

An evaluation of the PhD Scholarship Program for Research Training in South East Asia

A Program of the Australian Biosecurity Cooperative Research Centre for Emerging Infectious Diseases

EXECUTIVE SUMMARY

BACKGROUND

The mission of the Australian Biosecurity Cooperative Research Centre for Emerging Infectious Disease (CRC) is to protect Australia's public health, livestock, wildlife and economic resources through three programs: *Research, Application and Linkage*, and *Education and Training*. The PhD Program is one component of the *Research and Education Program* designed to address the critical shortage of research graduates able to respond to infectious disease threats and with high-level experience in government and industry settings in Australia and the region. This evaluation focused on one aspect of the PhD Program related to research in South East Asian countries for international as well as Australian scholars.

AIMS

To explore the internal dynamics (or inputs and processes) of the program and to assess how these may help explain the products (or outputs and outcomes).

To use this exploration to assess the merit, worth and significance of the program.

METHODS

This evaluation was framed around a CIPP model, and used a critical case sampling strategy: five scholars undertaking PhD programs in SE Asia and three academics supporting them participated in in-depth interviews. A model, shown in Figure 1, was developed from key themes that emerged from the interviews.

THE PARTNERSHIP: A VIRTUOUS CYCLE

Key partners of the program are the PhD scholars, academic supervisors, governments, other collaborators, and the funding agency. Four scholar informants (Murdoch University) had extensive experience working in government departments and/or regional technical agencies South East Asia, reflecting a programmatic orientation towards experienced scholar with leadership capacity. The supervisors speak a range of Asian languages, and have extensive commitments and networks in the region through their research activities as well as membership of decision-making and advisory bodies in Australia and the region. The depth of experience of both scholars and academic and other supervisors constitutes a virtuous circle, in which the capacity of each deepens the other. Three modes of recruitment were identified in this evaluation: *negotiated partnership* mode (where supervisors actively recruit scholars with capacity, who already have burning questions), *scholar-directed* mode (where scholars identify their own question and negotiate with the supervisor), and the *supervisor-driven* mode (where the scholar is incorporated into a supervisor's research program). The negotiated partnership mode of recruitment is particularly suited to regional capacity development to meet the CRC's objectives. There is some variability in the funding

underpinning the program, with universities and multiple other agencies underwriting some costs of the PhD program.

Collectively, the scholar informants covered research activities with seven ASEAN-member governments, and with technical agencies such as OIE, FAO, the SEAFMD Program and WHO. Scholars described their supervisors and collaborators as being supportive and enthusiastic about the program. However, the supervisors are often overworked and under-resourced; there is an ongoing need to engage more decision-makers from government departments, and in this way, support institutional development in the region.

ACTIVITIES: *LEARNING BY COLLABORATIVE PROBLEM SOLVING*

The Activities Phase starts with the courageous switch in role of scholar from decision-maker/practitioner to one of researcher embedded within an accomplished academic team grounded in policy-directed research. It continues with the elaboration and exploration of diverse research ideas, through to their convergence into refined policy-directed research objectives - to lead ultimately to the fieldwork and production of the thesis. The process extends the model of *learning-by-doing* for the scholar to one of *learning-by-collaborative-problem solving* for all partners.

Linkages between the academy and decision-makers were the defining characteristics of the PhD projects in this evaluation as the research ideas were developed in consultation with each other, and decision-makers participated in the conduct of the study.

There are no formally scheduled teaching classes, but the scholars can attend classes offered to undergraduate and Master-level scholars at the University. Scholars can also participate in the CRC's program of professional development that includes an annual national or international workshop and conference, selected short courses, and postgraduate research student workshops. This component was the key 'added-value' of the CRC: scholars identified the constructive feedback from cross-disciplinary and international experts and peers on their work, and the rapid extension of their learning networks as significant gains.

While opportunities to develop technical expertise are important, equally important are the "soft sciences" of knowledge transfer: developing skills in interpersonal and cross-cultural communications, learning ways of working and negotiating with senior government decision makers and bureaucrats, conducting scientific arguments with accomplished researchers, and preparing competitive funding grants. This "informal" and "tacit" learning occurs with supervisors, peers, conference and workshop attendees, government staff, and the community, in the field and at the university. Although this form of learning is probably key to the success of this PhD program, it is uncodified, and often unrecognised by educational institutions. The value of this poorly documented and often *hidden* curriculum as a pathway to life-long learning is under-estimated; factors enhancing field work and experiences, and the generative interactions between scholar, placement and academia warrant further exploration.

PRODUCTS: *TOWARDS REGIONAL BIOSECURITY*

Because it was relatively early to evaluate the outcomes of research (none of the scholars had completed the PhD), the products for this evaluation were based on what was already evident or was anticipated through the review of the study objectives and 'academic' progress of the scholars. The PhD Program was not viewed as a discrete activity of the CRC, but in terms of the overall contributions to capacity development in the region.

Contributions to context-specific knowledge, tools and systems. The projects have made, or can be expected to make contributions to instrumental knowledge (impacting on policies, technologies, programs and practice), conceptual knowledge (our understanding of a given subject), as well as to the development of systems and tools for strengthening surveillance, risk assessments, and risk communications.

Development of professional skills. In addition to developing competencies in a range of technical challenges (such as epidemiologic methods, literatures reviews, statistical analysis), they acquired skills in non-technical areas critical for functioning effectively at senior levels in the research, training and service sectors.

Extended national and regional networks. The PhD Program has become a ‘network of networks’ encompassing diverse expertise, resources and opportunities within and across countries. The overall picture is of a network thriving on south-south and south-north dialogue, negotiations and evolving solidarity essential for regional biosecurity.

CONCLUSIONS

The CRC’s goal is to safeguard Australia’s ‘public health, livestock, wildlife and economic resources’. Achievement of this goal requires international action and cooperation. It is far more effective to help other countries control and prevent dangerous diseases at their source than try to prevent their importation. Australia should therefore underpin its aspirations for national biosecurity with stronger commitments to biosecurity in SE Asia. The PhD Program for research training in SE Asia is heading in this direction.

The defining strength of the PhD Program is the way highly motivated scholars and their supervisors are tapping into the synergies provided by CRC whose partners span the institutional and geographic divides. Collectively, the program products (achieved and achievable) have the potential to continue attracting quality scholars and skilled supervisors from the service, training and research sectors in SE Asia and Australia.

Australia derives innumerable benefits through the PhD Program as it does from other research initiatives that generate meaningful outcomes for the region. Australia’s participation in the region raises our awareness of its needs, resources and challenges. These include the nature and effectiveness of national and regional structures; the status of systems for surveillance, response and preparedness; and the needs and challenges for policy development.

By providing the PhD scholarships and training opportunities, Australia has demonstrated the strong commitments of its government, experts and institutions. In this way, Australia has earned the trust, respect and confidence of its neighbours. This reputation provides fertile ground for, and has a spiralling impact on, extending regional collaborations that help mitigate the risks of pre-border, border and post-border threats to biosecurity.

RECOMMENDATIONS

The PhD Program should be adapted and implemented in the context of related capacity development initiative critical to regional biosecurity. This could be achieved by

- Enhancing the *recruitment of PhD scholars* from government departments using the ‘negotiated partnership mode’ of recruitment (described under ‘The Partnership’).
- Encouraging PhD projects that engage in *more than one country and across disciplines and government sectors*, as well as with regional technical agencies.
- Identifying opportunities to embed PhD scholars into *larger research programs* with multi-country, cross-disciplinary teams. The CRC could compile an inventory of the nature, scope and targets of larger research programs planned or being implemented in the region, and where appropriate, advocating for the inclusion of PhD scholars.
- *Fast tracking PhD scholarship applications* that can address emerging threats or new opportunities, such as during outbreaks or other disasters.
- Strengthening the PhD project proposals so that they explore and incorporate targeted strategies to *facilitate adoption of research results* as well as subsequent implementation.
- *Supporting PhD graduates* to follow-up on their research results, with, for example publications, adoption of research into policy and implementation, research grants to extend their research or its applications to other countries, engagement in a range of CRC functions and activities.
- Encouraging and supporting the *engagement of decision-makers* from governments to identify policy needs that could be addressed by PhD scholars, and to join supervisory teams as well as other CRC functions and activities.
- *Commissioning PhD projects* customised to the SE Asian context: (a) improving our understanding of the science and application of knowledge translation (into policy), for example, as a cross-cutting theme incorporating relevant CRC supported projects; (b) improving our understanding of the mechanisms through which informal and tacit learning (the ‘hidden curriculum’) can potentiate learning among scholar and other partners who tend to subscribe to different hierarchies and models of education and learning.

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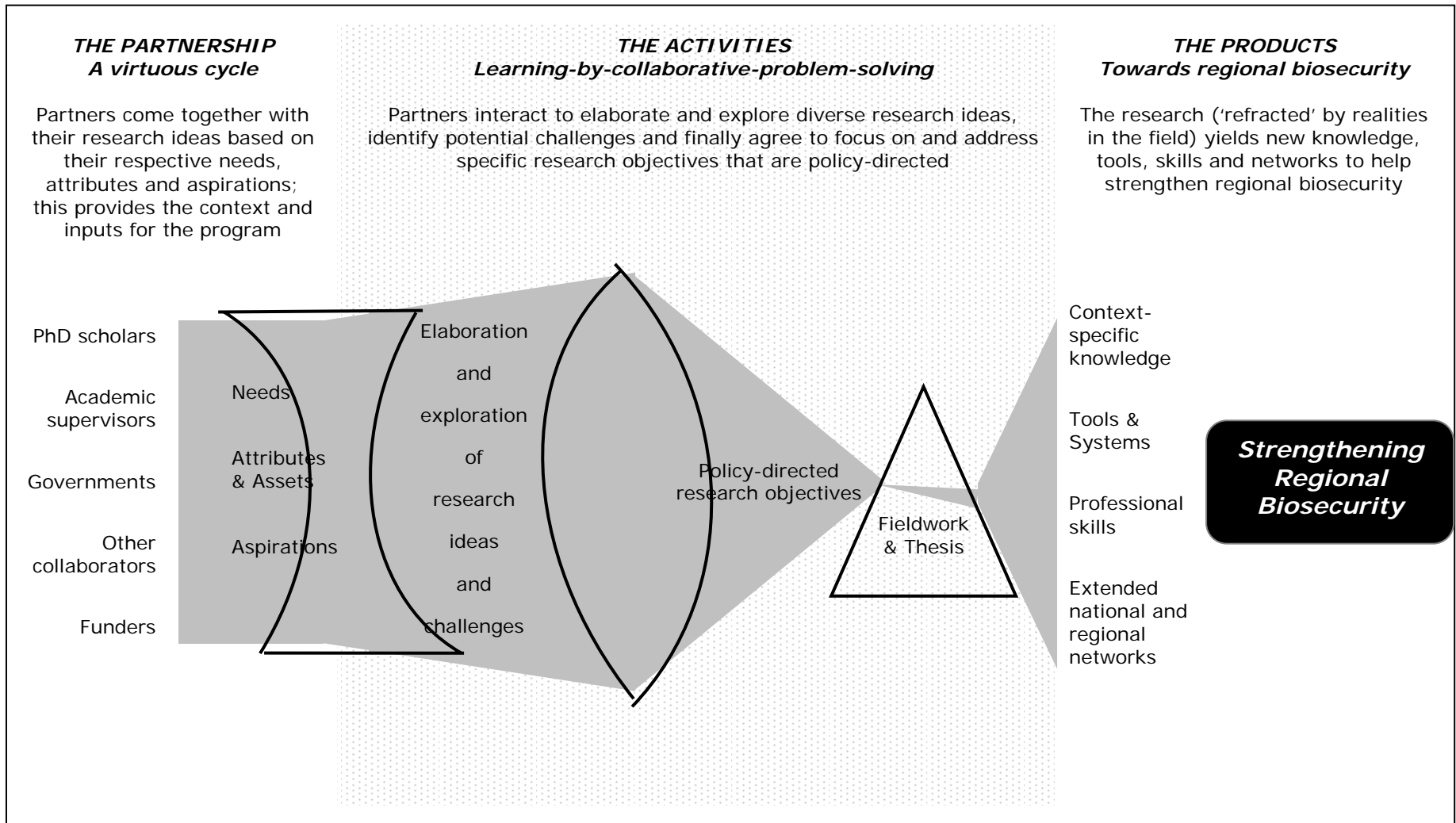


Figure 1 Model of the CRC's PhD Program for strengthening regional biosecurity