AMRRIC'S BIOSECURITY PILOT PROJECT

Evaluation report

Aboriginal and Torres Strait Islander viewers please be aware that this report may contain images of deceased peoples.

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Animal Management in Rural and Remote Indigenous Communities

Jan 2025

EVALUATION METHODOLOGY

This evaluation report was authored by AMRRIC's Head of Innovation and Strategy, Dr Bonny Cumming, who, together with community partners, initially conceptualised the project, and was subsequently responsible for its oversight.

The report includes analysis of the following data:

- AMRRIC App animal health and population data collected throughout the delivery of the project
- AMRRIC project and trip records collected throughout the delivery of the project
- AMRRIC staff qualitative feedback collected throughout the delivery of the project
- Training participant feedback survey responses collected throughout the delivery of the project
- End-of-project survey of community-based partners, collected following completion of the project's activities.

A personal impact story is also included from one of the project's training participants.

AMRRIC'S BIOSECURITY PILOT PROJECT - BACKGROUND

Project funding:
AMRRIC's Biosecurity Pilot Project - *Improving remote Indigenous community animal health surveillance and preparedness through collaboration* – ran from Sept 2021 to Dec 2024 and was funded by the Round 1 of the Biosecurity Business Grants Program, administered by the Australian Government Department of Agriculture, Fisheries and Forestry.

The grant program intended outcomes were to:

- **increase biosecurity capability including awareness, surveillance and response in northern Australia**
- **increase economic opportunities for Indigenous communities.**

AMRRIC'S BIOSECURITY PILOT PROJECT - BACKGROUND

Project rationale:
Vast distances, seasonal access challenges, cultural differences and limited or absent veterinary and animal health capacity within remote Indigenous communities pose significant challenges to the early detection of animal disease events. High burdens of ill-health among companion animals can mask biosecurity threats. Most remote Local Government Authorities across Northern Australia do not effectively implement animal management local laws or registration systems, further limiting the availability of accurate data on companion animal populations in remote regions of Northern Australia. Animal disease events such as the outbreak of *Ehrlichia canis*, and the threat of incursions of exotic diseases such as Rabies and Africa Swine Fever emphasize the urgent need for improved animal biosecurity data capture in remote Indigenous communities. **Improvements to companion animal biosecurity surveillance are necessary.**

Under the Australian Government Northern Australian Quarantine Strategy's existing model, Indigenous Rangers groups across Northern Australia are contracted to undertake animal health surveillance activities. There are often however other stakeholders involved with companion animal health and management in remote communities. Responsibility and funding for companion animal management in remote Indigenous communities varies between jurisdictions. In QLD and WA, Local Government Authorities and/or Aboriginal Environmental Health Service Providing Organisations are supported by the state Departments of Health to deliver basic companion animal health and management activities within remote Indigenous communities. In the NT, while Local Governments have animal management as a core responsibility, an absence of consistent support from the Northern Territory Government results in Local Governments often being unable to deliver these services, and in turn a range of stakeholders, often voluntarily, undertaking ad hoc animal health and management activities within their own communities. While these different stakeholders each do important work within their own regions, currently, there is not a consistent approach to companion animal population and health data collection across remote Northern Australia, and there is little collaboration between the various stakeholder groups (even within the same communities). **A more collaborative approach is required.**

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AMRRIC'S BIOSECURITY PILOT PROJECT - BACKGROUND

Project design:
The project design was underpinned by the following principles:

- Ensuring benefits to Indigenous communities;
  - engagement of Indigenous organisations as project partners
  - positively targeting Aboriginal and Torres Strait Islander candidates for the role of Biosecurity Project Manager and,
  - wherever possible, utilising Indigenous owned businesses as suppliers
- No survey without service; all data collection to occur alongside tangible and immediate services benefiting the community (e.g. provision of anti-parasitic treatments to all animals observed)
- Thorough stakeholder mapping, and promotion and facilitation of stakeholder collaboration opportunities
- Recognition and prioritisation of Indigenous Cultural and Intellectual Property protections, Indigenous Data Sovereignty and informed consent
- Support for, and enhancement of existing animal health services

Fee-for service arrangements with collaborating organisations were incorporated to aid in supporting Indigenous employment. Contextually appropriate animal-focused biosecurity training, delivered by AMRRIC, enabled syndromic surveillance data capture via the custom designed AMRRIC App. With negotiated agreements in place, aggregated data reports were then shared with project partners and biosecurity authorities.

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AMRRIC'S BIOSECURITY PILOT PROJECT - BACKGROUND

Project aims:

By partnering with remote Indigenous community stakeholders in Northern Australia to collect and report community animal health and biosecurity data, the project aimed to:

- **enable improvements to existing animal biosecurity surveillance activities**
- **build local biosecurity capacity,**
- **improve community animal health, and**
- **support Indigenous economic opportunities.**

AMRRIC'S BIOSECURITY PILOT PROJECT - BACKGROUND

Companion animal censuses as a contextually appropriate biosecurity surveillance model

AMRRIC's Biosecurity Pilot Project's utilisation of censuses as a model of companion animal biosecurity surveillance incorporate the following features:

- censuses advertised and promoted locally prior to occurrence
- local residents leading community interactions
- community-wide door-to-door engagement
- animal health syndromic surveillance (i.e. observing the health of animals and recording any problems (syndromes) they may be displaying)
- informed consent of householders required before treatment provision or data capture
- data captured by community-partner staff using the AMRRIC App
- presence of a veterinarian or vet nurse, providing expert advice to animal owners and community-partner staff about animal health concerns
- provision of animal first aid where required

The intended outcomes of this approach are:

- Enhanced knowledge of animal health and biosecurity in each region
- Improved animal health
- Improved understanding of remote community companion animal populations and their health
- Improved ability to detect and quickly respond to biosecurity threats

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AMRRIC'S BIOSECURITY PILOT PROJECT

Overall achievements snapshot

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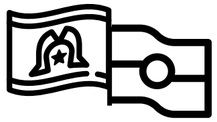
AMRRIC'S BIOSECURITY PILOT PROJECT

Achievements snapshot

24 companion animal biosecurity census and training trips delivered over 3 years



25 Aboriginal or Torres Strait Islander Communities across Northern Australia reached (10 of these visited >once)

328 Indigenous employment days generated (and a further **292** existing Indigenous employment days leveraged to support the project's biosecurity surveillance)

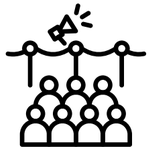
41 community-wide companion animal biosecurity surveillance events

19 organisations collaborated with AMRRIC to undertake biosecurity censuses

7945 animals surveilled, of which 7398 were treated with broad-spectrum anti-parasitics and first aid where required

126 participants trained, enhancing animal health and biosecurity capacity across Northern Australia

3 animals sampled and tested for biosecurity concerns at state laboratory (all negative)



21 school, community group and stakeholder engagement events delivered

>3700 household engagements in conversations about animal health and biosecurity

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AMRRIC'S BIOSECURITY PILOT PROJECT

Community partner feedback

"

The project provided a funded and meaningful work activity for rangers that had real impact on community and increased their skill sets.

The Tiwi Rangers enjoyed the work, it provided some additional funding to allow us to do the work and the community feedback has been positive.

The experience and knowledge gained from this project, bring greater awareness around biosecurity that may lead to employment opportunities or future partnership arrangements.

Demonstrating tangible improvements in animal health builds trust and engagement within the community. When community members see the positive impact of the project on their animals, they are more likely to support and actively participate in biosecurity efforts.

"

Quotes from end-of-project community partner survey

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AMRRIC'S BIOSECURITY PILOT PROJECT

Performance against project aims

PERFORMANCE AGAINST PROJECT DELIVERABLES

Deliverable	Planned	Achieved	Status
Companion animal biosecurity-focused capacity building training workshops	18 workshops across 6 regions of Northern Australia	24 workshop across 9 regions of Northern Australia	Exceeded
Employment opportunities for community members	42 community member employment opportunities, totalling approximately 108 days of employment	89 individual Indigenous community members employed 328 Indigenous employment days generated	Exceeded
Employment of a full time Project Officer	1 FTE over 3 years Recruitment to positively target Aboriginal and Torres Strait Islander Peoples	1FTE Biosecurity Project Manager engaged for majority of project Despite dedicated efforts to attract Aboriginal and Torres Strait Islander candidates, no suitable candidates applied	Partially achieved
A comprehensive and up-to-date database of companion animal health and biosecurity data which would be available to inform emergency responses	Comprehensive database of companion animal health and biosecurity data across 6 regions	Comprehensive database of companion animal health and biosecurity data across 9 regions	Exceeded
Biosecurity-focused data reports	Annual biosecurity-focused data reports from each of the 6 participating regions	A biosecurity-focused data report was generated after each census for each of the 9 participating regions. In regions where communities were visited repeatedly, a report was generated comparing data census to census.	Exceeded
An evaluation assessing the benefits of this model compared with the current animal health surveillance activities across Northern Australia	An evaluation assessing the benefits of this model compared with the current animal health surveillance activities across Northern Australia	Multiple attempts were made to collaborate with NAQS to enable a comparative evaluation. With no collaborative commitment received from NAQS, AMRRIC instead surveyed community-partners involved with the project to ascertain their perspectives comparing the AMRRIC and NAQS models.	Achieved

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PERFORMANCE AGAINST ANTICIPATED OUTCOMES

Outcome anticipated at project design	Evidence of outcome being achieved	Status
Improve animal biosecurity capacity in 6 remote Northern Australian regions (encompassing >20 remote Indigenous communities) through the provision of culturally and contextually appropriate training and tools.	• 9 remote Northern Australian regions reached; 25 distinct remote Indigenous communities reached • 4.5/5 rating and positive qualitative training participant feedback of AMRRIC's training. • Training participants report gains in self-assessed knowledge (before vs after training) across all topics covered	Achieved
Support economic opportunities in the participating regions through fee-for-service employment of remote Indigenous community residents	• 89 individual Indigenous community members employed; 102 Indigenous community member engagements (13 individuals employed repeated over duration of project) • 328 Indigenous employment days generated • 84.6% of community-based partner payment recipient organisations under Indigenous control • 100% of community-based partner participant engagement payments utilised to support Indigenous staff • 37% of project's direct cost expenditure (beyond principal) directed to Indigenous controlled organisations	Achieved
Promote community participation in animal biosecurity activities through the provision of community-wide animal anti-parasitic treatments, data collection and community education and engagement events	• 41 community-wide companion animal biosecurity events, reaching over 3700 households • 7945 animals surveyed and 7398 dogs and cats treated with broad-spectrum anti-parasitic treatments, improving their health • 11 school and community education events hosted	Achieved
Capture and report comprehensive community animal census data annually, with priority syndromic surveillance events notified in real time	• Companion animal census data reports produced for each of 41 community-wide companion animal biosecurity events, available to inform community partners' companion animal management programs • No priority biosecurity events detected; no real-time notification required • Where multiple censuses occurred in the same community, year-to-year data analysis completed and companion animal management recommendations provided to community-partners	Achieved
Evaluate the benefits of this model of animal biosecurity data capture, and assess its feasibility to be adopted by animal health authorities (e.g. NAQS) going forward	• Evaluation findings outlined throughout this report • 8/8 community partners agreed or strongly agreed with the statement 'AMRRIC's project has resulted in improved biosecurity surveillance compared to what was occurring prior to the project'. • 4 community partner organisations that have previously been contracted by NAQS to undertake animal health surveillance activities were asked to compare the AMRRIC and NAQS animal surveillance models across 13 various biosecurity-related outcomes. The respondents considered the NAQS and AMRRIC models equal in 5/13 outcomes listed; the respondents considered the AMRRIC model to be superior in the remaining 8/13 outcomes.	Achieved
Build local capacity to independently conduct community animal censuses annually using the AMRRIC App and to identify, report, and where appropriate, assist in responding to biosecurity concerns	• 6/8 of community partner respondents agreed or strongly agreed with the statement 'AMRRIC's training has resulted in members of our team having the skills and knowledge to independently complete companion animal censuses and biosecurity surveillance activities'. The remaining 2 respondents were neutral. • Independent censuses undertaken or planned to be undertaken by at least 5 community partner organisations however despite highly valued 'no survey without service' approach, ongoing resourcing constraints preventing purchase of anti-parasitics have been identified by partner organisations in end-of-project evaluation	Achieved

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AMRRIC'S BIOSECURITY PILOT PROJECT

Participant impact story

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NIKITA PURUNTATAMERI

Tiwi Ranger, Tiwi Islands NT

Nikita was a training participant in AMRRIC's Biosecurity Project in March and October of 2024. The project also supported Nikita to attend the 3rd Australian Biosecurity Symposium on the Gold Coast.

The following are quotes from her presentation...

"Biosecurity means everything to us on the island. It's everyone's business to keep a watch out.

I had no idea how to treat animals or how to report biosecurity issues in animals before the AMRRIC training.

I really enjoyed working with Jenny and Helen from AMRRIC, and I've learnt a lot about how everything goes with animal health, like how to treat dogs and cats, and what signs to look out for.

Doing the census with AMRRIC gave the community more knowledge so they know who to come to when their animal is sick. They now know to ask us for help, asking for medicine or asking how to get vet advice."

“This is a dog that is owned by my family. He had bad skin infection on his face and had been like that for a few months. The vet only comes a couple of time a year so my family thought he was going to die and were worried about him giving infections to them.

When I saw him, I was so sad for that dog.

During the census, Jenny and Helen from AMRRIC examined him. They told us he had a bad mite infection with secondary bacteria skin infection. He also had papilloma warts because his immune system was so weak.

We gave him antiparasitic medicine for the mites, as well as antibiotics to clean up his skin infection. We explained to my cousin how to give the medicine.

A couple of months later, he looked soooo much better...”

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BEFORE

AFTER

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“

The community have seen how much healthier the dogs and cats become and are asking us when we are coming again.

It would be good to keep monitoring the dog and cat population by doing these censuses.

”

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AMRRIC'S BIOSECURITY PILOT PROJECT

Expenditure

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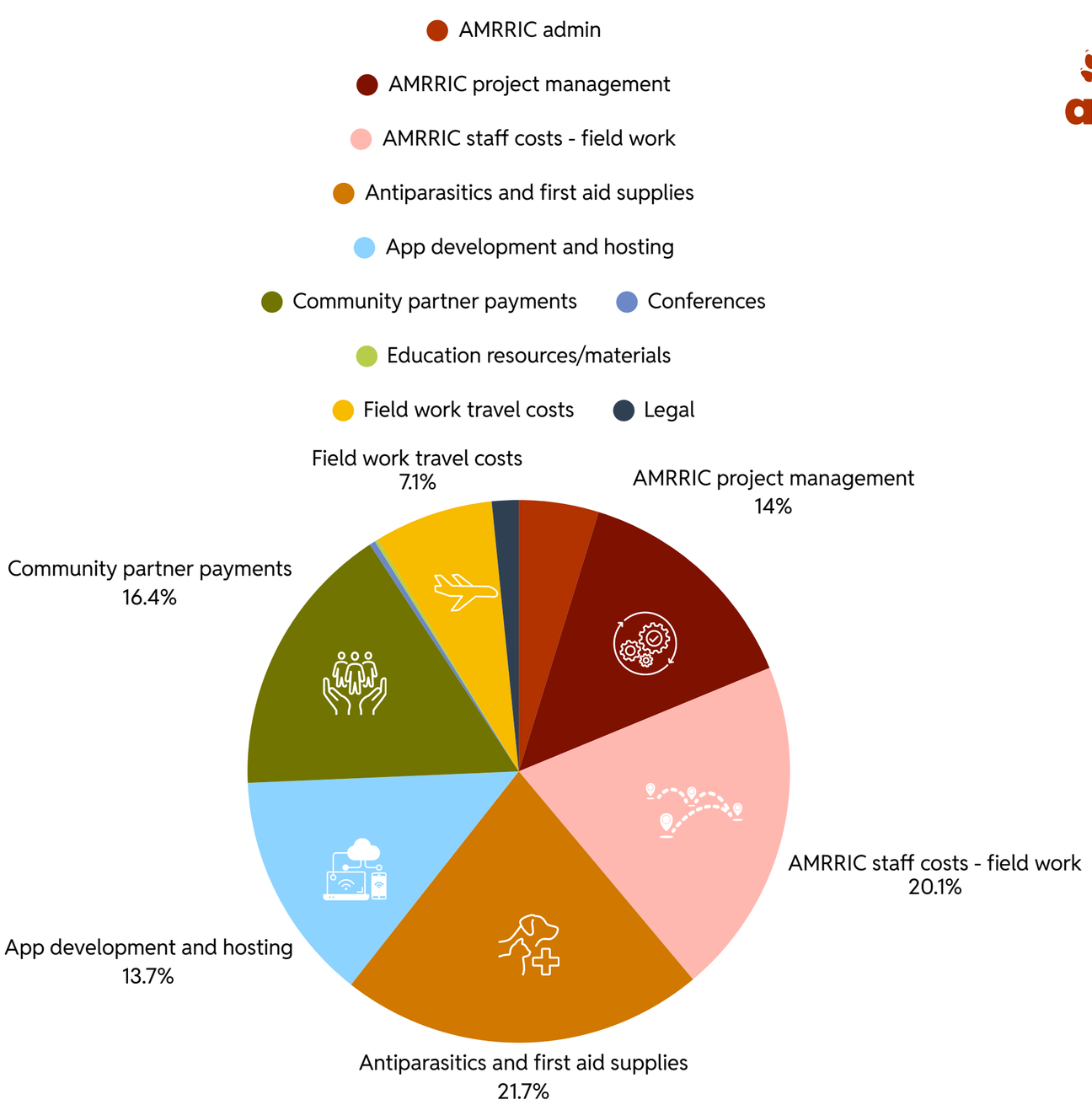
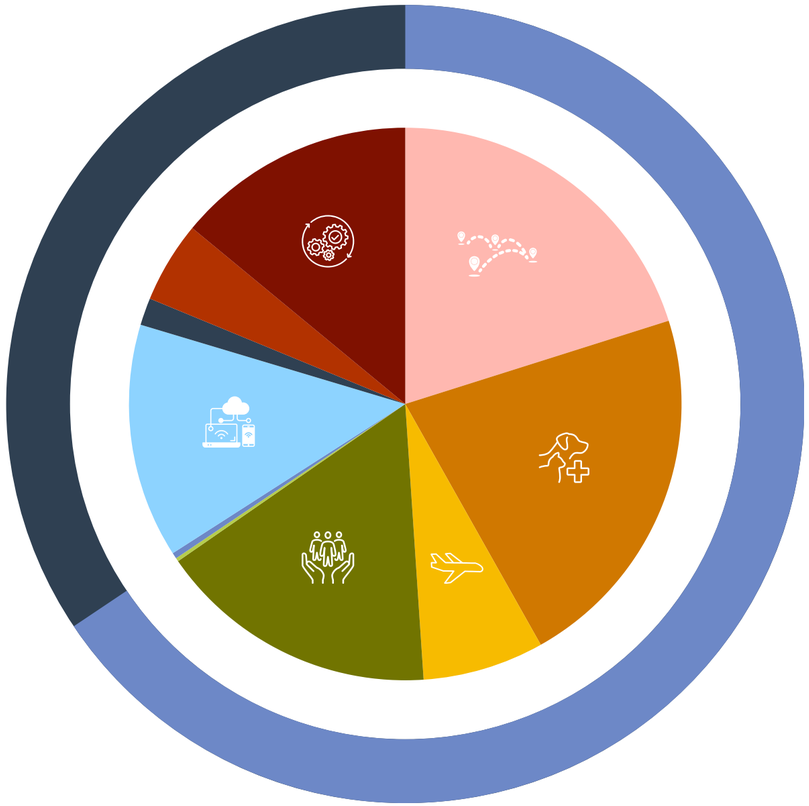
EXPENDITURE BREAKDOWN

TOTAL GRANT FUNDING (ex GST and in-kind contributions): $1,142,970



DIRECT BENEFIT TO COMMUNITIES

65.6% of overall project expenditure resulted in an immediate and direct community benefit



- Expenditure item resulting in direct community benefit (65.6%)
- Expenditure item otherwise required for the project (34.4%)

AMRRIC's staffing costs (including vet and vet nurse team members providing animal health advice and treatments), anti-parasitics and first aid supplies, community partner payments, educational resources developed and field work travel costs are all considered expenditure items with direct community benefit.

Field work travel costs are included as a direct community benefit as they are essential for the delivery of the other direct benefits. Excluding travel costs for field work, the % of expenditure directly benefitting communities is 58.5%.

ADDITIONAL VALUE LEVERAGED

Beyond the funding provided by the grant, with partners support, AMRRIC leveraged an additional ***35cents for every funded dollar****. In-kind contributions represented* ***26% of total project value.***

130	days of on-ground vet or vet nurse time, supporting communities animal health during censuses	Value of veterinary expertise beyond non-veterinary staff budget allocation	**$25,204**
106	days of in-kind staff time, committed by AMRRIC to support project outcomes	Value of AMRRIC in-kind labour beyond on-ground veterinary expertise	**$88,124**
412	existing Indigenous employment days leveraged to support the project's biosecurity surveillance (NAQS' in-kind engagement of Indigenous Ranger Groups and TSIRC staff in-kind contribution)	Total value of in-kind Indigenous employment days contributed	**$197,760**
5%	average discount on wholesale cost of purchased broad-spectrum anti-parasitics	Value of discount provided by AMRRIC's pharmaceutical partners on purchased anti-parasitics	**$12,407**
49%	savings on direct App related expediture, from AMRRIC's external funding, NFP status and supplier support	Value provided by AMRRIC's external funding and IT partners	**$81,247**

TOTAL IN-KIND VALUE (ex GST): $404,742

AMRRIC'S BIOSECURITY PILOT PROJECT

Community Partner Engagement

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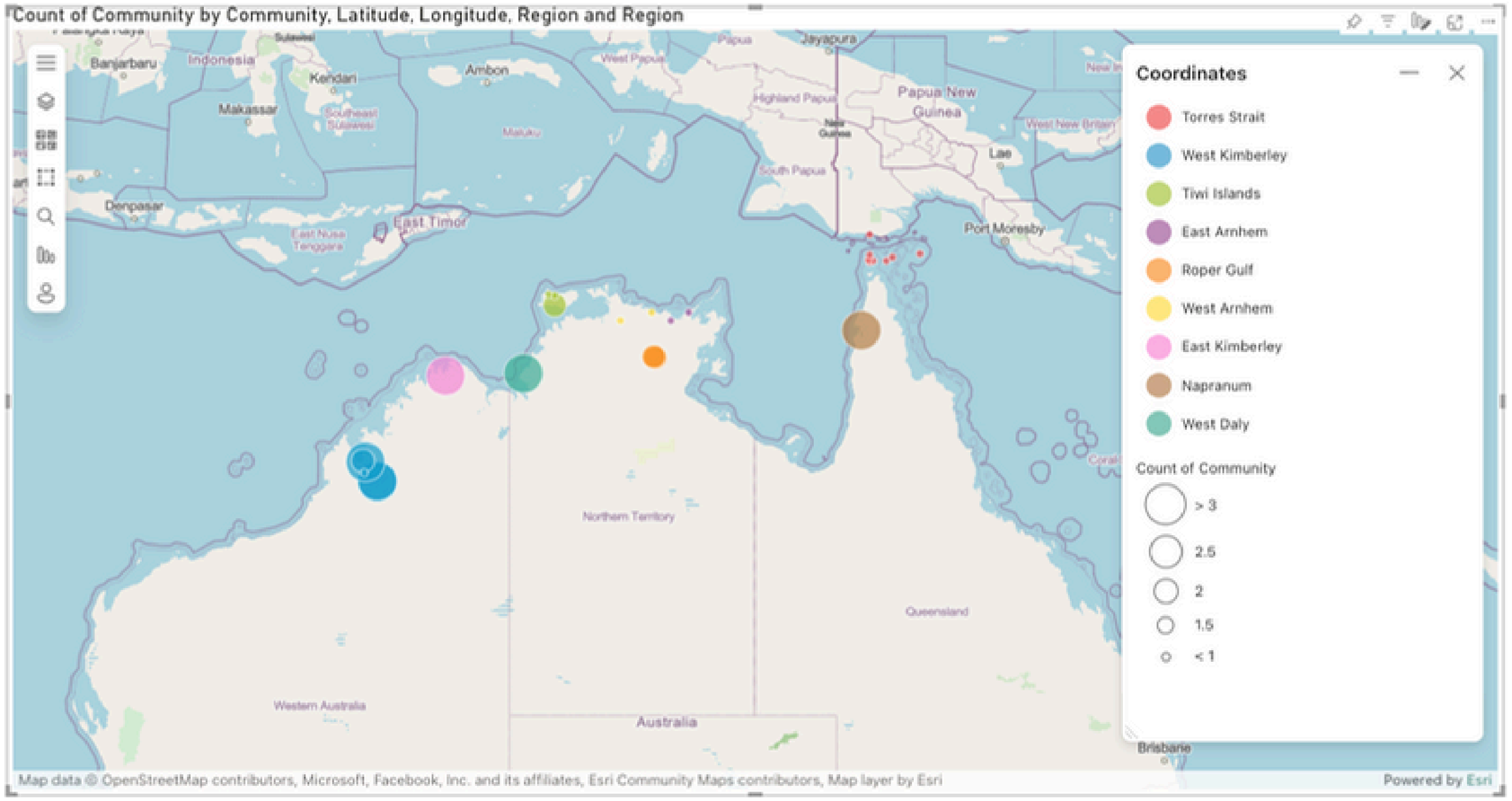
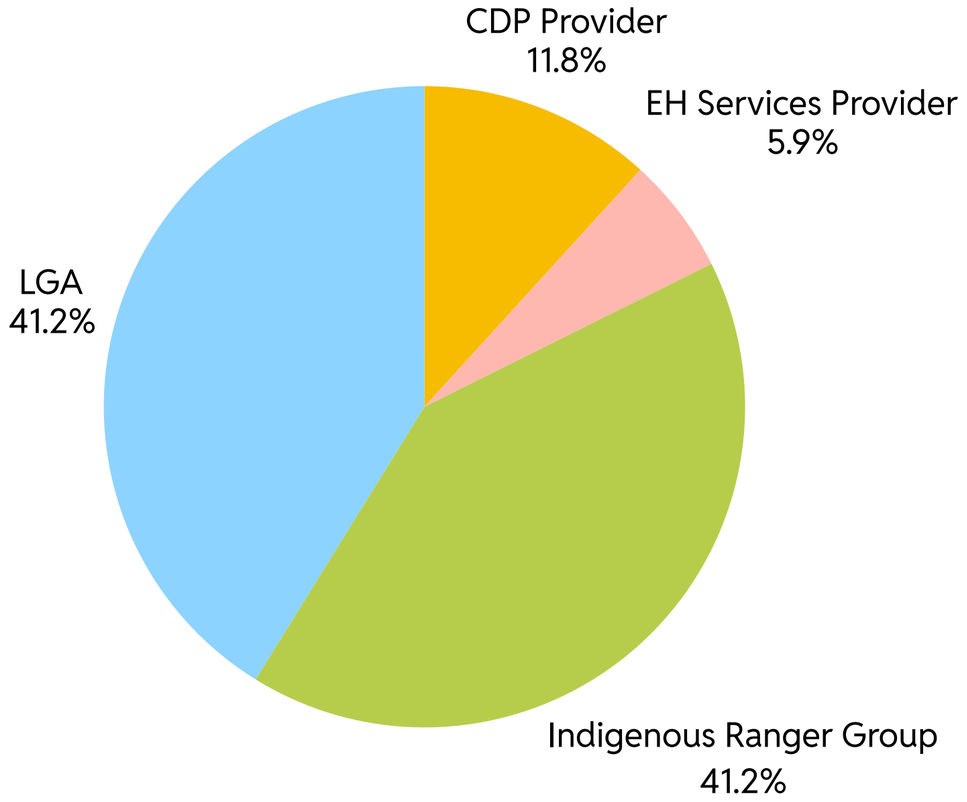
COMMUNITIES REACHED

25 Aboriginal or Torres Trait Islander Communities across 9 regions of Northern Australia reached (10 of these visited >once)



COMMUNITY PARTNERS ENGAGED

17 community-based partners participated in biosecurity censuses

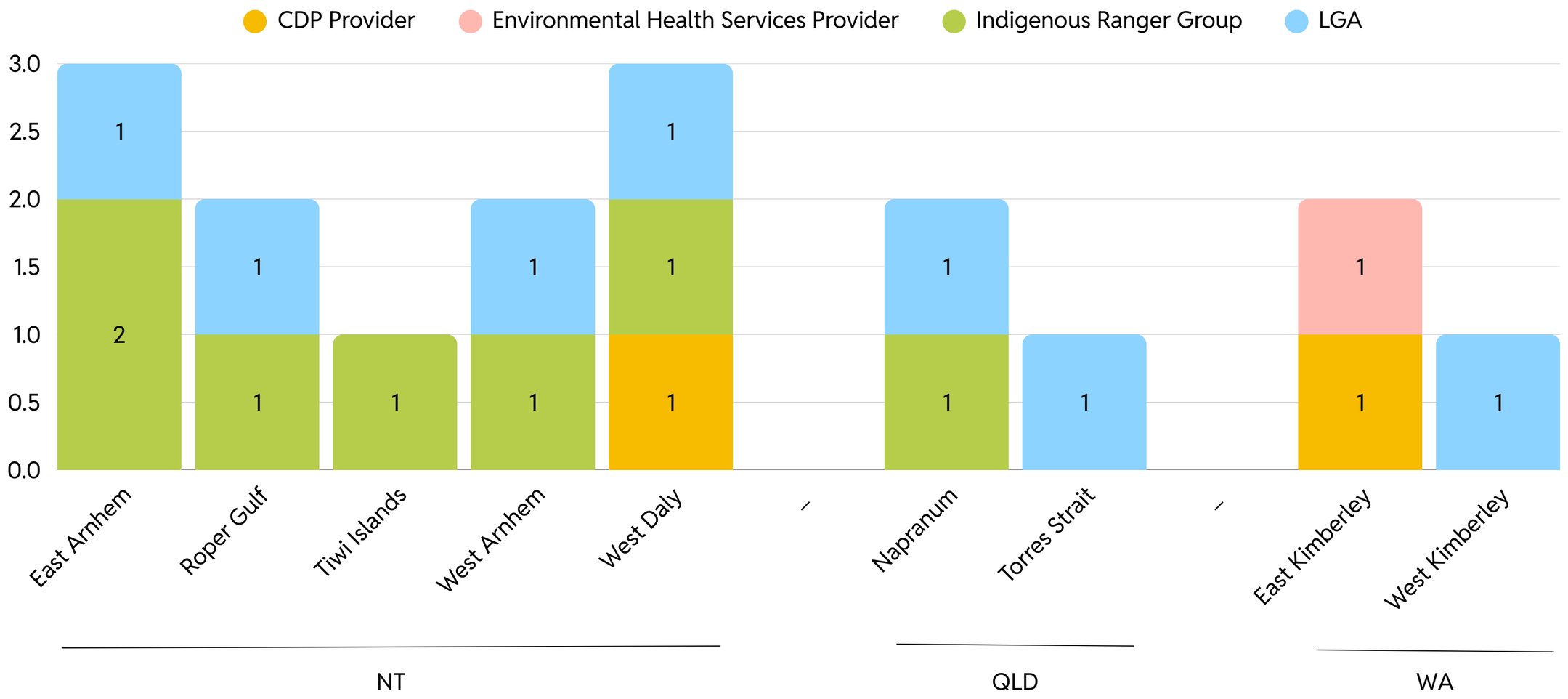


CDP Providers:
• East Kimberley Job Pathways • Thamarrurr Development Corporation
Environmental Health (EH) Service Provider:
• Nirrumbuk Environmental Health and Services Pty Ltd
Indigenous Ranger Groups
• ASRAC Rangers • Djelk Rangers • Gumurr Marthakal Rangers • Mimal Land Management • Nanum Wungthim Land and Sea Rangers • Thamarrurr Rangers • Tiwi Rangers
Local Government Authorities (LGAs)
• East Arnhem Regional Council^ • Napranum Aboriginal Shire Council • Roper Gulf Regional Council^ • Shire Derby West Kimberley • Torres Strait Island Regional Council • West Arnhem Regional Council^ • West Daly Regional Council

^ These LGAs participated without receiving project or NAQS participant funding

COMMUNITY PARTNER TYPES BY REGION

17 community-based partners participated in biosecurity censuses



AMRRIC'S BIOSECURITY PILOT PROJECT

Indigenous economic opportunities generated

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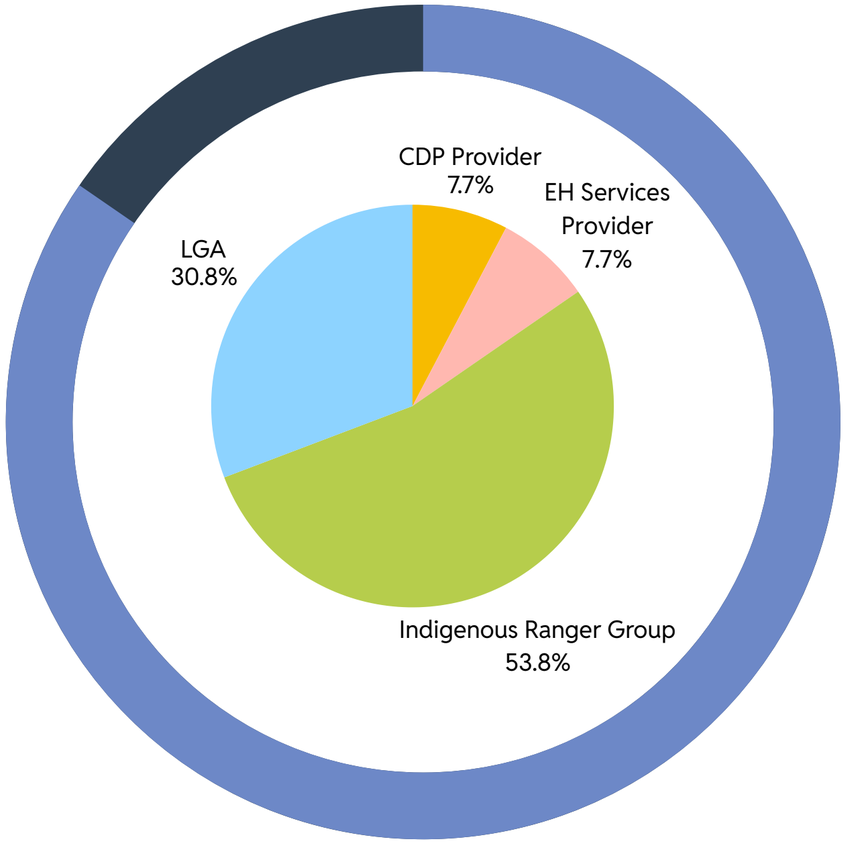
INDIGENOUS CONTROL STATUS OF COMMUNITY PARTNER FUNDING RECIPIENTS

84.6% of community-based partners that received funding from the project or NAQS' in-kind contributions are Indigenous controlled organisations



Indigenous controlled organisations **(84.6%)**

Non-indigenous controlled organisation **(15.4%)**

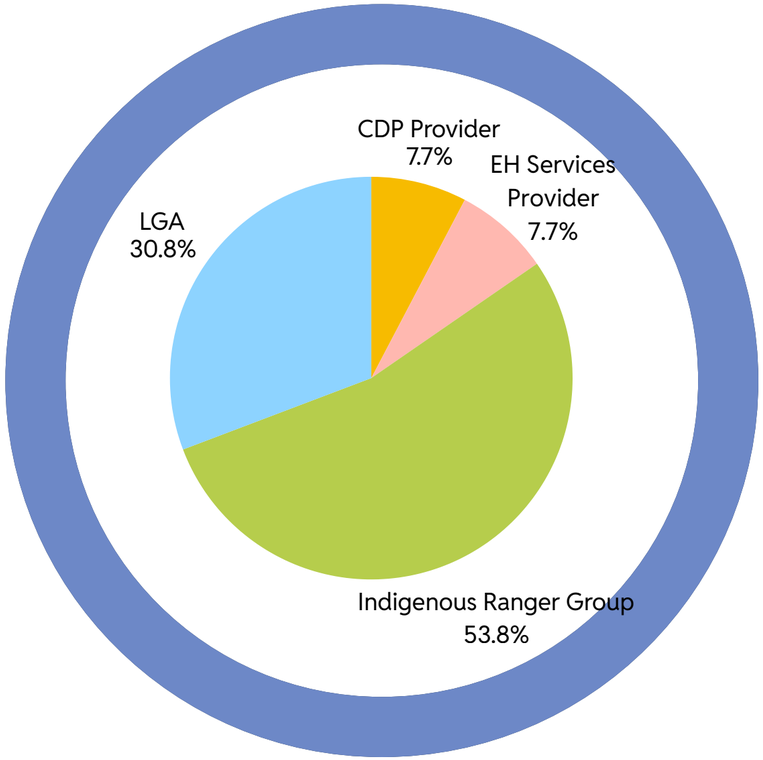
The two non-indigenous controlled organisations that received funding were LGAs which both have predominantly Indigenous populations.

INDIGENOUS EMPLOYMENT OPPORTUNITIES GENERATED

100% of the employment generated from the community-based partner payments was employment of Indigenous peoples

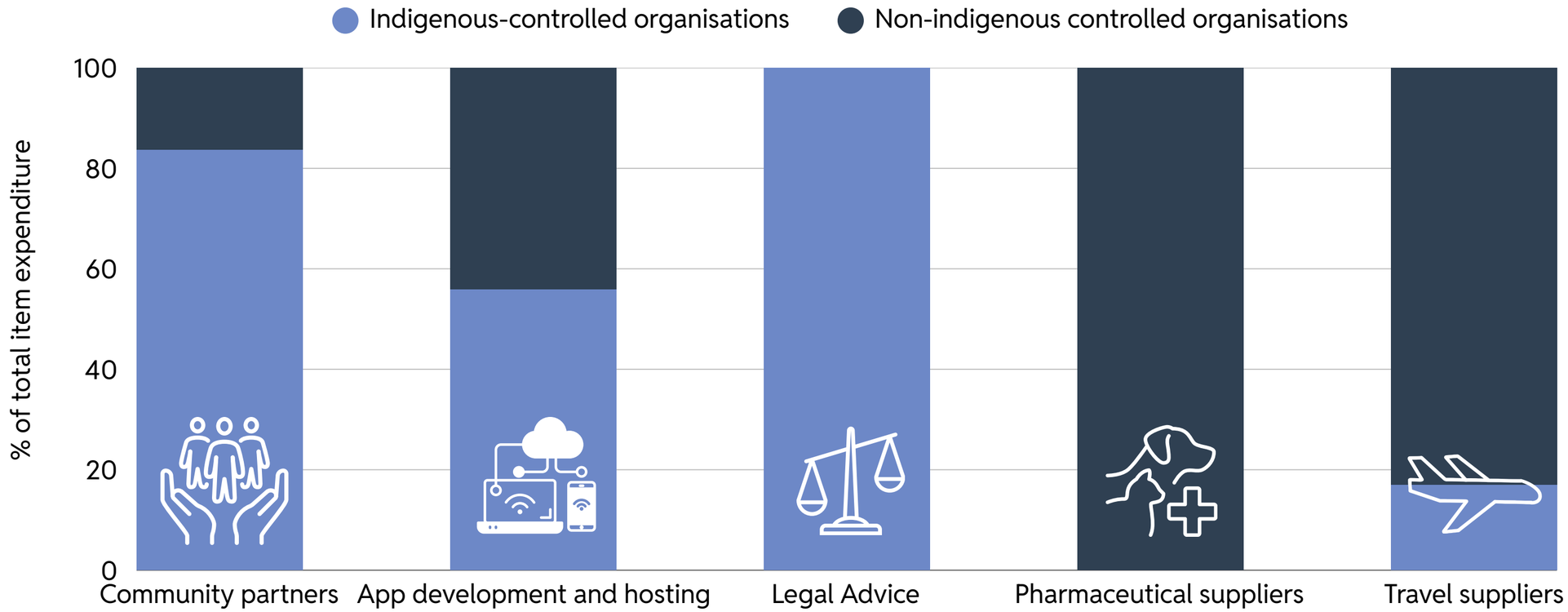
Indigenous employment opportunity **(100%)**

Non-indigenous employment **(0%)**



EXPENDITURE BREAKDOWN: BENEFITS TO INDIGENOUS CONTROLLED ORGANISATIONS

37% of the total direct cost expenditure (beyond the project principal) was directed to Indigenous controlled organisations



AMRRIC'S BIOSECURITY PILOT PROJECT

Biosecurity surveillance opportunities generated and enhanced

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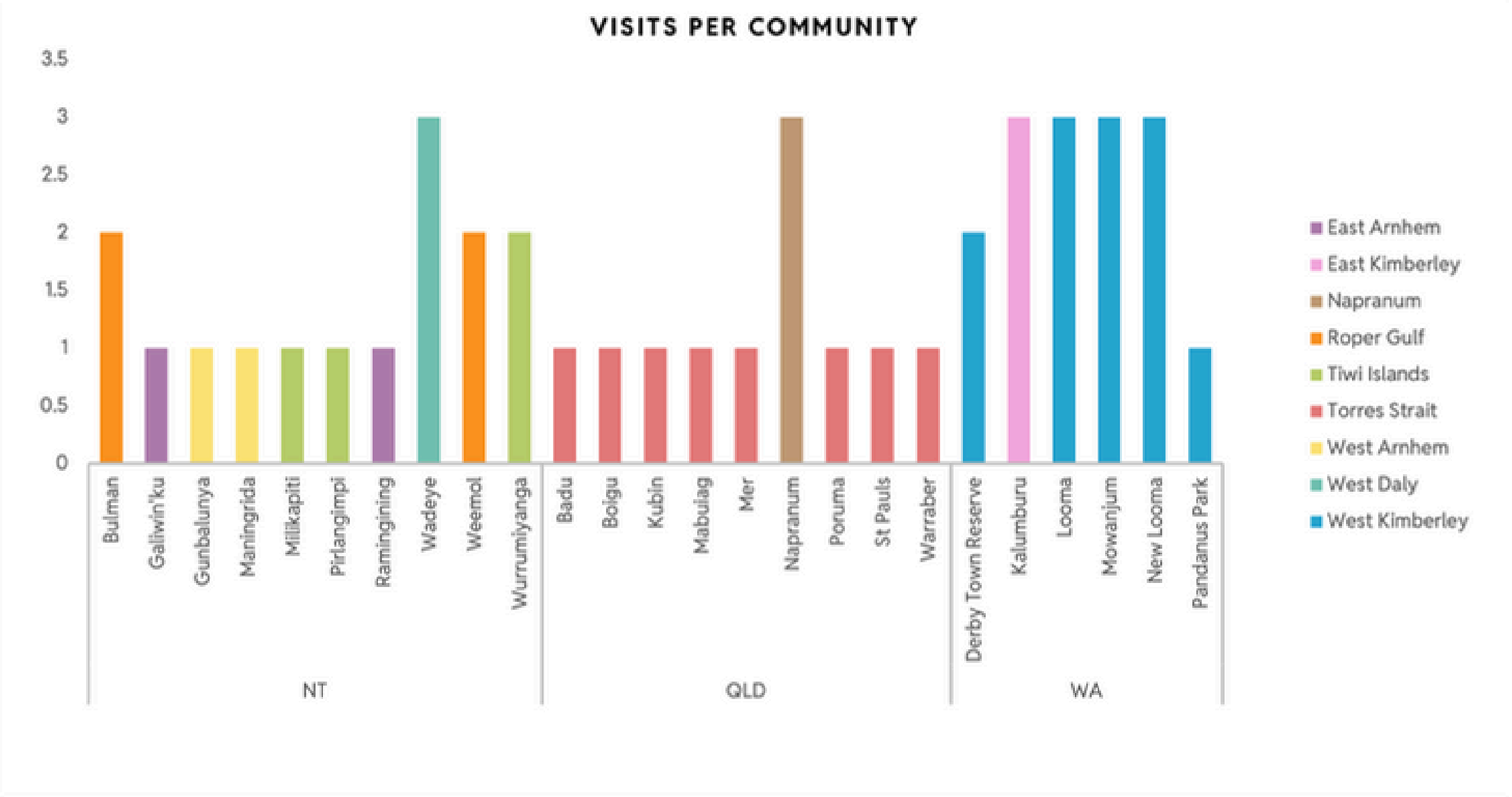
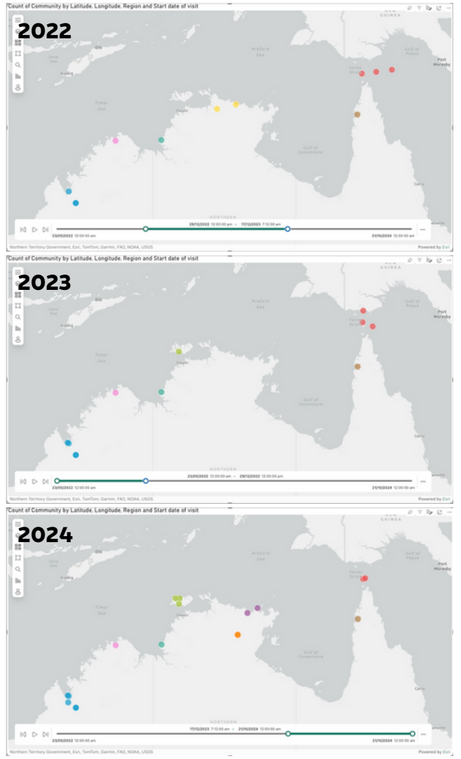
VISITS PER COMMUNITY REACHED

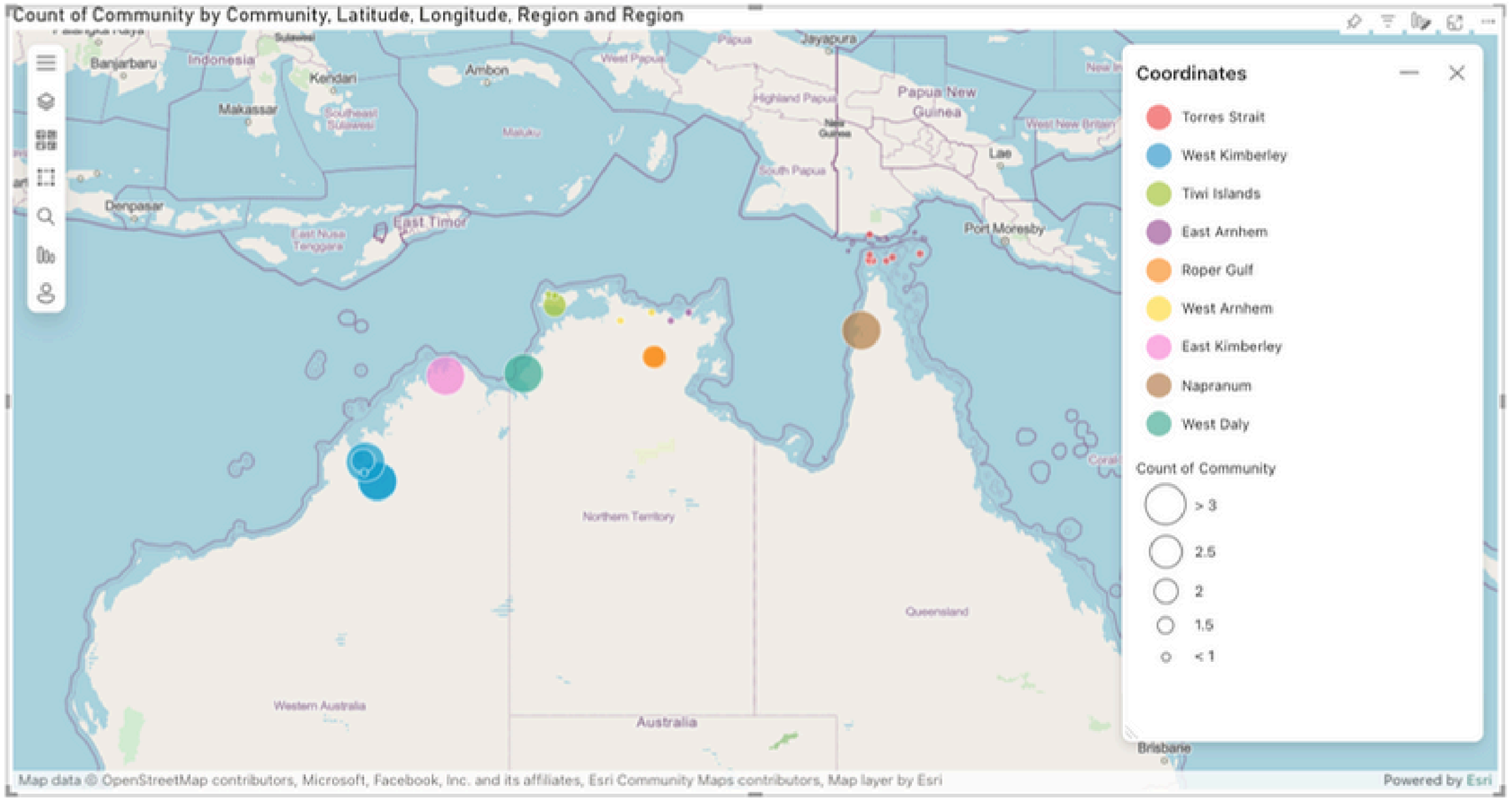
25 Aboriginal or Torres Strait Islander Communities across 9 regions of Northern Australia reached (10 of these visited >once)





SURVEILLANCE EVENTS DELIVERED

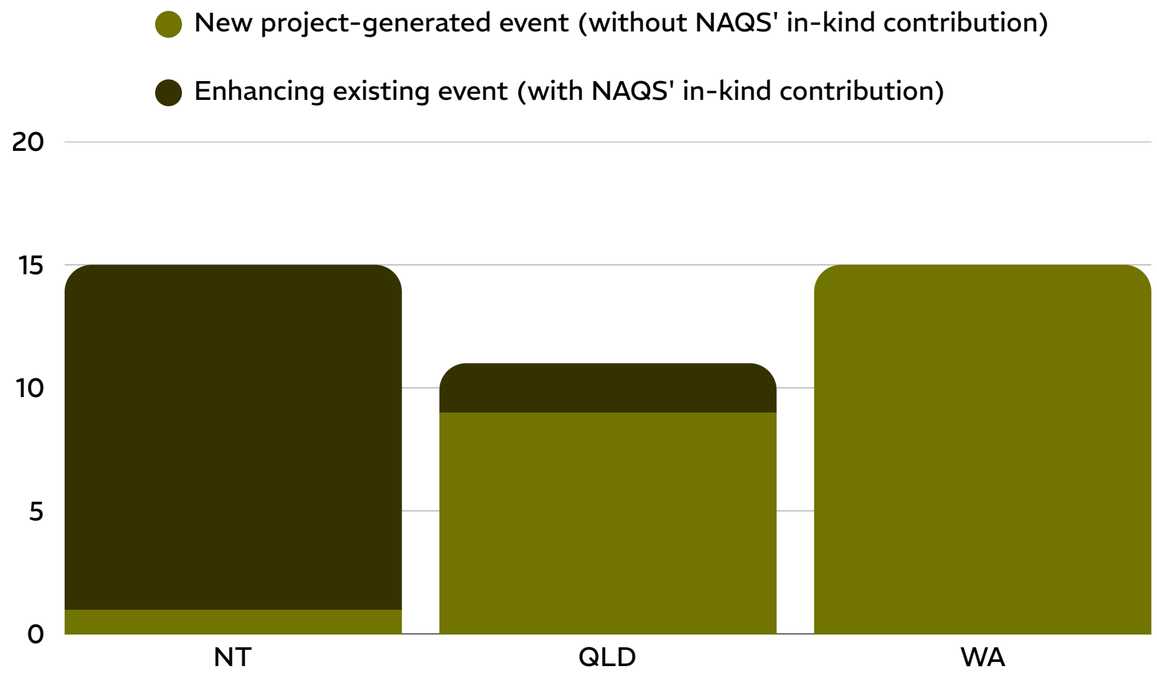
24 companion animal biosecurity census and training trips delivering **41** community-wide surveillance events over 3 years



NEW SURVEILLANCE EVENTS GENERATED

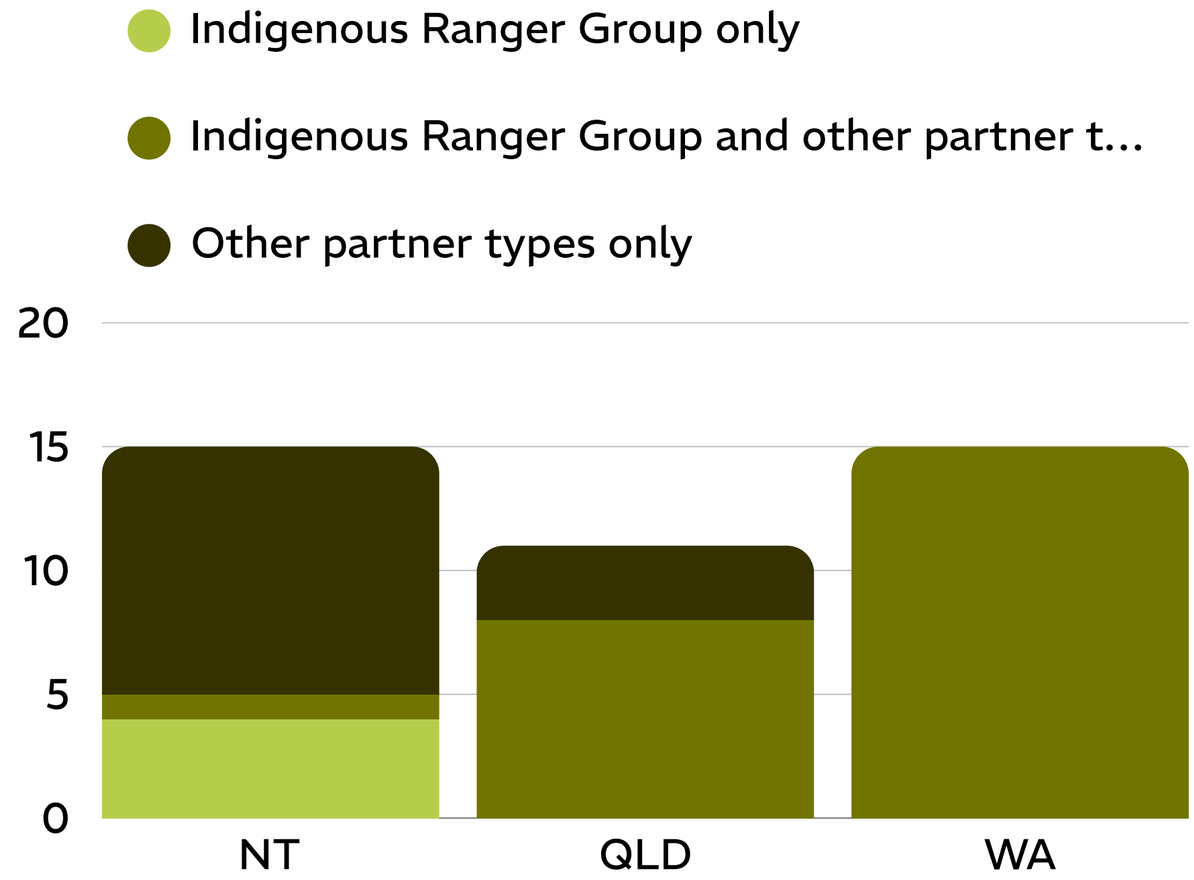
61%

of the **41** community-wide companion animal surveillance events delivered (involving 10 out of 17 community-based partners) were events **newly generated by the project**, that did not leverage the Northern Australia Quarantine Strategy's (NAQS) existing in-kind engagement of Indigenous Ranger Groups, and instead engaged other types of community partners



COMMUNITY PARTNER COLLABORATION

90% of the 41 community-wide companion animal surveillance events involved partner types beyond Indigenous Ranger Groups



AMRRIC'S BIOSECURITY PILOT PROJECT

Biosecurity capacity strengthened

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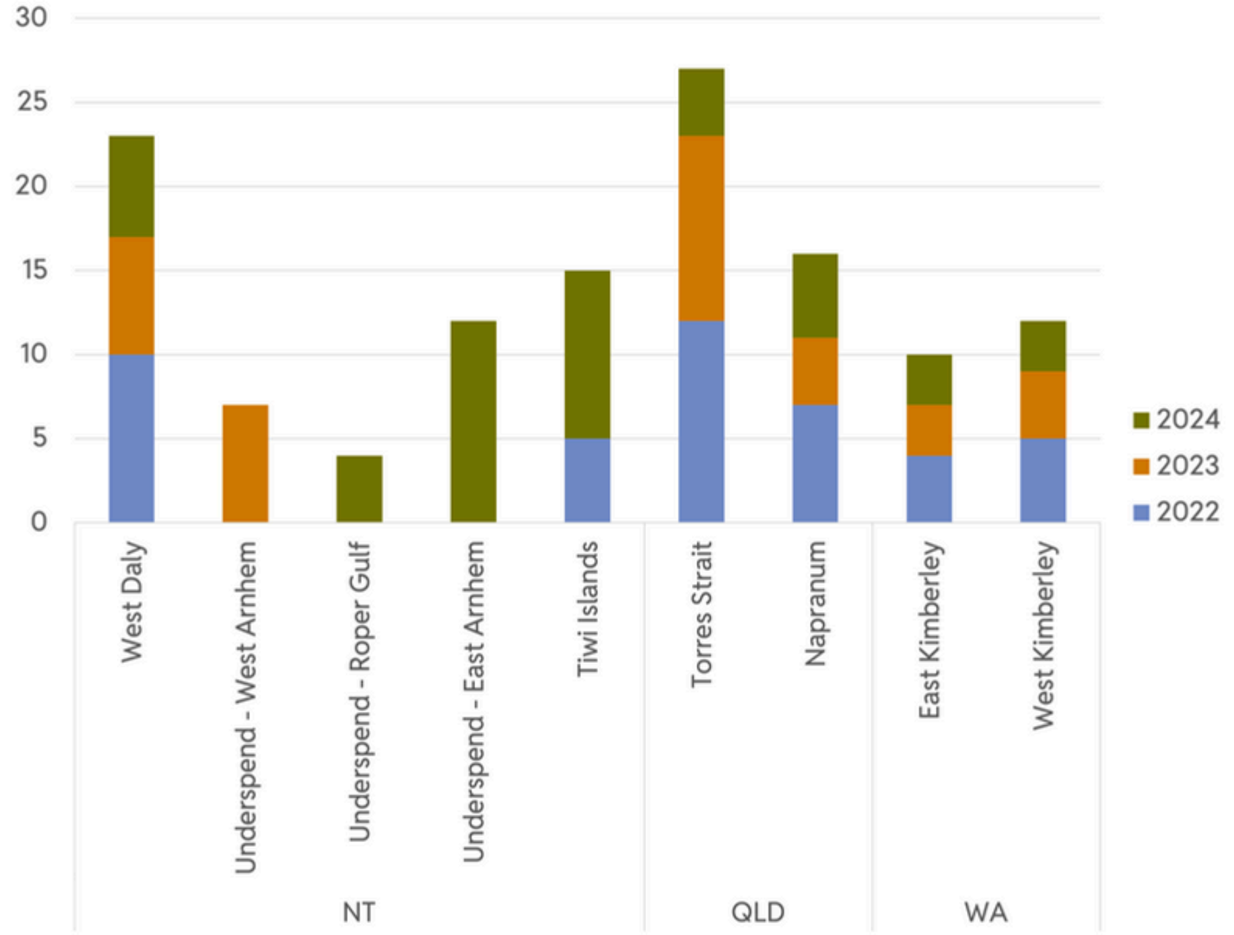
PARTICIPANTS TRAINED

126 participants trained, enhancing animal health and biosecurity capacity across the North



TOPICS COVERED IN TRAINING

During each visit, AMRRIC provided class-room based training followed by on-the-job training during the community-wide door to door census. Topics covered included:

- **Companion animal biosecurity surveillance:**
  - making health assessments of companion animals
  - what animals in good health look and behave like
  - common health conditions in remote community dog and cat populations
  - notifiable conditions
  - reporting biosecurity concerns
- **Capturing companion animal population and health data using the AMRRIC App**
- **Understanding and administering broad-spectrum anti-parasitic treatments**
- **Staying safe around animals**
- **Planning a census**

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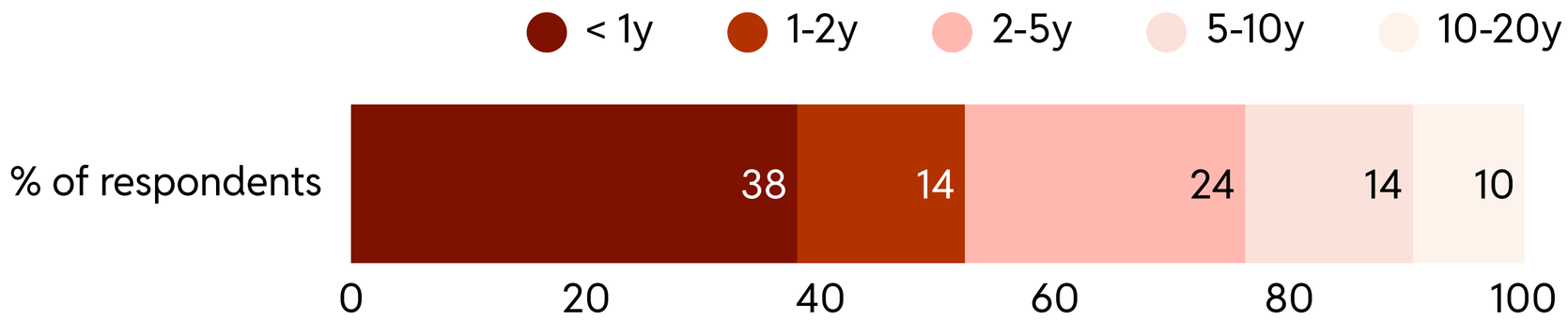
PARTICIPANT FEEDBACK SURVEY

- Following the training provided by AMRRIC, participants were asked to complete an online survey to provide their feedback

- **21 participants** completed the survey, representing **15%** of total participants trained

PARTICIPANT FEEDBACK SURVEY

- Of respondents:
  - **20 out of 21** identified as **Aboriginal and/or Torres Strait Islander**
  - **52%** were **Environmental Health Workers**
  - **48%** were **Indigenous Rangers**
  - Duration of employment was as follows:



PARTICIPANT FEEDBACK

- Biosecurity surveillance was considered a very important topic to all respondents:

How **important** do you consider community animal health **biosecurity surveillance** to be for your community?

(1 is not important at all, 5 is very important)

Mean = **4.9**

(n = 20)

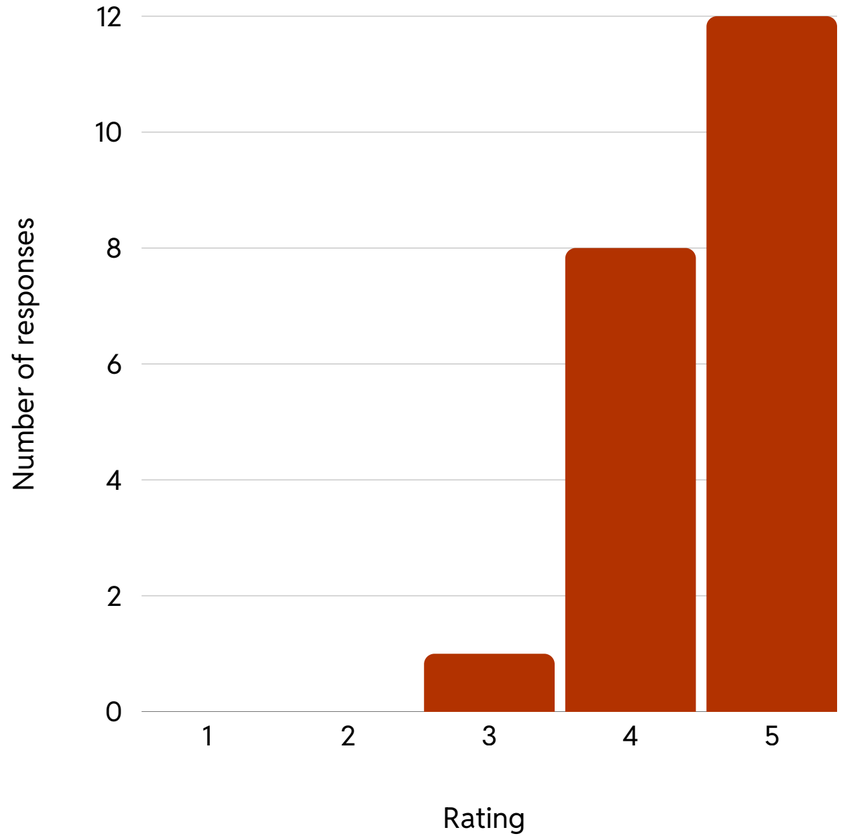
PARTICIPANT FEEDBACK

- Participants rated AMRRIC's training highly:

Overall, how would you rate AMRRIC's **training**?

(1 being the worst score, and 5 being the best score)

Mean = **4.5**



PARTICIPANT FEEDBACK

- Participants were asked to provide a rating of their knowledge across a range of training topics before and after the training
- Across all training topics, as well as overall, self-assessed knowledge gains were evident:

Overall self-assessed knowledge gain = increase in rating by 1.3

PARTICIPANT FEEDBACK

- Participants were asked for suggestions to improve the training
- Responses were analysed and grouped into themes:

Training content and delivery improvements	Additional training requests	Undertaking the census
Positive feedback: • Everything was great, wouldn't change a thing. Thanks • No suggestions. Overall pretty good and informative • I think they covered everything pretty well	• Come back for refreshers - with the same mob we worked with • More AMRRIC training (2 respondents)	• The days are too long and tiring (2 respondents)
• Slower speech or the help of a local translator. The videos are good to watch and help for understanding.	• I need to improve - more ipad training	• Start earlier in the day (2 respondents)
• I would have the training in a big community where there's lots of pets		• Make sure all equipment has arrived before the training. Need a work plan for the week.

PARTICIPANT FEEDBACK

- Participants were asked if they wanted anything else covered in future training
- No respondents mentioned ‘biosecurity’; instead responses indicate a desire for further animal health and management training:

“How to help with animals hit by cars

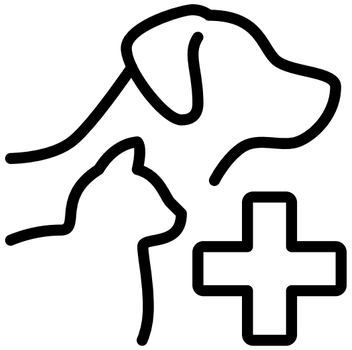
Medication training, vet services and drug authorisation training

Hands on how to euthanasia and dressing wounds on animals

More community training about animal health and management

More training on the ground with real animals more often

More understanding about animals”



Animal health and management

AMRRIC'S BIOSECURITY PILOT PROJECT

Partner feedback
Project challenges and learnings

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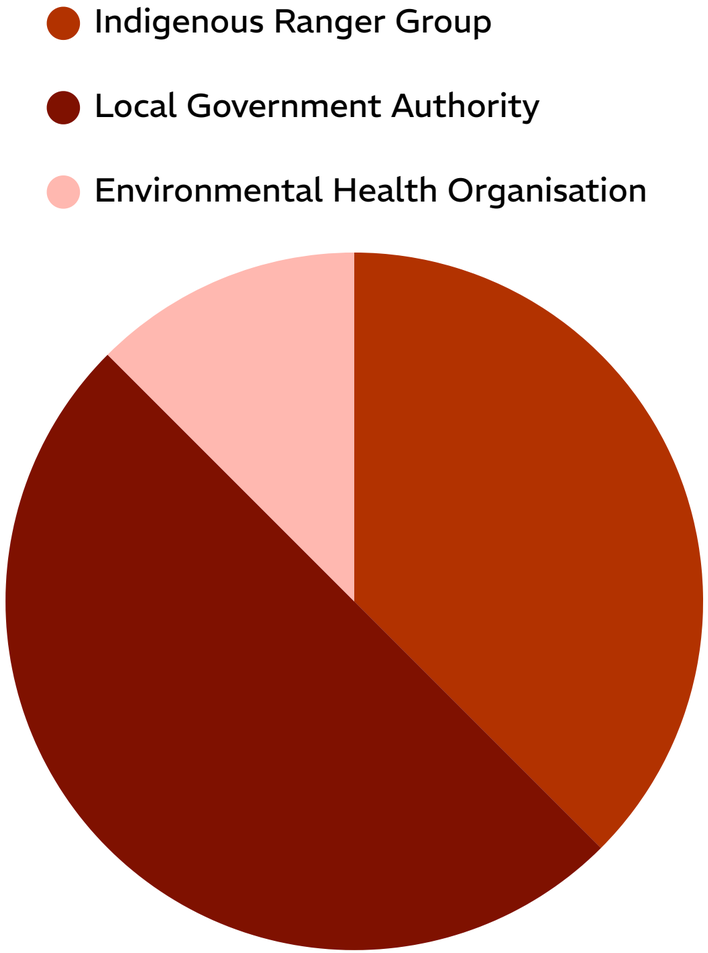
END-OF-PROJECT COMMUNITY PARTNER SURVEY

- At the completion of the project, AMRRIC invited all 17 community-based partners to complete an end-of-project survey

- **8 community-based partners** completed the survey, 5 of which had participated across all three years of the pilot, with the remaining 3 respondents representing organisations that had only participated the final year (2024)

- The 8 respondents represented the following categories:
  - Local Government Authority (50%)
  - Indigenous Ranger Group (37.5%)
  - Environmental Health Organisation (12.5%)

- 50% of respondents advised that had they not participated in the project, they would have otherwise undertaken taken biosecurity surveillance activities only on an ad hoc basis, fewer than once annually



COMMUNITY PARTNER FEEDBACK - PROJECT DESIGN

- Respondents were asked to consider the **design** of the pilot project

How would you rate the **suitability of the design** of AMRRIC's Biosecurity Pilot Project?

(1 is poor, 5 is excellent)

Mean = **4.75**

(n = 8)

> **“The design of training at the time of the program allowed for rangers to be involved and contribute and then immediate treatment of animals surveyed made sure community members were happy to participant”**

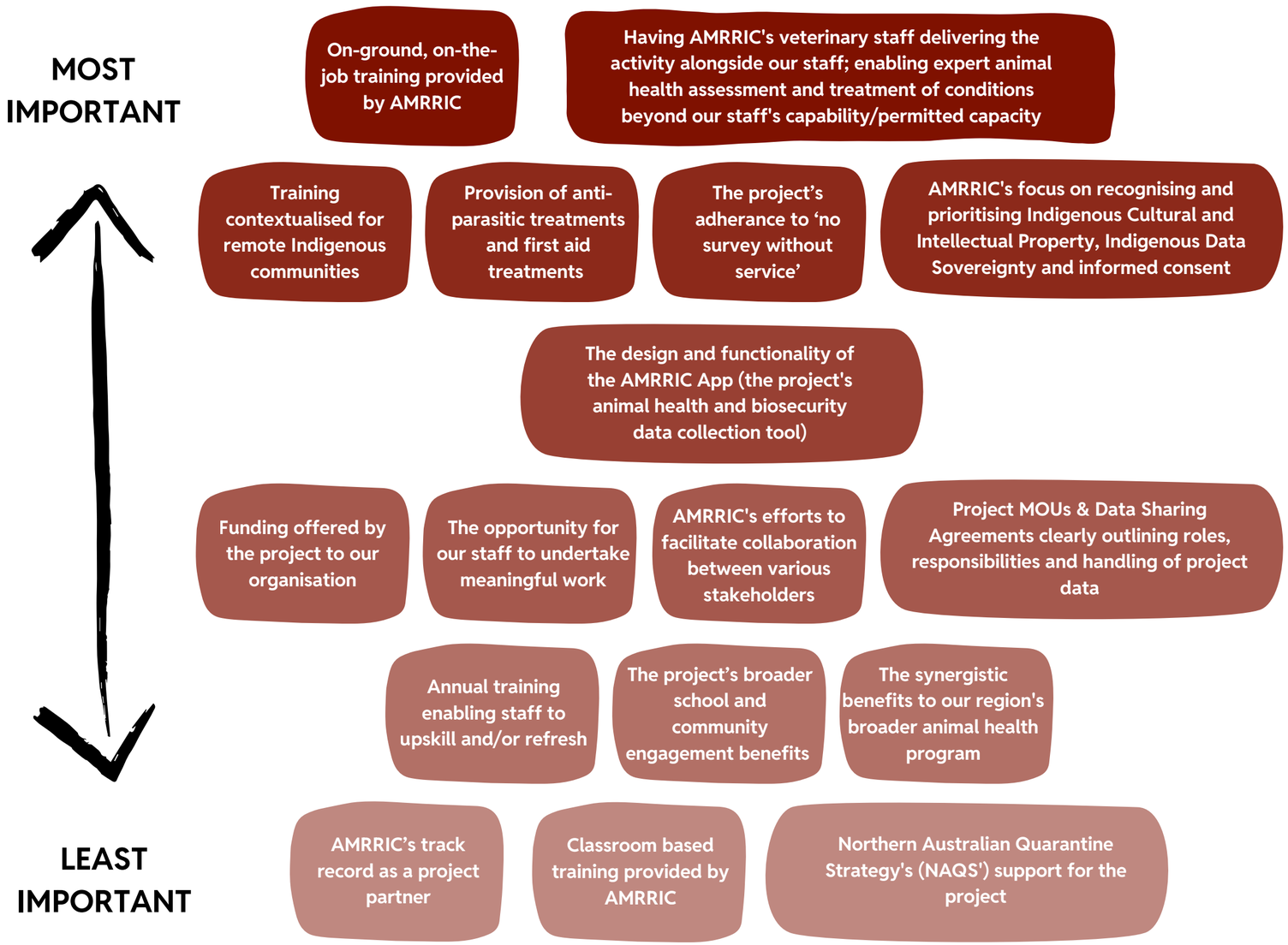
> **“very good outcomes, well resourced, good logistics”**

> **“The main aspect of the design is the physical presence of AMRRIC on ground doing the training face to face in our remote communities. Our people are practical learners, and this design supports that learning with greater outcomes.”**

COMMUNITY PARTNER FEEDBACK - PROJECT DESIGN

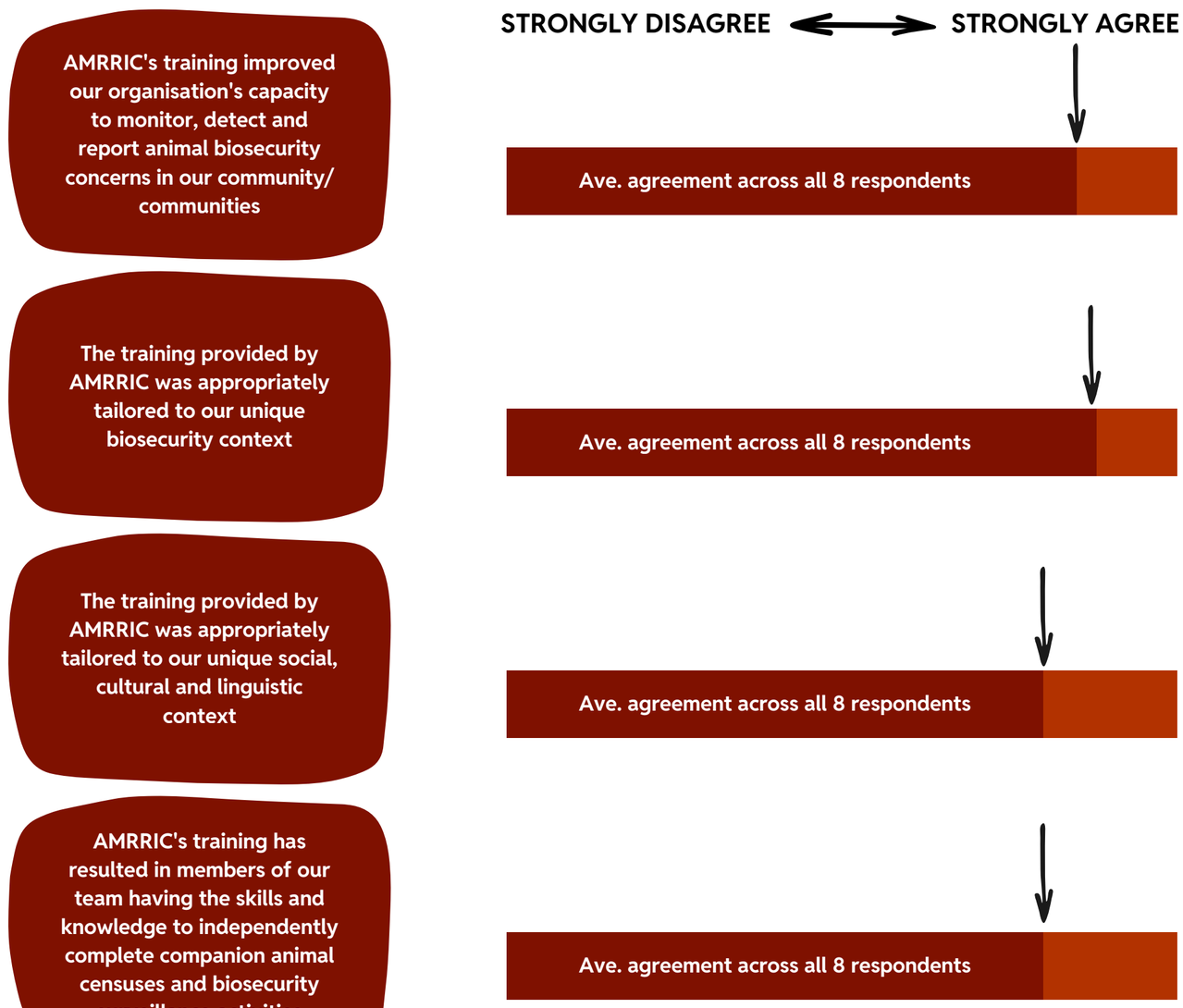
- Respondents were asked to consider the **importance** of various **project elements** in relation to their willingness to participate as a project partner.

- The highest rated elements related to **hands-on training** and the ability of the team to **immediately address animal health concerns**



COMMUNITY PARTNER FEEDBACK - ACHIEVEMENT OF AIMS

- Respondents were asked to indicate their agreement/ disagreement with the following statements relating to how successfully the project met its aim of **building local animal biosecurity capacity through contextually appropriate training**



COMMUNITY PARTNER FEEDBACK - ACHIEVEMENT OF AIMS

- In considering if/how the project met its aim of **building local animal biosecurity capacity through contextually appropriate training,** one respondent noted:

> **“The project supported the development of appropriate skills in the team. This has had flow on effect for the team and the community since AMRRIC have completed their project. The training has value added with new skills, and a higher level of confidence in the team.”**

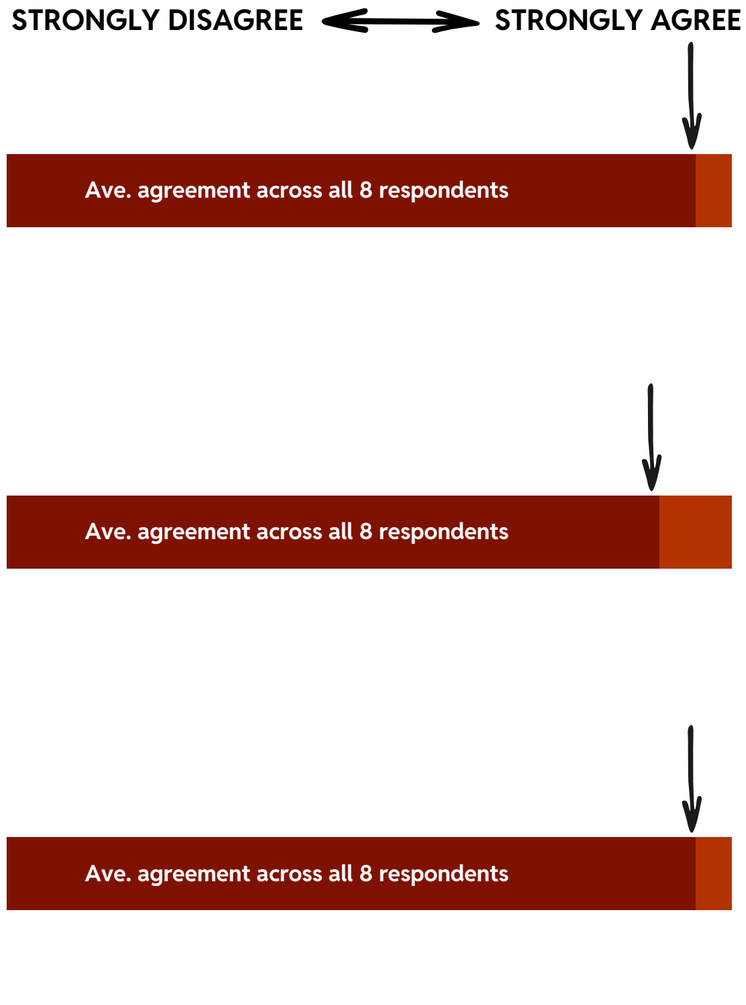
COMMUNITY PARTNER FEEDBACK - ACHIEVEMENT OF AIMS

- Respondents were asked to indicate their agreement/ disagreement with the following statements relating to how successfully the project met its aims of **improving current companion animal biosecurity surveillance activities**, and **improving community animal health**

AMRRIC's Biosecurity Pilot Project provided our organisation and community/communities with a biosecurity surveillance opportunity that would otherwise not have existed

AMRRIC's project has resulted in improved biosecurity surveillance compared to what was occurring prior to the project

The health of companion animals in our community/ communities improved as a result of AMRRIC's Biosecurity Pilot Project



COMMUNITY PARTNER FEEDBACK - ACHIEVEMENT OF AIMS

In considering if/how the project met its aims of **improving current companion animal biosecurity surveillance activities**, and **improving community animal health,** respondents noted:

> **“There is further work to be done in this area. We would support further engagement with AMRRIC to deliver this.”**

> **“The project has contributed to better regular health checks, anti-parasitic treatments, and monitoring to ensure that animals receive timely care and treatment.”**

> **“The community's education and awareness around their companion animals' health and good husbandry has been beneficial.”**

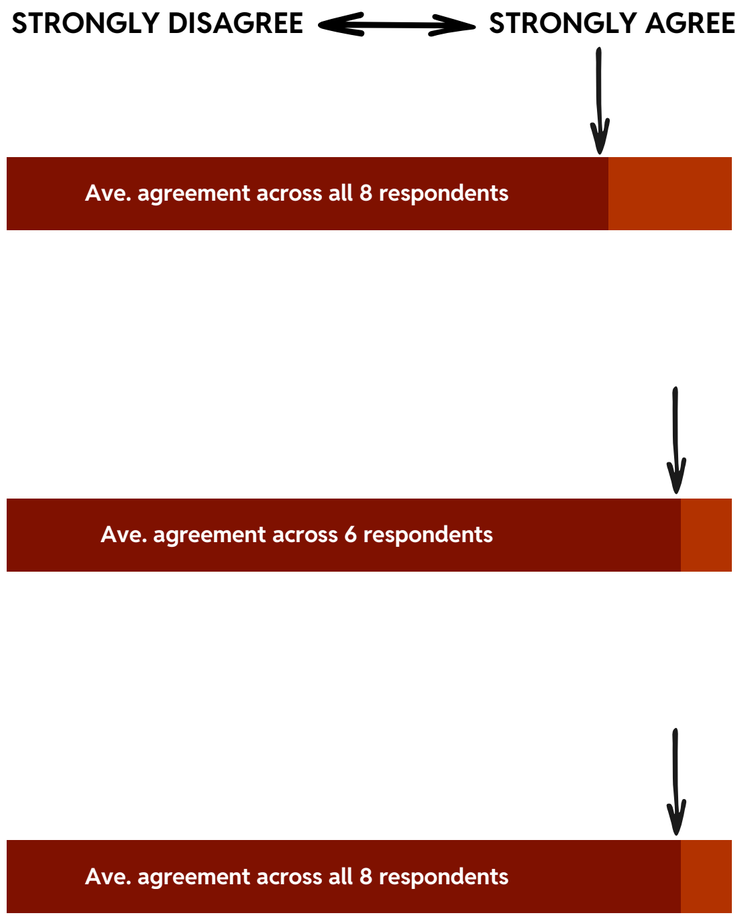
COMMUNITY PARTNER FEEDBACK - ACHIEVEMENT OF AIMS

- Respondents were asked to indicate their agreement/ disagreement with the following statements relating to how successfully the project met its aims of **supporting Indigenous economic opportunities**

AMRRIC's Biosecurity Pilot Project provided Indigenous peoples within our organisation and/or community/communities with direct economic benefits

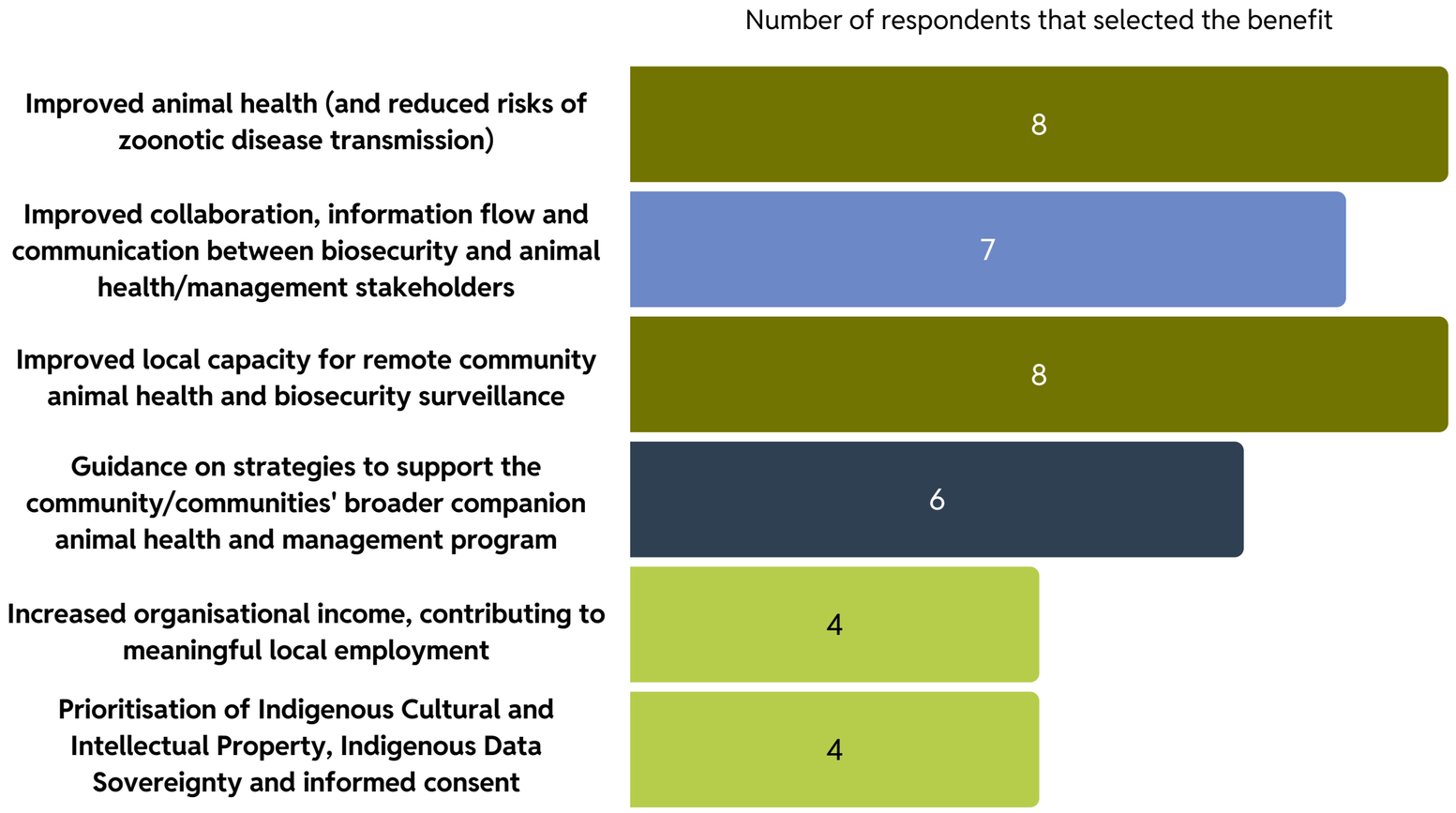
The project's engagement of Indigenous-owned businesses as suppliers (e.g. IT, legal) is commendable and represents a further economic opportunty for Indigenous peoples

AMRRIC's ability to leverage benefits (e.g. discounts on anti-parasitic treatment purchases, provision of veterinary capacity during censuses) represents an indirect economic benefit to our communities



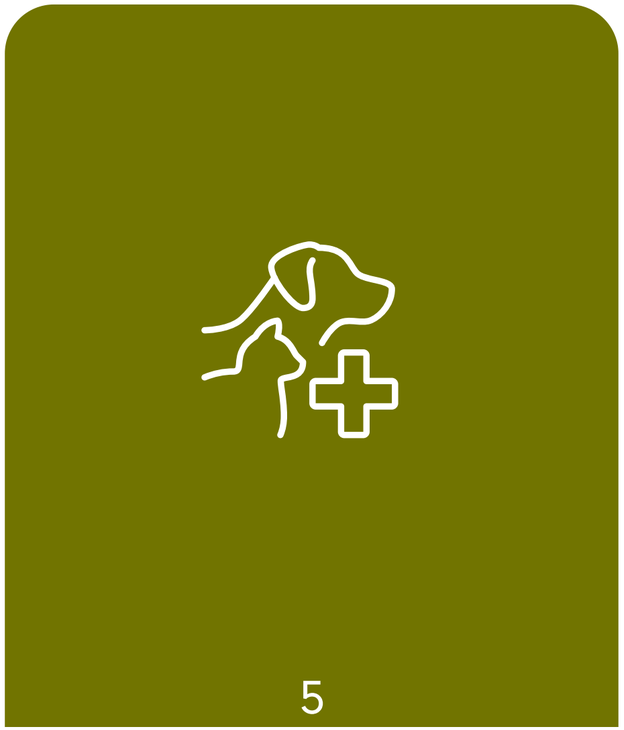
COMMUNITY PARTNER FEEDBACK - KEY BENEFITS

- Respondents were provided a list of key benefits to their organisation and/or communities from participating in the project, and asked to select all benefits that applied:



COMMUNITY PARTNER FEEDBACK - KEY BENEFITS

- Respondents were subsequently asked to identify which of the listed benefits was the **most beneficial** for their organisation and/or communities.



Improved **animal health** (and reduced risks of zoonotic disease transmission)

Improved **local capacity** for remote community animal health and biosecurity surveillance

COMMUNITY PARTNER FEEDBACK - SUGGESTIONS FOR IMPROVEMENT

Respondents were asked how the project could have been improved. All suggestions supported the project's approach, recommending **increased frequency** of censuses and/or **extended project duration**:

> "Twice annually instead of once"

> "A longer project. Simply because we could see the benefits to our community. It will be difficult to mirror what was provided on a continuing basis"

> "Done more often, provide funding to them more often - maybe twice per year for each community rather than just once. Additional training for rangers to continue to do the work as sometimes can forget some things in between surveys when only undertaken annually, or with change over of ranger staff."

COMMUNITY PARTNER FEEDBACK - PARTICIPATION DISADVANTAGES

Respondents were asked if there were any disadvantages to their participtipon in the project.

- One respondent skipped the question.
- 6 respondents reponded with ‘no’, ‘none’, ‘not really’ or ‘none at all’.
- One responded highlighted the raised community expectations resulting from the project, noting:

> **“Heaps of people asking for help after the project. People don't hear vets are coming until it's sometimes too late. Rangers always getting asked for help with sick dogs. Not sure how to tackle this, maybe teaching 'after the vets leave' care? or leaving some medicine within ranger bases or wherever relevant.”**

This feedback reinforces the need for an identified stakeholder within each community to maintain and implement responsibility for companion animal health and management (including biosecurity surveillance), and for this task to be adequately resourced. This would assist in ensuring the community know who they can seek assistance from for animal health and management matters, especially considering the infrequency of veterinary visits. In most communities, while the Rangers are often called upon, they are rarely the organisation responsible for engaging a veterinary service provider and/or taking responsibility for animal health and management. Typically this instead sits with an LGA or Environmental Health Organisation. While this project successfully facilitated on-ground collaboration between these various organisations, agreed definition of roles and responsibilities at high levels within these organisations is required to facilitate ongoing collaboration.

COMMUNITY PARTNER FEEDBACK - COMPARING MODELS

Respondents from 4 organisations that had previously been contracted by NAQS to undertake animal health surveillance activities were asked to compare the AMRRIC and NAQS animal biosecurity models across 14 different criteria. On balance, AMRRIC's model was considered superior for 8/14 criteria:

NAQS model considered superior

- Increased economic opportunity and meaningful employment

Models considered equal

- Staff awareness of the need to report animal biosecurity concerns
- Staff awareness of avenues through which to report biosecurity concerns
- Regular communication from the contracting body (i.e. AMRRIC or NAQS)
- Collaboration between biosecurity and companion animal health and management stakeholders
- Recognition and prioritisation of Indigenous Cultural and Intellectual Property and Indigenous Data Sovereignty protections

AMRRIC model considered superior

- The capability of the partner organisation's staff to detect animal biosecurity concerns
- Active engagement of the broader community
- Culturally appropriate biosecurity surveillance
- Improved animal health
- Integration with, and support for the community's companion animal management program
- Access to data and insights that assist in planning and monitoring the community's companion animal management program
- Access to data and insights that assist in planning for the management of companion animal during emergency events
- Access to remote veterinary support where required

PROJECT STAFF REFLECTIONS - CHALLENGES AND LEARNINGS

Challenge	Learning/Approach Reinforced
AMRRIC's inability to recruit an Indigenous candidate to the role of Biosecurity Project Manager • From the outset, AMRRIC sought an Indigenous candidate for the role of Biosecurity Project Manager. The role was advertised across a range of avenues, including Indigenous-specific recruitment sites, as well as shared among AMRRIC's stakeholder networks. • 23 applications were received of which only one applicant identified as Indigenous. Of the 23 applicants, 7 were shortlisted and interviewed, including the Indigenous applicant. The interview panel consisted of a non-Indigenous AMRRIC staff member, an Indigenous member of AMRRIC's Board, and a non-Indigenous external stakeholder. The candidates were assessed against the following criteria: working in partnership with Indigenous communities; working safely in remote environments; delivering adult education/training; biosecurity/animal health technical knowledge; project management. • Ultimately the selected candidate demonstrated significantly more relevant experience working with remote Indigenous communities, as well as technical knowledge relevant to the role. AMRRIC explored alternative employment possibilities for the Indigenous applicant, but given their inability to relocate to AMRRIC's office, this was ultimately not feasible.	AMRRIC continues to strengthen its employee value proposition and cultural safety, and is committed to increasing its internal Indigenous engagement. Given the seemingly limited pool of Indigenous candidates with relevant experience to fulfil the duties required of the Biosecurity Project Manager role, future projects could consider: • offering higher funding to improve the chances of attracting Indigenous candidates with relevant experience, and/or • designing the project to enable Indigenous candidates with less experience to be mentored into the roles on offer. Despite AMRRIC's inability to recruit an Indigenous candidate to the Biosecurity Project Manager role, in the implementation of the project AMRRIC engaged two Indigenous staff members as a trainers on various trips.
Staff turnover among community-based partners • Of the 89 individual Indigenous participants who's employment was supported by the project (or NAQS's in-kind support), only 13 individuals participated in more than 1 census.	High staff turnover was identified as a challenge to biosecurity capacity during the project design phase. In response, the project was designed to delivery annual training sessions that could be foundational training for new employees or refreshers for returning staff. The need for regular refreshers was also echoed in community-partner end-of-project survey responses asking respondents to identify suggestions for improvement: *"Done more often, provide funding to them more often - maybe twice per year for each community rather than just once. Additional training for rangers to continue to do the work as sometimes can forget some things in between surveys when only undertaken annually, or with change over of ranger staff."*

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PROJECT STAFF REFLECTIONS - CHALLENGES AND LEARNINGS

Challenge	Learning/Approach Reinforced
Census planning and delivery • Several training participants voiced concern that the census days were very long and tiring. • One participant feedback survey respondent requested the provision of a more detailed work plan for the week. • AMRRIC staff feedback indicated that census delivery and community interactions were impacted by extreme heat and humidity in some communities.	The daily schedule of census activities can only feasibly occur during business hours and this was the case in the project's implementation. Despite the implementation of pre-start tool-box meetings throughout the project, the participant feedback received indicates that further communication about daily work planning, and work duration expectations would have been beneficial. While censuses were intentionally avoided during the wet season, some censuses did occur during the build-up, and even those during the dry season were subject to unseasonal heat and humidity in some cases. Climate change is only likely to exacerbate the challenges of outdoor activities such as censuses. While heat/humidity mitigation strategies were implemented throughout the project, the feedback emphasizes the importance of risk mitigation strategies for future projects.
Community access and logistics • Some communities were impacted by social unrest during the scheduled trip dates, challenging safe access to the communities. • Freight delays resulted in one region not receiving the anti-parasitics until after the census trip had occurred (requiring the community-based partner to distribute the treatments independently of AMRRIC Staff).	While not unanticipated, these challenges highlight the need for flexible approaches to delivery, frequent stakeholder communication to understand the situation within each community, and long-lead times to ensure freight arrives to its remote destinations before it is due to be distributed.
Frequency of censuses meant that short-term gains in animal health were not captured • The anti-parasitics utilised within the project have a maximum duration of 4 months, with most having only a month-long impact. The climate of Northern Australia promotes parasite reproduction, and burdens can quickly return to high levels once the treatments wear off. • Annual censuses are too infrequent to capture the immediate health benefits that the anti-parasitic treatments generated.	While the animal health benefits of anti-parasitic treatments still occurred, this challenge is more relevant to the project's monitoring and evaluation framework. Future projects should consider the frequency of data capture events in relation to the ability to measure and report on the intended outcomes.

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PROJECT STAFF REFLECTIONS - CHALLENGES AND LEARNINGS

Challenge	Learning/Approach Reinforced
The dynamic nature of app development and its impact on the data collection tool - the AMRRIC App • While good progress was made developing and releasing new features for the AMRRIC App, late in the project it was identified that the platform on which the App is built is no longer supported. This necessitates the App to be re-developed on a new platform.	Despite receiving sound advice at the time from AMRRIC's IT partner, the pace at which IT evolves is rapid meaning that solutions appropriate for yesterday may not be appropriate for tomorrow. Future projects should recognise that IT solutions do not have an infinite lifespan and regularly evaluate the likely longevity of solutions implemented. Additionally, future projects should apply IT development criteria that weighs value for money against likely lifespan. AMRRIC was fortunate that the app development component of this project received considerable in-kind support from our IT partner.
Tension between legislated biosecurity obligations and Indigenous data sovereignty AMRRIC proactively prioritised Indigenous Cultural and Intellectual Property (ICIP) protections and Indigenous Data Sovereignty (IDS), seeking advice from an ICIP/IDS specialising Indigenous law firm, which was then integrated within the Biosecurity Pilot Project's partner agreements. Despite AMRRIC's prioritisation of ICIP and IDS within the agreements, in discussions with the lawyers it was identified that ICIP protections and IDS can at times, conflict with legislated obligations. In the context of the Biosecurity Pilot Project, this could have potentially arisen in the event that a significant biosecurity concern was detected, requiring immediate notification of Biosecurity Authorities, and sharing of private data (e.g. addresses and names of animal owners). Had the Indigenous owners of that private data wanted to enact their ICIP and IDS provision, this would likely conflict with AMRRIC's (and the community members') obligations under respective biosecurity legislation.	AMRRIC was fortunate that no such circumstances eventuated requiring AMRRIC (nor community members) to choose between ICIP/IDS protections and fulfilling its biosecurity obligations. While AMRRIC does not have a solution to this issue, it has included it as a key challenge to highlight that ICIP/IDS is unfortunately still in its infancy in Australia and there is much work to be done to ensure it can be effectively operationalised, particularly in relation to its relationships with existing legislation.

PROJECT STAFF REFLECTIONS - CHALLENGES AND LEARNINGS

Challenge	Learning/Approach Reinforced
Value-add benefits of having veterinarians or vet nurses as AMRRIC's biosecurity project staff When the project was initially designed, it was assumed that each trip would be attended by two AMRRIC staff - one being the Biosecurity Project Manager and the other an AMRRIC Education Officer. In delivering the project, AMRRIC were fortunate to leverage staff who, in addition to being educational officers, have veterinary nursing backgrounds. On trips where the Biosecurity Project Manager was unavailable, AMRRIC instead sent staff who are veterinarians. This meant that on every trip, there was at least a vet nurse, often a vet nurse and a veterinarian present. Even where veterinarians weren't present on the trips, AMRRIC's vet staff were available to provide remote support as required. The veterinary expertise these staff were able to offer was not fully funded within the project budget, but was gratefully received by participants and their communities, and meant that animal health concerns identified during each censuses were able to be immediately dealt with, relieving animal suffering and owner stress.	AMRRIC was able to leverage it's core organisation funding to supply veterinary expertise as an in-kind contribution to the Biosecurity Pilot Project. AMRRIC's veterinary expertise and remote community animal health program experience position it uniquely to ensure that during biosecurity surveillance events, communities receive immediate and tangible benefits beyond what can be achieved by non-veterinary staff, supporting the health of the community's animals and their community broadly. Future projects should similarly employ the principle of no survey without service, and should anticipate and promote the value of veterinary expertise where planned.

AMRRIC'S BIOSECURITY PILOT PROJECT

Conclusions

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AMRRIC'S BIOSECURITY PILOT PROJECT EVALUATION CONCLUSIONS

The project successfully achieved all anticipated outcomes and of the six planned deliverables, exceeded four, and achieved or partially achieved the remaining two. Factors beyond AMRRIC's control were responsible for the partial achivement of one deliverable.

126 participants across 25 remote Indigenous communities of Northern Australia were trained while undertaking community-wide companion animal biosecurity censuses, enhancing local animal biosecurity surveillance capacity while improving animal health through provision of anti-parasitics and first aid treatments

For every dollar from the grant, AMRRIC, with support from project partners, generated an additional 35 cents in value

The project leveraged NAQS' existing fee-for-service animal biosecurity surveillance arrangements in 16 of the community surveillance events; the remaining 25 community surveillance events were newly generated surveillance opportunities directly resulting from the project

Trainee and community partners' feedback was overwhelmingly positive, as demonstrated by community parter quotes including:

Demonstrating tangible improvements in animal health builds trust and engagement within the community. When community members see the positive impact of the project on their animals, they are more likely to support and actively participate in biosecurity efforts.

Where improvements were suggested, these called for increased frequency and duration of the activity, highlighting continuing support for the project's approach

When compared to the NAQS Animal Health Surveillance model, the NAQS model was considered superior by community partners in terms of economic opportunity and meaningful employment however for 13 other biosecurity criteria, the AMRRIC and NAQS models were considered equal (5 criteria) or the AMRRIC model was considered superior (7 criteria)

Improving animal health, followed by improved local capacity for biosecurity surveillance were identified by community partners as the most beneficial outcomes of the project, highlighting the value of animal health service provision alongside biosecurity surveillance

AMRRIC'S BIOSECURITY PILOT PROJECT

Acknowledgements

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THANK YOU!!

AMRRIC is extremely grateful for the support, collaboration and dedication of all collaborators:

Community-based partners and their participating staff

- East Kimberley Job Pathways
- Thamarrurr Development Corporation & Thamarrurr Rangers
- Nirrumbuk Environmental Health and Services
- ASRAC Rangers
- Djelk Rangers
- Gumurr Marthakal Rangers
- Mimal Land Management
- Nanum Wungthim Land and Sea Rangers
- Thamarrurr Rangers
- Tiwi Resources - Tiwi Rangers
- East Arnhem Regional Council
- Napranum Aboriginal Shire Council
- Roper Gulf Regional Council
- Shire Derby West Kimberley
- Torres Strait Islands Regional Council
- West Arnhem Regional Council
- West Daly Regional Council

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- Towcha Technology
- Terri Janke and Company Law Firm
- Boehringer Ingelheim Animal Health
- MSD

Supporting organisations

- NAQS Animal Health Team, Community Liaison Officers and Indigenous Rangers & Business Management Section
- Wildlife Health Australia
- QLD Health - Tropical Public Health Unit Environmental Health Officers
- WA Health - Kimberley Population Health Unit Environmental Health team
- DAFF Torres Strait Biosecurity Officers
- Biosecurity Sciences Laboratory (BSL), QLD
- Community-based schools

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- Jory Stariwat
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- Dr Kirsty Officer
- Dr Simone Armstrong
- Dr Sarah Bonny
- Dr Fiona Pearson
- Katrina Doody
- Michael Spry
- Dr Chelsea Smart
- Dr Jessica Hoopes
- Dr Annie Phillips
- Megan McCann
- Rebecca Ing
- Lauren McDonald
- Dr Bonny Cumming

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Animal Management in Rural and Remote Indigenous Communities