IGAB should make clearer commitments to environmental biosecurity and include:*

- *the principle of ecologically sustainable development*

- *acknowledgement of Australia's international responsibilities under the Convention on Biological Diversity*
- *a program of work to determine, plan and prepare for national priority pests and diseases impacting the environment and native species*
- *a focus on environment and community as well as industry partnerships*
- *invertebrate transmitted diseases as well as animal diseases.*

A clearer definition of commitments and priorities that all Federal and State and Territory governments agree to should prevent one government putting in measures to eradicate a pest/disease only to have an election and the funding removed so all the efforts are lost and the incursion again spreads (Federal and State levels).

[Recommendation 10](#) *The Australian Government should establish the senior, expert position of Chief Environmental Biosecurity Officer within the environment department. A less preferred option is to house the position in the agriculture department. The position should report on the effectiveness of Australia's environmental biosecurity arrangements and achievements. Reports should be made publicly available.*

The expert position should be within Environment as currently DAWR places funding emphasis on Biosecurity controls. All reports should be publically available and a mechanism should be available for public comment on findings and recommendations.

[Recommendation 11](#) *The NBC should establish and resource a new Environmental Biosecurity Committee (EBC), comprising government and external environment biosecurity experts and representatives from both the animal and plant sectoral committees of the NBC, to support the role of the Chief Environmental Biosecurity Officer. The role of the EBC should be reviewed following its work to prioritise national biosecurity risks impacting the environment.*

The new EBC should include stakeholders and researchers, either through representative organisations or by enrolling distinguished individuals (or both).

[Recommendation 12](#) *Greater and explicit roles should be developed for AHA and PHA in environmental biosecurity, instituted through amended constitutions and expanded board expertise.*

As AHA and PHA have a track record and are already established, including environmental biosecurity within their remits seems sensible.

### **Building the national system**

[Recommendation 13](#) *Jurisdictions should adopt a systematic approach to determine and plan for national priority animal, plant and environmental pests and diseases.*

With limited resources available it is essential that there is a systematic approach that involves all jurisdictions, including local government areas, not just State and Federal Governments.

[Recommendation 14](#) *The NBC should lead five-yearly national-level risk prioritisation for emerging animal, plant and environmental risks and pathways, in partnership with system participants, reporting to AGSOC and AGMIN.*

There should be a mechanism written into the framework and timing of reviews for a more frequent plan review if there is a serious emergent disease outbreak / incursion.

### **Research and innovation**

Operational research is crucial to the development of new, cost effective surveillance and control tools. Research facilities are usually tasked with rapid risk assessments (i.e. invasive capacities, interaction with pathogens) and stakeholder groups ensure that research efforts are pragmatic and that operational teams are implementing tools with an evidence base. Those stakeholder groups work best when there is some real incentive to participate and some genuine opportunities to influence policy and practice. Purely voluntary, advisory groups tend to lose impetus after a time.

Communication between those prioritising the research and the facilitating institutions manage permitting, licensing and importation is also key. Australian researchers lose their competitive advantage and their ability to respond to threats if the urgency of the work is confounded by the bureaucratic process.

We need national programs for mosquito risks that recognise that the major threat of invasion is not limited to air and sea ports but rather from the unseen arrival of, for example, desiccation tolerant eggs in unchecked personal items or machinery. Even for port-based activities many current measures are ineffectual or flawed: the treatment and surveillance of cargo for mosquito life stages remains patchy and problematic. The aircraft disinsection protocols adopted globally are inadequate (the chemicals used are ineffective against increasingly commonplace, insecticide-resistant mosquitoes). Some of these issues require a global effort (i.e. registration of new chemistries for disinsection) and Australia could take the lead on these.

*Recommendation 15      The sectoral committees of the NBC, with the endorsement of the NBC, should develop an agreed set of National Biosecurity R&I Priorities, in consultation with system participants and in line with the agreed national priority pests and diseases. Priorities at a sectoral and cross-sectoral level need to be considered. The priorities should be developed within two years of the final IGAB review report, and should be reviewed every five years.*

Again, there needs to be a mechanism written into any priority review framework for a more regular review if required.

*Feedback request 3      The Review Panel seeks feedback on the following options for a new entity for cross-sectoral biosecurity R&I:*

*Option 1: Establishing a new stand-alone entity for cross-sectoral biosecurity R&I.*

*Option 2: Addressing cross-sectoral biosecurity R&I within an existing RDC (for example, the Rural Industries RDC).*

*The Panel also seeks feedback on the funding options and would welcome alternative suggestions.*

A new entity rather than modifying a role within an existing RDC is better as then there are no competing agendas and KPIs can be clearly set out and measured.

## **Strengthening governance**

[Recommendation 16](#) A future IGAB should remain an agreement between the First Ministers of the Australian, state and territory governments.

This seems a reasonable mechanism.

[Recommendation 17](#) *First Ministers should, within IGAB2, identify lead ministers and agencies for biosecurity (assumed to be agriculture or primary industries) and require supporting whole-of-government arrangements to be in place, including through memoranda of understanding.*

The agreement should define the roles of a lead minister and agencies, and allow States, Territories and Local Governments to decide who and which agencies within their jurisdiction are best fits the role. They should include them in their arrangements of how they might best support IGAB2.

[Recommendation 18](#)

Agreed.

[Recommendation 19](#) *The NBC should include the CEO of the Australian Local Government Association, and the New Zealand Government be invited to include a representative.*

It might be appropriate to have more local representation if their cooperation is needed for eradication implementation. Maybe a representative from each State and Territory not just the CEO of ALGA?

[Feedback request 4](#) *The Review Panel seeks feedback on the proposed Terms of Reference for the NBC.*

Where ministerial review of annual and evaluation reports is required before the report is made publically available, there should be time limits written into the agreements to ensure timely release of information. There should also be a mechanism for public comment on any recommendations. An annual meeting of stakeholders to provide input to NBC is a good idea, but should it canvass input from a wider group of stakeholders than just AHA and PHA members to include environmental groups.

## **Bringing other voices into the tent**

Currently, those with the greatest responsibility for mosquito control (local government) are not being properly included in the conversation. In Queensland, a variety of generalised state management plans task local governments with the execution of eradication and control, with no practical consideration of their resources or experience and no methodological detail that an operational team could follow. The US CDC has recently responded to these resourcing issues by creating a number of “centres of excellence” which bring state governments, extension services and researchers together in an attempt to supply financial resources, design meaningful surveillance and control programs and develop sustainable capacity.

## **Funding our national system**

Whatever mechanism is put in place it should be apolitical to ensure that budgets are reasonable for the work required to be undertaken. The idea of a levy on land owners might be one way to have funds available when required.

Another possible way is to have a specific “government bond” which could be issued for uptake by individuals, industry and superannuation type funds, maybe with tax incentives, with the money raised to be used for funding the system. An existing fund would mean that funds would be immediately available to fight incursions/disease outbreaks/pests whether they fell within or outside standing agreements (deeds), thus improving the chances of eradication being successful.

*[Recommendation 34](#) State and territory governments should review their biosecurity cost-recovery arrangements to ensure they are consistent, appropriate and transparent.*

Is this something that local governments should also be asked to participate in, as it is often their staff who are dealing with local issues?

### **Measuring system performance**

It is essential that there is a single integrated system that all parties share and access, and that processes are in place to ensure that data input is consistent from different bodies so all are comparing the same thing.

Given that the NBIU would involve an environmental component, it is not appropriate to establish this within DAWR. Sourcing it within Environment or having it jointly supported by DAWR and Environment would ensure the environmental work is not swamped by biosecurity priorities.

### ***A future system, a future IGAB***

*[Recommendation 40](#) Jurisdictions should adopt the proposed new priority reform areas and associated work program for IGAB2, and amend the IGAB in line with proposed revisions.*

Should time lines be included in this recommendation to ensure this occurs within a reasonable limit for all jurisdictions?

### **Other Comments**

The establishment of day-biting, human-biting mosquitoes in areas that are unaccustomed to mosquitoes with those habits creates a considerable public nuisance and impacts the aesthetic and recreational value of local amenities. In California, the current expansion of *Ae. aegypti*'s range is reflected in increased complaints to local mosquito control services (California Public Health, personal communication) and *Ae. albopictus* is notorious for disrupting recreational activities as it expands across Europe and the US.

At QIMRB we have estimated that a Brisbane invasion of the aggressive, day-biting *Aedes albopictus* would result in a loss of amenities equivalent to > \$ 1000 AUD per Brisbane resident per year and an additional public health response costing ca \$1M AUD annually in the absence of any outbreak (Darbro et al, in press, Ecological Economics).