

INVESTMENT CONCEPT

A: Investment Concept Title: Pacific Infectious Disease Prevention (PIDP) Program	
Proposed start date: July 2019 End Date: June 2022	
Proposed DFAT funding allocation: \$25 million	Total funding from all donors: \$ N/A
Current program fund annual allocation: TBC	
Risk and Value Profile: Low Risk / Low Value	
Consultation: Stakeholder workshops and regional scoping missions in 2018; Principal Sector Specialist (Health); external appraisers with expertise in public health, animal health and program design.	
Proposed Design Pathway: Partner-led with FAS/AS/HOM Review	
Draft AidWorks Investment number: INN145	
Delegate approving concept at post: N/A	
Delegate approving concept at desk/in Canberra: Robin Davies, Head, Indo-Pacific Centre for Health Security	

B: Problem/Issue definition and rationale for investment (Why)

The Indo-Pacific is a hotspot for emerging infectious diseases. Many countries have weak disease surveillance and containment systems and are therefore vulnerable to emerging and resurgent infectious diseases, including those caused by zoonotic and drug-resistant pathogens. A major disease outbreak could have severe health and economic implications with loss of life and disruption to regional trade, tourism and development. Countries are already dealing with the growth of antimicrobial resistance (AMR), which threatens to undo decades of medical advancement in the fight against high-burden bacterial and parasitic diseases. Other exacerbating challenges include climate and land-use change, rapid population growth and urbanisation. Health systems need not only to deliver better services but also to provide resilience to the emergence of epidemic-prone and drug-resistant diseases.

A stable and economically productive region is in Australia's national interest. Preventing and reducing the occurrence of major disease outbreaks benefits both human and animal health, protects the environment, and helps to prevent serious negative impacts on national and regional economies. Australia has a demonstrated capacity to prevent, detect and rapidly respond to public health threats. With significant expertise in key areas including public health workforce development, surveillance and laboratories, health emergency response, infection prevention and control, vector control, and research and development for

global health, Australia is well placed to support other countries in the Indo-Pacific region to build and exercise their core capacities under the International Health Regulations (2005).

The Health Security Initiative for the Indo-Pacific Region, launched in October 2017, aims to contribute to the avoidance and containment of infectious disease threats in the Indo-Pacific with the potential to cause social and economic harms on a national, regional or global scale. This Investment Concept describes a substantial component of the wider Health Security Initiative for the Indo-Pacific region, funded at \$300 million over five years.¹

Following the launch of the Initiative in October 2017, investment priorities were progressively established during 2018 with reference to the central international normative frameworks for assessing public health capacity, and on the basis of consultations with partner governments, regional, international and non-governmental development organisations engaged in the provision of health security assistance, and key Australian research and operational agencies active in the field of infectious disease prevention, detection and response.² Lessons were also drawn from reviews of evidence and practice from Australia’s long history of support for infectious disease management.

Country and multi-country investments under the Initiative are concentrated in Southeast Asia, Papua New Guinea (PNG) and the Pacific island countries, and fall under one or more of three overarching objectives as shown below.

GOAL	To contribute to the avoidance and containment of infectious disease threats in the Indo-Pacific with the potential to cause social and economic harms on a national, regional or global scale		
OBJECTIVES	ANTICIPATE	AVERT	ARREST
	To help countries assess their infectious disease threats and capacity deficits, and equip themselves with appropriate policy and regulatory arrangements, particularly with respect to access to medicines and vector control technologies	To mitigate infectious disease threats through support for improved infection prevention and control; vector control; and surveillance of infectious diseases, immunisation coverage and treatment-resistance in pathogens and vectors	To build capacity to detect and respond to infectious disease outbreaks through laboratory strengthening; targeted public health workforce development; and support for improved outbreak detection and management systems.

¹ For additional information on the Health Security Initiative for the Indo-Pacific region, including foundation and subsequent investments, see the [Provisional Strategic Framework](https://indopacifichealthsecurity.govcms.gov.au/sites/default/files/Health%20Security%20Initiative%20Provisional%20Strategic%20Framework.pdf?v=1554340970) for the Initiative ([https://indopacifichealthsecurity.govcms.gov.au/sites/default/files/Health%20Security%20Initiative Provisional%20Strategic%20Framework.pdf?v=1554340970](https://indopacifichealthsecurity.govcms.gov.au/sites/default/files/Health%20Security%20Initiative%20Provisional%20Strategic%20Framework.pdf?v=1554340970)).

² In early-mid 2018, a team of experts visited Solomon Islands, Fiji, Papua New Guinea and Samoa, and also met heads of health agencies from other Pacific island countries in the margins of a regional meeting. Another team visited Indonesia, Myanmar, Laos, Cambodia and Vietnam, and also consulted with regional and international organisations in Thailand and the Philippines. Scoping reports were prepared for the two regions, together with country-specific reports for the countries visited. These reports provide an assessment of the health security context, informed where relevant by the findings of WHO-led Joint External Evaluation processes, and make broad recommendations for action. As public health workforce development was identified as a particularly high priority in all discussions with partner governments and organisations in the region, CHS further commissioned experts in that field to develop an overarching investment design for Australian assistance in workforce development. For scoping reports, see the [Indo-Pacific Centre for Health Security publications page](https://indopacifichealthsecurity.dfat.gov.au/publications/) (<https://indopacifichealthsecurity.dfat.gov.au/publications/>). The [workforce design](https://indopacifichealthsecurity.govcms.gov.au/sites/default/files/Health%20Security%20Workforce%20Design.pdf?v=1554338559) can be found at <https://indopacifichealthsecurity.govcms.gov.au/sites/default/files/Health%20Security%20Workforce%20Design.pdf?v=1554338559>.

ENABLE: To provide expertise, financing and support to key multilateral, regional and whole-of-Australian-government partner organisations in support of the above objectives

Threat mitigation activities under the “Avert” objective are supported in PNG, Timor-Leste and the Pacific island countries; detection and response activities under the “Arrest” heading are supported across Southeast Asia and the Pacific. The totality of activities under each objective is intended to recognise the importance of adopting a One Health approach to capacity-building in health security—that is, an approach that reflects the zoonotic origins of most emerging infectious disease threats and works at the interface between human and animal health.

In addition, investments in enabling partnerships are providing expertise, financing and support to key multilateral, regional and whole-of-Australian-government partner organisations to further the above objectives and ensure Australia’s full engagement in global health security processes, including the Global Health Security Agenda and the World Health Organisation’s Asia-Pacific Strategy for Emerging Diseases and Public Health Emergencies.

Countries across Southeast Asia and the Pacific are vulnerable to the internal and cross-border spread of infectious diseases. Analysis of the findings of WHO-led Joint External Evaluations (JEEs) and other assessments points to relatively stronger prevention capacity in many Southeast Asian countries as compared to Papua New Guinea, Timor-Leste and Pacific island countries. Countries in Southeast Asia face relatively greater deficits in areas relating to detection and response, including the aggregation of syndromic and event-based surveillance data, reliable laboratory diagnosis, the depth of the field epidemiology workforce, risk communication and the coordination of outbreak response.

The program will be implemented in the Pacific region, namely – PNG, Timor-Leste and the Pacific island countries (any of Solomon Islands, Vanuatu, Fiji, Tuvalu, Kiribati, Nauru, Samoa, Tonga, Cook Islands and Niue).

Separate to this investment, a program of detection and response activities for Southeast Asia, PNG and the Pacific island countries is also planned and outlined in an additional Investment Concept. This investment will be known as the ASEAN-Pacific Infectious Disease Detection and Response (APIDDaR) Program.

Many Australian institutions are already involved in capacity-building activities in and for Southeast Asia and the Pacific in connection with infection prevention and control, vector control and surveillance of infectious diseases, immunisation coverage and treatment-resistance in pathogens and vectors. This partnership grants program provides an opportunity for such organisations, as well as other regional and international actors with strong track records, to extend, intensify and better connect their efforts in these three areas under a single funding umbrella and performance framework.

Program performance assessment arrangements for this partnerships grants program, as for the Health Security Initiative as a whole, will seek to measure Australia’s contribution to the achievement of partner country progress towards sustainable infectious disease prevention capacity relative to the core capacities described in the International Health Regulations and related capability assessment frameworks including the World Organisation for Animal Health’s (OIE) Performance of Veterinary Services (PVS) framework.

C: Proposed outcomes and investment options (What)

The objective of the program, in line with the AVERT objective articulated above, is to build capacity in PNG, Timor-Leste and the Pacific island countries to mitigate infectious disease threats through support for

improved infection prevention and control; vector control; and surveillance of infectious diseases, immunisation coverage and treatment-resistance in pathogens and vectors.

The program's component areas, accordingly, are as follows:

- a) improved infection prevention and control;
- b) vector control; and
- c) surveillance of infectious diseases, immunisation coverage and treatment-resistance in pathogens and vectors.

The desired end-of-program and intermediate outcomes, and activity areas, are specified in the provisional program logic for this investment at Annex 2. The final program logic will be determined following partner selection and the collaborative development of detailed work plans.

Proposals will be sought for activities addressing one or more of the program components and judged likely to contribute materially to the end-of-program outcomes. Proponents will be asked to identify the primary beneficiaries of the proposed activities, and will be required to provide specific information on how women and girls will participate and benefit.

Activity proposals to the value of \$2 million or more will be preferred but high-quality smaller projects may be considered. Exact allocations to the three program components will be determined following partner selection but the following is provided as a rough guide: \$6-8 million for infection prevention and control; \$10-14 million vector control; and \$5-7 million for surveillance of infectious diseases, immunisation coverage and treatment-resistance in pathogens and vectors.

A partnership grants program modality is the preferred option for delivery of this investment. Competitive resource allocation will promote innovation, economy and the formation of alliances among proponents working in related fields and locations. The partnership grants modality, involving collaborative design processes that simultaneously engage all selected proponents and other existing delivery partners, will ensure that all activities support the program's overall objectives in the most coherent, flexible and efficient way. A DFAT-led design process was judged to be less appropriate owing to the depth of expertise that resides in the many stakeholder organisations in the field of health security, and the limited availability of evidence on pathways to impact for development assistance interventions in public health. The partnerships supported through this investment will sit alongside a range of multilateral and other institutional partnerships already supported by the Health Security Initiative.

D: Implementation/delivery approach (How and with whom?)

This investment will be delivered through a partnership grants program following an open call for proposals. Grants will support activities implemented over a three-year period, from July 2019 to June 2022. It is anticipated that DFAT will enter into Grant Agreements with an estimated 3-6 partner organisations or consortia under this program.

The request for proposals will indicate that proposals from organisations or consortia will be assessed on the basis of demonstrated capability and broad concepts, with detailed activity designs, including monitoring, evaluation and learning frameworks, to be developed in collaboration with CHS following partner selection. Specialised program design assistance will be made available to partners where necessary.

Following completion of detailed activity designs, DFAT will prepare an overarching Investment Design Summary, as is required for partner-led designs, and submit it together with the activity designs for independent appraisal. The Summary will incorporate a revised program logic and a performance assessment

framework for the program, drawing upon and integrating the monitoring, evaluation and learning frameworks developed for individual activities under the program. Program implementation will commence once quality assurance processes are complete.

E: Risk assessment approach (What might go wrong?)

Key risks for this investment are:

- insufficient alignment with partner governments' health security priorities and/or other health-sector programs supported by DFAT or other agencies;
- insufficient partner technical and administrative capacity to design and/or implement and/or monitor and evaluate activities efficiently and effectively; and
- inadequate treatment of risks associated with the long-term sustainability of impacts achieved through activities at the end of the three-year investment period.

These risks will be managed by:

- selecting and managing activities in close coordination with partner governments, DFAT's country program personnel at posts and on desks, and other relevant funding sources;
- ensuring delivery partners have sufficiently strong technical and project administration capacity or, where there is a good case for doing so, supplementing this capacity; and
- requiring and supporting partners to develop strategies for sustaining impacts beyond the program timeframe, including by building support for domestic implementation in partner countries and establishing twinning/mentoring relationships that will persist beyond the program timeframe.

Broad activity concepts will be required to include information on proposed approaches to risk management. Risk management plans will be incorporated into detailed activity designs. Information in relation to risks and safeguards will be required in six-monthly reports, with emerging or unanticipated risks highlighted to DFAT as they occur. A risk register for the entire investment will be managed and updated by the CHS Program Manager. Processes for managing risk and alerting DFAT of problems will be outlined in the program's inception workshop.

This investment has been assessed as carrying no risks in relation to displacement/resettlement or environmental sustainability. Activity proposals will be required to outline the extent of contact with children and, where relevant, how risks will be assessed and managed through recruitment, deployment and monitoring processes in line with DFAT's Child Protection Policy requirements. For successful partner organisations, evidence must be provided of the organisation's (and relevant consortium partners') DFAT-compliant child protection policy. During implementation, checks of compliance and the presence of appropriate safeguards will be carried out by DFAT as part of routine monitoring.

F: Proposed design and quality assurance process (What are the next steps?)

An open call for proposals will be issued in March 2019. Proponents will be allowed eight weeks to prepare capability statements and broad concepts that address outcomes described in Section C. It is envisaged that the selection of partners will be completed, and Grant Agreements signed, in June 2019, with the collaborative design of activities to be undertaken in July-August 2019. The call for proposals will be open to all organisations.

The selection criteria for proposals will assign specified weights to three areas: national and regional health security significance of the development needs to be addressed by proposed activities; quality of the broad activity concept; and organisational capability and track record.

To assure quality, proposals will be shortlisted, ranked and assessed by a panel of individuals who bring expertise and knowledge in the several component areas of the program, as well as capacity building and program design and management.

DFAT will establish a Grant Review Panel (GRP), comprising technical experts, to assess and rank conforming applications against set Selection Criteria. The panel will include members with appropriate expertise to:

- a) review applications against the assessment criteria
- b) review budgets to ensure value for money
- c) score applications to produce a ranked list of applications with recommendations for funding to provide to DFAT.

The panel will be conducted on a confidential basis and panel members are required not to discuss matters relating to the assessment of any proposal with any external party. Applicants must not seek contact with any members of the panel, and any such contact will be considered a breach of confidentiality and may result in DFAT rejecting the proposal of the applicant concerned. DFAT will undertake an internal review of the GRP's ranked list of applications and recommendations. DFAT may seek additional advice on any Activity Proposal if required. Note that issues not relevant to the Selection Criteria and budget will not be considered. DFAT reserves the right to make final grant funding decisions. Proposal and high level activity plans for selected proposals will be used to develop a consolidated investment design, program logic and framework for performance assessment. This design will be developed, appraised and approved in line with requirements outlined in DFAT's Aid Programming Guide. Designs will be externally appraised.

Annex 1: Risk and safeguards assessment tool

Table 1: Safeguard Screening Checklist

Environmental and Social Safeguards	No, Yes Unsure	If Yes or Unsure		Risk rating before controls
		Likelihood	Consequence	
Environmental protection				
<p>1.1 Could the investment have an adverse impact on the environment? For example, by supporting or providing advice on any of the following:</p> <ul style="list-style-type: none"> • infrastructure development, such as roads, bridges, airports, railways, ports, dams, water, sanitation and hygiene (WASH), waste management, telecommunications, energy production and distribution facilities, urban development. • construction/renovation/refurbishment/demolition of buildings such as schools, hospitals, health facilities or any of the infrastructure above • diversion of water, including for water supply, irrigation, flood-mitigation, or aquaculture • rural development, agriculture, food production, or forestry activities • activities in the extractives (oil, gas, mining), manufacturing, transportation and tourism sectors. 	No	Choose an item.	Choose an item.	Low
<p>Guidance: Environmental Protection safeguard webpage or contact aid safeguards@dfat.gov.au for more information.</p>				
<p>1.2 Could the investment increase environmental, climatic and/or social vulnerability, including by (but not limited to):</p> <ul style="list-style-type: none"> • increasing emissions of greenhouse gases (e.g. energy intensive process will lead to an increase in Green House Gas production) • reducing incentives to adapt (e.g. change in social norm away from responsible water conservation to increased consumption) • increasing the vulnerability of people (particularly the most vulnerable) or the environment to climate change (e.g. pesticides, used to eradicate mosquitoes that carry dengue fever, damage native insect populations which reduces agricultural productivity, leading to food insecurity) • increasing the impact of disasters, e.g. will infrastructure building codes and specifications be adequate for the intensity of disasters/hazards experienced in the investment area (e.g. floods, earthquakes, cyclones), will the investment impact the food security of a vulnerable population • setting paths that limit future choices (e.g. large capital and institutional commitment reduces portfolio of future adaptation options). 	No	Choose an item.	Choose an item.	Low
<p>Guidance: Climate action and disaster resilience webpage; Humanitarian and disaster risk reduction webpage or contact resilience@dfat.gov.au for further information.</p>				
Children, vulnerable and disadvantaged groups				
<p>2.1. Could the investment have an adverse impact on vulnerable and/or disadvantaged groups including children, women, people with disabilities, minority groups, or the elderly?</p>	No	Choose an item.	Choose an item.	Low
<p>2.2. Could the investment involve contact with children or working with children?</p>	Yes	Possible		Low
<p>Guidance: Children, vulnerable and disadvantaged groups safeguard webpage; Child protection webpage or contact childprotection@dfat.gov.au; Gender equality and empowerment of women and girls webpage or contact gender.equality@dfat.gov.au; Disability-inclusive development webpage or contact disability.inclusive.development@dfat.gov.au for further information.</p>				

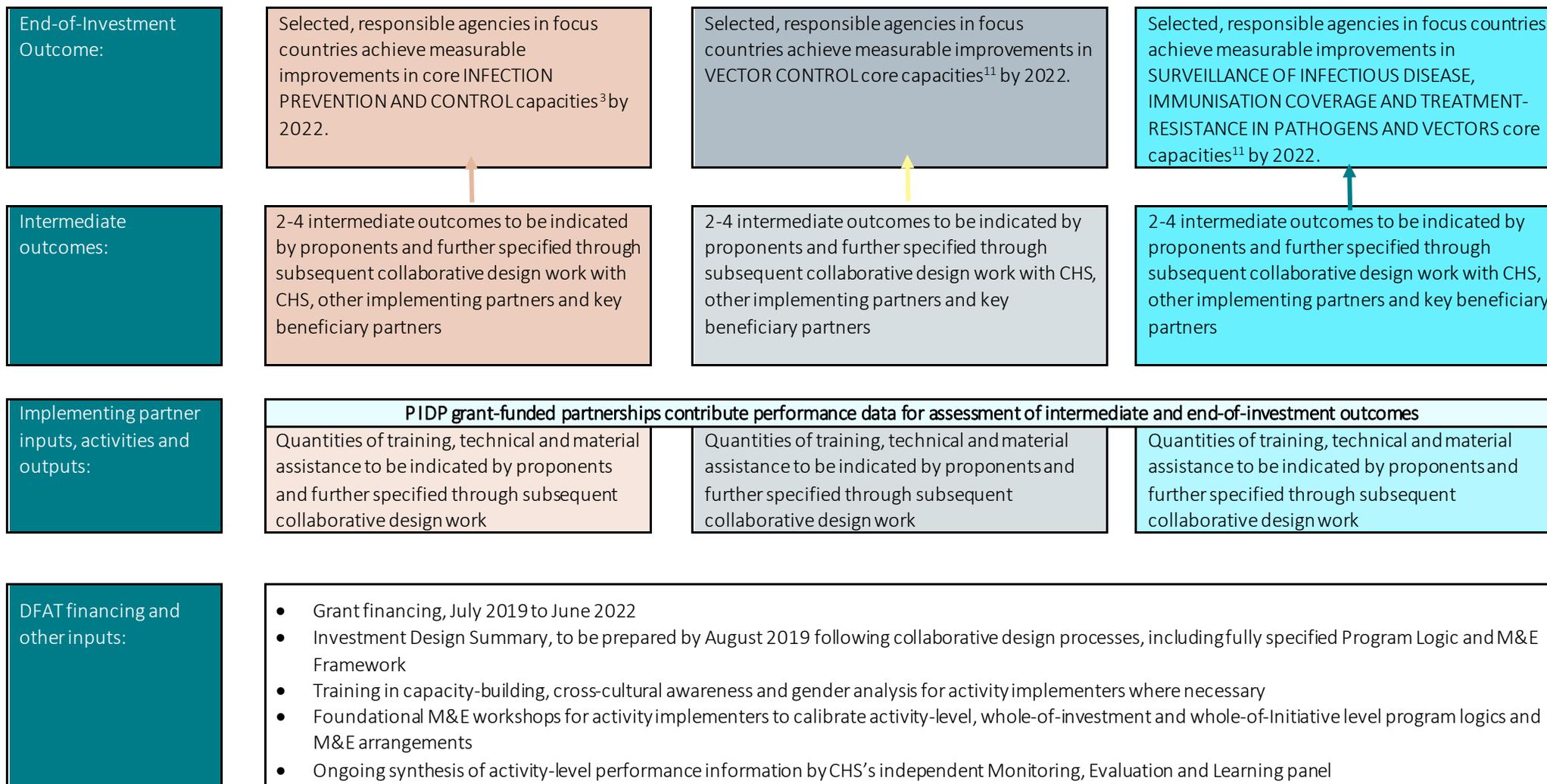
Environmental and Social Safeguards	No, Yes Unsure	If Yes or Unsure		Risk rating before controls
		Likelihood	Consequence	
Displacement and resettlement				
3.1 Could the investment involve activities or provide advice about an activity that will: <ul style="list-style-type: none"> displace people, either physically or economically exclude or reduce people's access to land they live on or used to generate livelihoods exclude or reduce people's access to land that is of cultural or traditional importance to them? 	No	Choose an item.	Choose an item.	Choose an item.
Guidance: Displacement and resettlement safeguard webpage or contact resettlement@dfat.gov.au for further information.				
Indigenous peoples				
4.1. Could the investment involve activities that adversely impact the: <ul style="list-style-type: none"> dignity, human rights, livelihood systems or culture of indigenous peoples land or natural and cultural resources that indigenous peoples own, use, occupy or claim? 	No	Choose an item.	Choose an item.	Choose an item.
Guidance: Indigenous peoples safeguard webpage or contact humanrights@dfat.gov.au for further information.				
Health and safety				
5.1. Could the investment involve activities that adversely impact the health and safety of workers and/or communities?	No	Choose an item.	Choose an item.	Choose an item.
5.2. Could the investment involve DFAT workers?	No	N/A		
5.3. Could the investment involve risk of exposing workers and/or communities to asbestos?	No	N/A		
Guidance: Health and safety safeguard webpage or contact whs@dfat.gov.au or aid safeguards@dfat.gov.au for further information.				

Table 2: Investment Risk Summary

		Highest individual risk rating in each category (before controls)
1.	Operating environment: What factors in the operational or physical environment (political instability, security, poor governance, lack of essential infrastructure, gender inequality etc.) might impact directly on achieving the objectives?	Low
2.	Disaster risk: Is the investment or intended outcomes exposed to disasters that typically occur in the investment area and/or country? Disaster impacts could include the risk of damage to infrastructure, loss of life, and other economic and social impacts.	Low
3.	Development Results: How realistic are the objectives and can they be achieved within the timeframe? Are the objectives/results sustainable? Would the failure to achieve the results in the proposed timeframe, or at all, affect the targeted beneficiaries directly? What factors may prevent the objectives being met?	Medium
4.	Partner capacity and relations: Could a relationship breakdown occur with key partners or stakeholders and would this prevent the objectives/results from being achieved? Does the intended partner (if known) have the capacity to manage the risks involved with this investment? Could differing risk appetites affect the relationship? Do all partners have the capacity and capability to manage their role/work involved in this investment?	Medium
5.	Fiduciary and fraud: Are there any significant weaknesses which mean funds may not be used for intended purposes, not properly accounted for or do not achieve value for money? (Fraud Control and Anti-Corruption Strategies and Assessments of National Systems will assist in identifying significant risks.)	Medium
6.	Compliance: Is there a risk that poor program management may lead to a breach of investment accountability, legislative/ contractual or security obligations? Is there a risk that DFAT aid program funding could be diverted for use by terrorists? (Refer DFAT's <i>Approach to Managing Terrorism Financing Risk</i> policy)	Low
7.	Reputation: Could any of the risks, if they eventuated, cause damage to DFAT's reputation? Could any aspect of implementation damage bilateral relations?	Medium
8.	Environment and Social Safeguards: Do any of the activities involved in this investment have the potential to cause harm to the environment and people - (environmental protection; children, vulnerable and disadvantaged groups; displacement and resettlement, indigenous peoples; health and safety)?	Low
9.	Other: Are there any other factors specific to this investment that would present a risk (e.g. this is a new area of activity or it is an innovative approach; are DFAT resources (budget, people, or timeframes) critically constrained)?	Low
10.	Overall Risk Rating (see step 3 for how this is calculated):	Low – risk

Annex 2: Provisional PIDP Program Logic

Goal:	To contribute to the avoidance and containment of infectious disease threats in the Indo-Pacific with the potential to cause social and economic harms on a national, regional or global scale
Objective:	AVERT: To mitigate infectious disease threats through support for improved infection prevention and control; vector control; and surveillance of infectious disease, immunisation coverage and treatment-resistance in pathogens and vectors



³ Related capability frameworks include WHO frameworks and assessment tools relating to laboratory, public health workforce and outbreak monitoring and management capacity, and the World Organisation for Animal Health's (OIE) Performance of Veterinary Services (PVS) assessment framework.

Annex 3: Example PIDP Monitoring and Evaluation Framework at design stage (Outcome Three Only)

Key Evaluation Questions:

- To what extent has the PIDP contribution resulted in improved capacity in targeted agencies?
- To what extent does the PIDP approach – grant based design/delivery activities – represent Value for Money?
- What activity strategies and approaches are working best in delivering results to contribute to PIDPP outcomes? Why?
- To what extent are PIDP funded activities operationalising Australia’s policies on gender equality and women’s empowerment?

	Indicator	Data collection method & frequency	Risks	Who will collect and analyse the data	Baseline	Target	Use
Broader goal: HSI Goal	To contribute to the avoidance and containment of infectious disease threats in the Indo-Pacific with the potential to cause social and economic harms on a national, regional or global scale						
Relevant Strategic Objective: ARREST	To mitigate infectious disease threats through support for improved infection prevention and control; vector control; and surveillance of infectious disease, immunisation coverage and treatment-resistance in pathogens and vectors						
End-of-investment outcome one: Selected, responsible agencies in focus countries achieve measurable improvements in core SURVEILLANCE OF INFECTIOUS DISEASE, IMMUNISATION COVERAGE AND TREATMENT-RESISTANCE IN PATHOGENS AND VECTORS capacities ⁴ by 2022.	<p>Changes in, for example:</p> <ul style="list-style-type: none"> • Effective multisectoral coordination on AMR • Surveillance of AMR • Vaccine coverage as part of national program • Surveillance systems • Use of electronic tools • Coordinated surveillance systems in place in the animal health and public health sectors for zoonotic diseases/pathogens identified as joint priorities 	<ul style="list-style-type: none"> • State part self-assessments (annually) • Joint External Evaluations • Activity implementer surveys of knowledge attitude and practices (six-monthly) • Quality assurance of unit reports (on-going) • Community surveys/focus group discussions (annually) • Cost / benefit analysis (annually) 	<ul style="list-style-type: none"> • Inadequate resourcing by partner government • Low capacity base in targeted Units. • Lack of engagement by PG and/or targeted Units • Inadequate capacity building capacity amongst technical advisers. 	<ul style="list-style-type: none"> • Designated personnel in targeted Units • Activity implementer M&E personnel • Activity implementer technical advisers • PIDP sub-contracted local consultant • PIDP sub-contracted economist 	<ul style="list-style-type: none"> • States Parties assessment of status of IHR implementation. • Use WHO JEE/SPAR core capacity as a baseline, or establish a relevant baseline. 	<p>Capability level of targeted agencies and staff moves from a defined baseline to defined target level Outputs and Outcomes by 2022.</p> <p><i>(This target would be broken down into annual targets and appropriately monitored in activity implementer M&E frameworks)</i></p>	<p><i>Partner government</i> uses results to report annually to WHO on progress in developing core capacities.</p> <p><i>WHO</i> uses information to prepare its global reports and to identify specific areas where further WHO and partner support is required.</p> <p><i>PIDP funded activity implementers</i> uses the data for management, continuous improvement and accountability/ reporting.</p> <p><i>DFAT</i> uses reports from project implementers to assess ‘whole-of-investment’ performance and to manage individual activities for improved performance.</p>

⁴ Related capability frameworks include WHO frameworks and assessment tools relating to laboratory, public health workforce and outbreak monitoring and management capacity, and the World Organisation for Animal Health’s (OIE) Performance of Veterinary Services (PVS) assessment framework.

Annex 4

Outcomes of scoping activities and references

1. *Southeast Asia, PNG and the Pacific island countries – challenges*

Countries in Southeast Asia are vulnerable to the internal and cross-border spread of infectious diseases and require better capacities to prevent, detect and respond to infectious disease threats and outbreaks. However, analysis of the findings of WHO-led Joint External Evaluations and other relevant assessments points to a substantial difference between the threat reduction capacity of Southeast Asian countries as compared with PNG, Timor-Leste and Pacific island countries. In general, the countries of Southeast Asia face the greatest capacity deficits in some particular areas relating to detection and response, including the rapid aggregation of syndromic and event-based surveillance data, reliable laboratory diagnosis, the depth of the field epidemiology workforce, risk communication and the coordination of outbreak response. However, for example, Indonesia and Vietnam have relatively strong national immunisation rates and manufacture their own vaccines.

By contrast, Papua New Guinea, Timor-Leste and the Pacific island countries face equally challenging capacity deficits across the full spectrum of health security core capacities spanning prevention, detection and response. This grouping of countries faces significant threats to health security from existing, emerging and re-emerging infectious diseases including malaria, tuberculosis (TB), dengue fever, childhood diarrhoea, acute respiratory infection, and various vaccine-preventable diseases (VPD) not already mentioned. Their ability to manage these threats is limited by capacity constraints in health service delivery and public health functions for health security and the geographic dispersion of their populations. The threats are aggravated by the effects of climate change and water scarcity. In addition, the evolving non-communicable disease (NCD) crisis in these countries is tied to their limited infectious disease control capacity through the emergence of AMR in bacteria occurring in diabetes-related infections, and also through the heavy reliance on international surgical services for Pacific island nationals.

As a strong focus of Australia's *Health for Development Strategy 2015-2020*, the Pacific region and Timor-Leste already receive a level of national and regional capacity building support in areas touching on surveillance of infectious diseases, immunisation coverage, vaccine quality, infection prevention and control (IPC) and vector control. The present investment provides an opportunity to capitalise on and extend existing activities in order to achieve a greater concentration of effort, improved cross-country coordination of assistance, and ultimately better outcomes for infectious disease prevention. Focusing Health Security Initiative resources on prevention in these countries, rather than spreading it across Southeast Asia and the Pacific, is an important prerequisite for achieving lasting impact.

2. *The PNG, Timor-Leste and Pacific island country cluster – challenges*

The Pacific region is increasingly exposed to the risk of importation and spread of infectious diseases, including emerging and re-emerging diseases. It is now possible to travel from Asia and beyond to most countries in the Pacific within the incubation period of many infectious diseases of international public health concern. Countries are increasingly exposed as a result of improved air links, increasing numbers of workers and visitors, large numbers of Pacific students travelling outside the region, and hospital-acquired infections from overseas medical treatment. Emerging infectious diseases such as Zika, chikungunya and Japanese encephalitis pose a significant threat in the Pacific.

Although Fiji has the most "formed" infectious disease control systems (including many that provide regional support that benefits other Pacific island countries), none of PNG, Timor-Leste and the Pacific island countries has developed a full capacity to prevent, detect and respond effectively to infectious diseases and associated health challenges. Countries with little or no surge capacity to respond to an emerging or re-emerging infectious disease outbreak also have difficulty addressing their endemic disease threats.

Many countries have outdated legal frameworks and legislation in the sectors that are relevant to infectious disease prevention and the IHRs. Human resources are generally insufficient to meet the requirements of the IHRs – with inadequate numbers, a sub-optimal mix of skills, poor professional development pathways, and little communication and coordination across the human-animal health interface. Public Health Emergency Preparedness and Response Plans

(PHEPRPs) are generally not in place and, where they are, not adequate to support multi-sectoral “all-hazards” approaches.

No country is performing strongly against many of the core capacities under the IHR Monitoring Framework (as assessed through annual State Party reports to WHO), and at this time only the Federated States of Micronesia and Timor-Leste have undertaken a JEE.

In addition to the scoping exercises and consultative workshops mentioned above, this program has been informed by relevant findings and recommendations of the Office of Development Effectiveness (ODE) *Evaluation of DFAT’s Pandemics and Emerging Infectious Disease Portfolio 2006-2015*. That evaluation pointed to achievements in strengthening infectious disease surveillance, laboratories, leadership and governance for infectious diseases, attention to gender issues, and public health functions of the human and animal health workforce. However, it noted that ongoing health threats have highlighted the fragility of these gains and the slow progress in the implementation of the IHRs.

The ODE evaluation underlined a number of key lessons for health security investments, including that such investments need to be integrated into the health systems of partner countries and should take a differentiated approach accounting for differences between animal and human health systems, and between countries. Other key lessons were as follows.

- Given the multiplicity of actors in the health sector and the challenges of coordination and collaboration across the Pacific region, DFAT should remain engaged in Pacific Regional Health Security (PaHSec) coordination mechanism in order to coordinate effectively with partners about investment priorities and programs.
- Investments should focus on sustainable capacity building and systems strengthening across a range of endemic, emerging and re-emerging infectious diseases.
- DFAT should seek to strengthen systems and approaches outside crisis or high-threat situations so that protective measures and behaviours are more likely to be in place when outbreaks occur.
- It is critical to involve communities in activities aimed at promoting prevention and preparedness for infectious disease outbreaks. Key community members can play an effective role in explaining complex health issues and policies, and in encourage community mobilization for risk reduction.

The more specific health security challenges faced by countries in the PNG/Timor-Leste/PIC cluster, which correspond to the three objectives and program components of the investment, are discussed further below.

2.1 Infectious disease and immunisation surveillance

Effective national surveillance to monitor the occurrence of infectious diseases, the extent of immunisation coverage and the emergence of treatment-resistance in pathogens and vectors is a critical element of any national public health system. While vaccine acceptance is generally high across the region, countries perform variably and sometimes poorly relative to their immunisation coverage targets (especially at sub-national levels). Several countries in our region have recently experienced outbreaks of measles, diphtheria and, in the cases of PNG and Indonesia, circulating vaccine-derived polio virus disease. Antimicrobial and insecticidal resistance is a growing threat in parts of the region. Drug-resistant tuberculosis is creating a significant public health burden in PNG, Indonesia, the Philippines and elsewhere; drug-resistant malaria is spreading in the Greater Mekong Sub-region, and the Pacific island countries are vulnerable to the importation of drug-resistant bacterial infections via international medical referral arrangements.

Joint External Evaluations and national self-assessments across the Indo-Pacific region have highlighted the need for improved surveillance, as well as the need better to link surveillance systems with national field epidemiology training programs (FETPs) and national incident management systems. Achieving better communication between human and animal health information systems has also consistently been identified as a challenge. In order to meet the JEE target for demonstrated capacity related to routine public health surveillance, a functioning surveillance system with quality assurance should be in place at central and intermediate levels. Other attributes that should be in place are appropriate timeliness for reporting, electronic reporting tools, linkages between human and animal health information systems, and capacity and systems for regularly aggregating and analysing data.

The ODE evaluation and scoping mission reports highlighted the need to:

- build the capacity of partners to collect, analyse and use surveillance data for policy, planning and response;
- strengthen surveillance with respect to immunisation coverage and vaccine preventable diseases;
- support community-based surveillance where community or cultural issues might prevent effective data collection by health authorities;
- be mindful that information flows can be constrained by governance and jurisdictional issues;

- exploit advances in information and communications technology to develop more timely, flexible, cost-effective, targeted and fit-for-purpose models for animal and human health surveillance; and
- ensure data are not only collected but used to inform policy and planning, including contingency planning for outbreak response.

Despite ongoing weaknesses of the surveillance network in the Pacific region, consultations undertaken by CHS indicate that developments over the past decade—and particularly the establishment of the Pacific Public Health Surveillance Network (PPSHN)—have had positive impacts. Nevertheless, a recent review of the Pacific Public Health Syndromic Surveillance System found that:

- data collection and quality is uncertain or poor;
- the number of sentinel sites is low and communication networks poor; and
- systems are not meeting the needs of public health authorities for outbreak detection, with only large outbreaks likely to be detected.

2.2 Infection prevention and control and antimicrobial resistance

Chronic disease, offshore medical referrals, bacterial contamination, sub-optimal antimicrobial use and AMR are inextricably linked in the Pacific. Pacific governments are well aware of the consequent health security threats, most notably the danger of importation of pathogens including antimicrobial resistant organisms.

In PNG, for example, there is widespread multi-drug resistant TB and occasional cases of extensively drug-resistant TB (XDR-TB), with sporadic cases and occasional clusters of MDR-TB in some other countries. In Timor-Leste, the TB case detection rate is estimated to be low and antimicrobial susceptibility testing (AST) is rarely performed.

Functional infection prevention and control committees exist in some countries (e.g. Fiji) but not in others. At a regional level, SPC's Pacific Infection Control Network (PICNET) was previously a strong mechanism for infection control in the region, but it is now largely inactive. The Pacific Open Learning Health Network (POLHN), that includes infection control modules, is an online learning portal that has good usage rates, despite the internet connectivity constraints across the region.

The ODE evaluation and scoping reports highlighted that:

- functioning infection control committees and better leadership are key to improving IPC;
- hospitals can improve their IPC with strong leadership and buy-in by a core group of technical experts;
- health security work is not well linked to water, sanitation and hygiene efforts, especially at sub-national levels;
- positive results can come from a combination of lower-cost, broad-coverage public communications on disease prevention and more resource-intensive community-level interventions where required; and
- women play a key role in IPC in their families, communities and where they work in the health sector.

Key challenges in IPC and AMU include:

- outdated guidelines on IPC policies and protocols for the health systems and health facilities;
- human resource limitations;
- IPC Committees that, if they exist, do not meet regularly and do not have access to routinely collated data on AMR organisms in health care settings to support proactive policy setting and monitoring;
- limitations of surveillance systems that mean available data are not being analysed and the extent of AMR remains incompletely understood;
- the association between NCDs and infectious diseases (often drug-resistant), which is resulting in recurrent hospitalisations, multiple courses of antibiotics, and increasing expenditure on pharmaceuticals and laboratory reagents;
- a lack of basic sanitation and safe water supplies in health facilities, which potentially renders IPC efforts ineffective;
- poor hospital design, which means that some hospitals are effectively uncleanable or not amenable to the establishment of isolation wards;
- isolation wards that, where they do exist, are not fit for purpose;
- inefficient procurement pathways, which undermine access to adequate personal protective equipment (PPE) and pharmaceutical supplies (and can lead to poor practices such as improvising, re-using single use equipment and keeping opened single use vials);
- few or no medical rooms at points of entry, particularly at seaports (and unclear protocols or inconsistent staffing where such rooms do exist at airports)

- poor information flows to front-line health workers and other personnel (e.g. at points of entry) from central health agencies and across sectors.

2.3 Vector control

In the Pacific region, PNG, Solomon Islands and Vanuatu continue to experience malaria transmission. PNG has the most intense transmission with all four human malaria parasites circulating. Although significant progress in malaria control was made in PNG until 2014, when national malaria prevalence dropped below one per cent, the country is now experiencing a substantial resurgence in malaria prevalence owing both to health system deficiencies and entomological factors. There is extensive evidence, cited by WHO, that much of the success to date in controlling malaria is due to vector control, and that vector control is the only intervention that can reduce malaria transmission from very high levels to close to zero.⁵

The incidence of dengue fever in the Pacific has risen in recent years owing in part to increased urbanisation accompanied by poor water and sanitation services, which has provided breeding environments for the disease's primary vector, the *Aedes aegypti* mosquito (also a vector of the Zika, chikungunya and yellow fever viruses, and of the parasites that cause lymphatic filariasis). Poor surveillance means that there are no reliable estimates of the number of dengue cases occurring each year. Both endemic and epidemic transmission occurs, although this varies by country. Large outbreaks can affect a number of countries in the region at once and a high proportion of the population. The outbreak of dengue serotype 2 in Fiji in 2013-14, for example, reportedly affected approximately 20 percent of the population (refer: Kucharski, 2018).

Outbreaks of chikungunya have been reported in the Pacific region since 2012 but it is believed that the virus may have been present in PNG for much longer. The first recorded human outbreak of Zika virus occurred in Micronesia in 2007 and subsequent outbreaks have spread throughout the region and beyond (notably between 2013-2017 when Zika spread across the Americas). Ross River Virus is also believed to circulate in some areas. While several Pacific countries have succeeded in eliminating lymphatic filariasis as a public health problem, it remains endemic in nine countries/territories.

In Timor-Leste, the malaria control program has achieved reductions in incidence through improved surveillance, prevention and treatment strategies. Dengue outbreaks occur annually with limited data describing the epidemiology and disease control strategies. There were also outbreaks of chikungunya in 2016.

Investments in practical vector control activities through this Initiative will complement two existing, R&D-oriented investments in vector control. The Initiative already supports the Innovative Vector Control Consortium (\$18.75 million over five years) to develop new chemical vector control products, including residual sprays, impregnated bednets and outdoor traps, that work safely, effectively and address the growing problem of insecticide resistance. Some of these products are likely to be trialled in PNG and/or other Pacific island countries. In addition, DFAT has committed funding of up to \$18 million, principally through the innovationXchange, to the World Mosquito Programme for an operational research programme aimed at blocking transmission of the dengue virus by infecting vectors with *Wolbachia* bacteria. DFAT funding supports WMP trials in Fiji, Kiribati and Vanuatu.

New investments in vector control will also complement existing support under the Initiative for the regional coordination of vector control efforts by the Vector Control Working Group of the Asia-Pacific Malaria Elimination Network, which is hosted by the Singapore-based Asia-Pacific Leaders Malaria Alliance (APLMA). DFAT has committed \$10 million to APLMA over five years, alongside a similar level of funding from the Bill and Melinda Gates Foundation.

Bednet distribution and other vector control activities are supported by the Global Fund to Fight AIDS, TB and Malaria across the PNG, Timor-Leste and the Pacific island countries, with particular emphasis on PNG, Solomon Islands and Vanuatu. Intermediary delivery organisations include national malaria programs, Rotarians Against Malaria, and local civil society organisations. Additional vector control assistance provided under the Initiative will complement Global Fund support and seek opportunities to increase the impact and sustainability of that support, including through improved vector surveillance, strengthened entomology training and other workforce development measures, and better regional networking of vector control programs.

Broad lessons from the scoping missions and the ODE evaluation highlight that:

- decision makers need to be attentive to developments in public health entomology in order to be receptive to new vector control techniques and technologies;
- public health decision-making processes should include vector control specialists where relevant;

⁵ See <http://www.ivcc.com/who-malaria-fact-sheet>.

- high priority should be accorded to gathering robust evidence before implementing novel vector control programs or products, and regulatory pathways for approval of new products need to be clarified and strengthened; and
- communities have a particular role to play in vector control, for example, through reducing dengue risk via environmental clean-ups and education campaigns.

Key challenges in vector control include:

- career pathways and retention and succession planning arrangements for the medical entomology workforce in the region are inadequate, with an older cohort dominating the current workforce and limiting opportunities for advancement;
- training and capacity development in integrated vector management, entomology, vector surveillance and environmental health is urgently required;
- even where training has been undertaken, trainees often encounter difficulties applying their knowledge in their workplaces and influencing disease control strategies, given limited resources and the fact that entomologists largely operate outside decision-making processes; and
- health ministries are often siloed, resulting in limited opportunities for entomologists to communicate within and across departments and agencies.

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