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Biosecurity engagement guidelines: How to develop an engagement strategy including a monitoring and evaluation component

Heleen Kruger

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Contact
Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES)

Postal address	GPO Box 1563 Canberra ACT 2601
Switchboard	+61 2 6272 2010
Facsimile	+61 2 6272 2001
Email	info.abares@daff.gov.au
Web	daff.gov.au/abares

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Disclaimer
ABARES acknowledges that there is no single method to develop a biosecurity engagement or monitoring and evaluation strategy that would suit all circumstances. The purpose of this guide is to provide valuable insights for anyone planning to develop such strategies, keeping in mind that any approach needs to be adjusted to best fit local circumstances.

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Preface

The Office of the Chief Plant Protection Officer (OCPPO) in the Australian Government Department of Agriculture, Fisheries and Forestry (DAFF) commissioned this report. It is one of a series the ABARES Social Sciences team developed to support community engagement for biosecurity issues.

It is a guide to developing a community engagement strategy to gain community support for addressing biosecurity issues. It includes a step-by-step approach to developing an engagement strategy, including a monitoring and evaluation component. To date, monitoring and evaluation has not been a common component of biosecurity engagement programs. Yet it is important to underpin adaptive management, an essential component to effective biosecurity engagement programs.

This document is a companion document to *Biosecurity engagement guidelines: Principles and practical advice for involving communities*. It is recommended that the companion document be read before using this document.

Summary

Substantial investment by government, industry and research bodies has led to significant progress in understanding pest behaviour and control, surveillance, detection and eradication techniques. However, the success of biosecurity operational activities often depends on support from the community. Effective community engagement in biosecurity requires a strategic approach that is carefully planned in collaboration with key stakeholders and is well integrated with other aspects of regional biosecurity programs, such as operational activities. In order to be effective, biosecurity engagement requires flexibility and adaptive program management.

The aim of the Engaging in Biosecurity project was to develop a biosecurity engagement framework, including providing a step-by-step approach to developing an engagement strategy and a monitoring and evaluation component. This was done by conducting four biosecurity engagement trials based on adjusting the monitoring, evaluation, reporting and improvement approach to fit the biosecurity engagement context.

The proposed approach to devising an engagement strategy involves developing a 'theory of change'; that is, identifying the cause-and-effect relationship between the engagement activities and how they will eventually achieve the program objective. It involves articulating what outcomes each activity aims to deliver and how the combined outcomes of the different activities will lead to the program objective being achieved. It also involves the need to articulate assumptions in order to better finetune the strategy and ensure the strategy can be adjusted if assumptions prove incorrect. This approach sets a solid foundation for developing a monitoring and evaluation component.

The suggested approach to monitoring and evaluation has been derived from the monitoring, evaluation, reporting and improvement approach. It involves defining key monitoring and evaluation questions, and indicators of progress. The document also provides tips on how to collect and analyse data and how to report findings.

The steps are brought to life through a comprehensive case study that illustrates application of the principles.

Chapter 01

BIOSECURITY ENGAGEMENT GUIDELINES:
PRACTICAL ADVICE FOR INVOLVING COMMUNITIES

Introduction

This document provides a 'how to guide' to developing a community engagement strategy for gaining community support to address biosecurity issues. It also includes guidance on developing a monitoring and evaluation component to underpin continual improvement and enable the engagement team to be responsive to new issues and opportunities. The steps are brought to life through a comprehensive case study (Appendix C) that illustrates application of the proposed steps and principles.

In order to develop this guide, the monitoring, evaluation, reporting and improvement (MERI) approach has been adjusted to fit the biosecurity engagement context (Australian Government 2009; Clear Horizon 2010). MERI has been widely used for Australian Government funded natural resource management programs. Four biosecurity engagement trials were conducted during 2010 and 2011 as part of the Engaging in Biosecurity project to develop a MERI-based methodology that is practical and effective. During 2009 six case studies were profiled as part of the Engaging in Biosecurity project to identify key principles for engaging the community in biosecurity efforts. Quotes from the case studies and trials are provided throughout the text to bring some of the principles to life.

1.1 The Engaging in Biosecurity project

This document was developed as part of the Engaging in Biosecurity project conducted between May 2008 and September 2011. The aim of the project was to develop a biosecurity engagement framework, in association with landholders, industry and local communities, for detection and surveillance of exotic pest and disease incursions to enhance on-farm biosecurity. The resulting framework comprises:

- The basis for a national action plan for biosecurity engagement: considerations for developing an environment that is conducive to biosecurity engagement at national and state levels. It is contained in *Developing a national action plan for community engagement about plant biosecurity – consultation summary report*.
- Best recommended practices: principles and a step-by-step approach for developing and managing biosecurity engagement programs at a regional and local level. It comprises two documents; this document and its companion *Biosecurity engagement guidelines: Principles and practical advice for involving communities*.
- Tools and mechanisms: a number of information sheets and checklists for biosecurity engagement practitioners, policy makers and investors in biosecurity engagement programs.

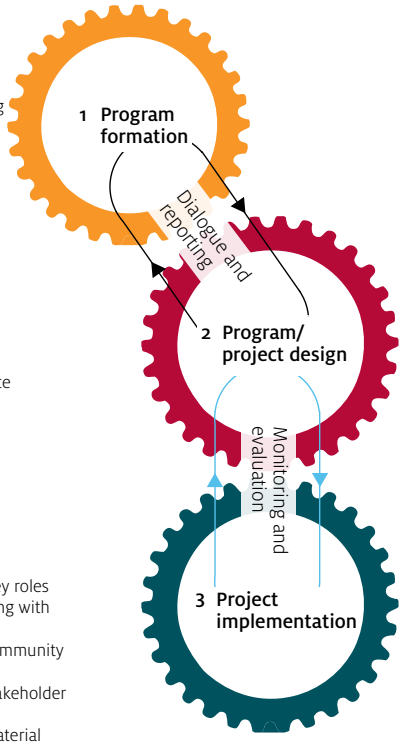
The Australian Government Department of Agriculture, Fisheries, and Forestry (DAFF) funded the project and the Office of the Chief Plant Protection Officer (OCPPO) managed it. The project was a key step toward fulfilling the Australian Government's election commitment to protect Australian horticulture. OCPPO contracted the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) Social Sciences Section to develop biosecurity engagement guidelines.

1.2 The biosecurity engagement 'engine'

This section is an overview of the biosecurity engagement 'engine'. For more detail about this conceptual framework for an ideal engagement process, see *Biosecurity engagement guidelines: Principles and practical advice for involving communities*.

Three 'cog wheels' represent different stages of engagement. The wheels are influencing and providing feedback to the other wheels, so each is constantly being moved to action by the others. The biosecurity engagement engine illustrates that engagement programs need to be responsive to changing circumstances and new insights to realise their full potential.

FIGURE 1 Biosecurity engagement engine



DRIVERS

- Market access
- Concern about increasing outbreaks
- Provide 'clean green' product
- Government reviews
- Profitability
- Sustainability

KEY RESOURCES

- Long term commitment
- Technical / engagement know-how and experience
- Funding / resourcing

BARRIERS

- Short funding cycles
- High staff turnover
- Wrong personalities in key roles
- Concerns about interacting with communities
- Under-appreciation of community engagement
- Under-appreciation of stakeholder analysis
- Over-reliance on print material
- Lack of two-way information flow

STAKEHOLDERS

- Managers in government and industry bodies
- Local industry representatives
- Coordinator and representatives of local community groups

SOCIAL ENABLERS

Principles

- Trust
- Respect
- Credibility
- Flexibility
- Genuineness
- Reciprocity
- Responsiveness
- Transparency

Mechanisms

- Champions
- Face-to-face
- Familiar environments
- Peer pressure
- Previous outbreaks
- Sense of community
- Sense of place
- Social networks and relationships
- Two-way communication

The length of each stage is variable and stages could overlap. The stages are:

- **Formation**—determining program goals, management and resourcing. This includes examining the problems, such as key issues, main risk pathways through which the pest could spread and ways to address risks, in collaboration with stakeholders. The decisions needed for this stage would ideally involve people who have authority to allocate resources and have an overview of how the planned venture would relate to other programs and organisational goals.
- **Design**—identifying key target groups for addressing biosecurity risks and practical, effective ways to engage them. It often involves gaining insights into target group attitudes, values, motivations and capacities by gathering baseline information and developing an engagement strategy based on the information gathered. The people who should be involved need to have a good understanding of what messages and engagement activities would work best with target groups at the grassroots level.
- **Implementation**—interacting with target groups to reduce biosecurity risks, including responding to new challenges and opportunities. This stage might require collaboration with intermediaries or representatives of target groups. For example, for communities, intermediaries could be key figures of whom the community thinks highly; for farmers, it could be on-farm consultants with whom they have an established relationship.

Monitoring and evaluation provides feedback from the implementation stage back to the design stage to allow for adaptive program management. The engagement strategy is regularly updated based on monitoring information that provides insight into how target group engagement could be strengthened. Dialogue and reporting processes ensures 'big picture' information is communicated between stakeholders in the design and formation stages.

This document provides a step-by-step approach to:

- developing the engagement strategy as part of Stage 2 Program design
- linking Stage 2 Program design and Stage 3 Program implementation (that is, monitoring and evaluation).

These two components of the biosecurity engagement 'engine' are the backbone of an effective engagement program.

Chapter 02

Developing an engagement strategy

This chapter provides a step-by-step approach and considerations for designing an engagement strategy. This approach lays a solid foundation for subsequent development of a monitoring and evaluation component. Examples are contained in appendixes A and C.

2.1 Involving others in developing the strategy

Involving others is a powerful way to develop an effective engagement strategy. Everyone will bring different perspectives and insights about what would work well to engage certain groups. Their combined input will increase the chance that the engagement strategy will be effective and widely supported.

A planning day involving a range of key stakeholders is an effective way to develop an engagement strategy. Such key stakeholders could include people who:

- know the target groups well
- are members of the target group
- deal with target groups about the pest, such as operational staff, agronomists, supply chain members or tourist information centre staff
- are technical experts, such as those who know the technical side of the eradication or control program, the biology of the pest, or the rules of the exclusion zone.

It is important to be clear about what is expected from each stakeholder and to carefully consider how to best involve them in developing the strategy. Stakeholders could become discouraged if they believe their time is being wasted. Carefully consider ways of maximising opportunities for their constructive, relevant input to developing the strategy.

For example, in a full planning day, in which travellers form only one of several target groups, it might be unfair to expect the local travel information centre representative to participate in the full day; it might be more appropriate to invite this person only for the part of the meeting when travellers will be discussed.

2.2 Developing the strategy based on a theory of change

The underlying approach proposed in this document involves identifying how the desired change will occur over time. It involves developing a theory based on a series of cause-and-effect events that will eventually lead to the desired outcome. The theory of change could be captured in either:

- a flow diagram (Appendix B) that provides a quick overview of the cause and effect events with an accompanying table containing more detail
- a table that lists the planned activities and the expected outcomes and various considerations for each activity (Appendix C).

The steps inherent in developing the engagement strategy are:

- Step 1: Define objective of the engagement program.
- Step 2: Identify target groups and potential intermediaries.
- Step 3: Identify and analyse engagement activities.

Step 1 Define objective of the engagement program

The program objective should state what success would look like at the end of the program's lifetime. It is best to aim for something that is achievable and realistic but would still need some determination to achieve.

Take care to ensure the statement represents only the objectives for which the engagement program is responsible. It is best expressed as an outcome, rather than how it is proposed to be achieved. It could be several statements if there are different objectives for a number of target groups.

Examples of program objectives could be:

- the community makes a significant contribution to reporting and detecting pest x
- growers follow best recommended practice for on-farm hygiene
- the amount of fresh produce travellers carry into the exclusion zone is significantly reduced.

Step 2 Identify target groups and potential intermediaries

'Target groups', in the context of biosecurity engagement, generally refers to those groups of people who would contribute to lowering the biosecurity risk by doing certain things (that is, the preferred action). These groups could be identified by considering the key risk pathways of how the pest(s) could spread and what certain groups could do to reduce the biosecurity risk.

Be specific about which groups need to be involved; for example, rather than merely listing 'growers', specify by saying 'growers not connected to an industry body' or 'commodity x growers'. Or rather than saying 'residents', use more specific descriptors such as 'backyarders' or 'school children'.

Target groups could also be those that ensure smooth engagement with groups along key risk pathways. For example, in one Engaging in Biosecurity case study, different sections within a large organisation were unwittingly giving the public mixed messages about how the risks associated with a pest were being addressed. The engagement team focused their initial efforts on harmonising key messages to ensure everyone in the organisation was giving the same message when talking to the public. The target group was therefore 'all sections in the organisation that have contact with the public about pest x'.

If priority target groups are not obvious, determine for each group:

- the importance of achieving change in this group (high, medium, low)
- the feasibility of bringing about change in this group (high, medium, low).

Those with the highest combined ratings should receive the highest prioritise.

As well, identify potential intermediaries who could help reach target groups. These are often people, groups or agencies that are trusted or in regular contact with target groups.

Step 3 Identify and analyse engagement activities

Most participants seem to find identifying activities with which to engage target groups the area that is easiest to talk about. To help identify and prioritise engagement activities:

- identify engagement activities
- articulate what each activity will achieve (expected outcomes)
- identify and prioritise underlying assumptions for each activity
- identify improvement measure for each activity
- prioritise the activities (if necessary).

Identify engagement activities

Consider how engagement activities will be carried out to best reach target groups or potential intermediaries. If 'engage with school children' is identified as the engagement activity, specify how it will be done; for example, 'by negotiating with teachers at the beginning of the year to integrate pest related messages into the curriculum' or 'by providing interactive presentations to Year 8 and Year 9 at a time that suits school best'.

The companion document *Biosecurity engagement guidelines: Principles and practical advice for involving communities* provides background information and considerations for choosing engagement tools to underpin engagement activities.

Articulate what each activity will achieve (expected outcomes)

Describe what the target group or intermediary will do differently as a result of the activity and write it down as an outcome. For example, expected outcomes could be:

- 'Children are educated in …'
- 'Children pass key information about … on to their parents and remind them to do [the preferred action]'.

Identify and prioritise underlying assumptions for each activity

The link between an activity and its expected outcome is normally based on assumptions. For example, it could be assumed that increased knowledge of the effects of a pest would lead to increased action to control it.

To help finetune engagement activities it is important to identify assumptions being made for each engagement activity so the strategy can be adjusted early if the assumptions prove incorrect.

Incorrect assumptions can have serious consequences on program outcomes.

Assumptions can be rated and prioritised for monitoring based on their likelihood to be wrong (high, medium, low) and the impact if they are wrong (high, medium, low).

Some examples of assumptions are that:

- people provided with a document about pest management will read and respond to it
- people asked to report unusual pest occurrences have a good understanding of what a normal organism or symptom looks like
- people who agree to undertake pest management or monitoring activities will have the time, interest and resources needed.

Identify improvement measures for each activity

What factors—opportunities and threats—could influence the outcome of an engagement activity and what could be done to get the best possible outcome?

Factors could be within or outside the control of the engagement program. Improvement measures could be put in place for factors that are within the control of the program. It is helpful to articulate the factors outside the control of the program to ensure their influence is considered during monitoring and evaluation.

Prioritise the activities (if necessary)

If it is not obvious which activities are a priority, consider each in terms of its importance to contributing to the overall objective, and its cost effectiveness. For example, rate activities as high, medium or low priority in relation to achieving the goals.

2.3 Establishing baseline information

It is critical to understand the current situation before an effective engagement strategy can be developed. Understanding normally requires investigation through consulting a range of people, including representatives of the target groups, intermediaries and stakeholders by means of interviews, focus groups and surveys.

The investigation is best done either before or shortly after the first draft of the engagement strategy has been developed in consultation with stakeholders. If it is conducted after a draft engagement strategy has been developed, it can be used to test responses to the proposed engagement activities.

The engagement team, in consultation with stakeholders, identifies the focus of the baseline information investigation. Generally this means finding answers to questions like:

- What are the target groups' awareness and perception about the pest(s), its potential affects, and the likelihood of those affects occurring?
- What are the target groups' current practices; for example, what proportion of people is already doing the preferred action?
- Are key messages appropriately worded, or are there better alternatives?
- How appropriate are the planned activities, or are there better alternatives?
- Where do people currently get information about pest control?
- What would motivate people to do the preferred action?
- What would keep people from doing the preferred action?
- What evidence is available to indicate the assumptions are true?
- What is the willingness of potential intermediaries to channel key messages?
- What is the extent of potential intermediaries' contact with target group members?
- How could the involvement of intermediaries be made as easy as possible for them?
- How could the progress of the engagement strategy implementation be best monitored?

In general, it is important to gain a greater depth of understanding of stakeholders, intermediaries and target groups as uncertainties and/or consequences of decisions increase. As well as the approach explained in these guidelines, other tools to achieve this are available. For example, stakeholder identification and analysis is a common method used to better understand and prioritise stakeholders and target groups. A useful overview of techniques is presented in wikiADAPT (2009); and Aslin and Brown (2004) discuss a number of strategies. Other social research techniques—such as rapid rural appraisals, participatory research appraisals or network analyses—could also be useful to inform development of an engagement strategy (Allan & Curtis 2002; Crawford 1997).

Engagement team members could establish baseline information in-house, or in collaboration with external experts or it could be fully outsourced to external experts. The considerations provided in Box 1 about involving external monitoring and evaluation expertise also applies to involving external expertise to establish baseline information. Box 2 contains an overview of tools and tips to collect data if the investigation is conducted in-house.

> We did the social research in the first year or so of the project; by the time the results came out it was about 18 months in and all the programs were designed by then and there's people and work going on the ground and it made it very hard to shift the focus in response to what the social research said. And the people who funded it didn't necessarily understand what it was meant to do and what it was meant to deliver and so, the timing of that, it would have been nice had that been done before the project started, because it would have given them a very clear view of what could and couldn't be achieved. (Program manager, Vic.)

Based on the case studies, direct involvement of the engagement team/coordinator in developing the baseline allows for relationship building with key people, a deeper appreciation of the issues, and quick responses to issues or opportunities. Rather than waiting for and interpreting a report from an external expert, direct involvement of the engagement team/coordinator will ensure more immediate incorporation of new information into the program.

Chapter 03

Monitoring and evaluation

3.1 What monitoring and evaluation means

Adaptive management—the ability to respond quickly to issues and opportunities as they arise—is a key component of effective engagement programs. Monitoring and evaluation forms the basis for adaptive management and hence continual improvement.

A principal intention of this document is to show how much program staff can do to ensure their engagement programs have meaningful feedback loops to enable adaptive management; not to turn engagement program staff into monitoring and evaluation experts.

Data need to be purposefully gathered to inform decision making, with evidence about what works and does not work to underpin adaptive management. It is fundamental that information gathered is meaningful to the engagement team. A biosecurity engagement program's monitoring and evaluation component could therefore be rather 'home-grown' and evolving in order to best meet the engagement team's needs.

The distinction between monitoring and evaluation is often blurred as they could overlap in several ways. For the purpose of this document monitoring and evaluation [as derived from Larson & Williams (2009) and Clear Horizon (2010)] mean:

- **Monitoring** is a process that keeps track of the progress of an engagement strategy against what it intends to achieve, including whether the engagement activities are having the intended effect; how they could be improved and whether there are unintended outcomes. The audience for monitoring findings is normally the engagement team.
- **Evaluation** is a snapshot of the impact of activities to date and it identifies to what extent objectives have been achieved. It involves making judgements about how 'good' an intervention has been in achieving outcomes. It can involve formal reporting for external stakeholders, such as funders and other interested parties, toward the end of the project.

Most approaches to monitoring and evaluation will involve the continual consideration, action, reflection and adjustment that underpin adaptive management. All processes have their own merits and drawbacks. The principles and methods proposed in this document have been adapted from the monitoring, evaluation, reporting and improvement (MERI) approach.

The research team aimed to devise simple meaningful guidelines that biosecurity engagement coordinators and teams could implement. This approach was applied in the four Engaging in Biosecurity trial projects and the lessons learned have been incorporated in this chapter.

For complex engagement programs, engagement teams should consider involving monitoring and evaluation experts to help them set up the monitoring and evaluation and analyse data. If the requirements or preferred actions for target groups are complex and involve many different target groups, setting up and doing the initial monitoring and evaluation could require considerable skill and time.

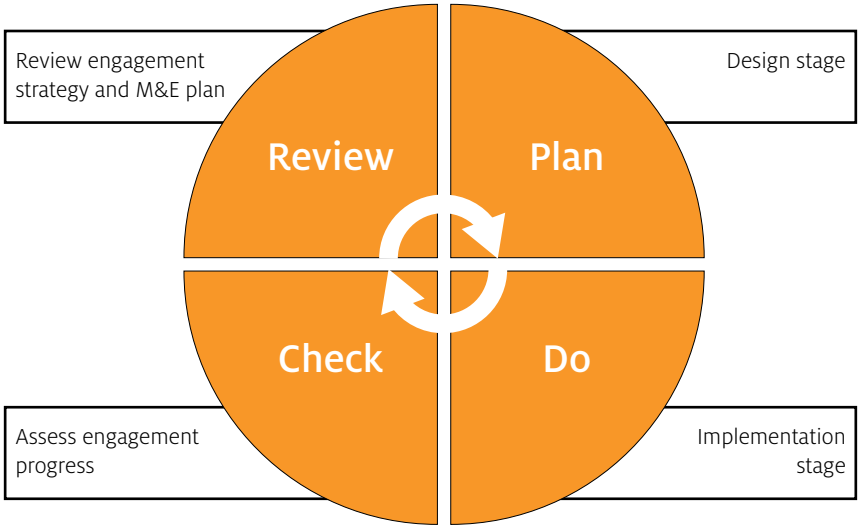
For example, one of the Engaging in Biosecurity case studies involved devising and communicating different messages for travellers, residents and growers; and it involved growers from different industries, with unique practicalities for each industry. Growers and transporters needed to comply with different sets of regulations to move produce to different market destinations, which changed if a pest outbreak occurred. Involvement of external monitoring and evaluation expertise would be highly recommended in such a circumstance.

If you are not sure whether to employ external monitoring and evaluation expertise or let your own team do it, Box 1 provides an overview of the advantages and disadvantages of both approaches.

3.2 What monitoring and evaluation involves

Every monitoring and evaluation process is unique, although there are common principles. Essentially, monitoring and evaluation is a 'learning by doing' process that involves regularly checking whether engagement activities are delivering what they set out to achieve, how the process could be improved and reviewing the engagement strategy accordingly.

FIGURE 2 A basic monitoring and evaluation cycle



Box 1 Advantages and disadvantages of involving external monitoring and evaluation experts versus doing it in-house

	Advantages	Disadvantages
In-house	– First-hand learning opportunity for staff. – Staff might be more inclined to respond to findings, because they received the feedback first-hand. – Monitoring and evaluation activities, such as conducting interviews, could significantly strengthen relationships between engagement program staff and key stakeholders, intermediaries and/or target group representatives. – More flexibility around the timing of monitoring and evaluation activities.	– Increased workload for staff. – Staff might need to learn new skills, which might require cost and time away from other activities. – Staff might feel sensitive about feedback; for example, they might take negative feedback personally. – Interviewees might be less likely to speak up if sensitive views are involved.
External	– Results are independent and possibly more objective. – External stakeholders might view results more favourably. – The data collection, analysis and reporting are professionally done. – Respondents might speak more openly if they have concerns about the engagement staff or organisation. – Good for large and/or complex projects that require a high level of data analysis. – Reduced workload for engagement team.	– Can be more expensive. – Harder to change course of the monitoring and evaluation; circumstances can change quickly in biosecurity engagement. Pest numbers could suddenly increase, or the pest could appear at an unexpected location, which could require biosecurity efforts to be focused elsewhere. If consultants have been employed to do a certain job, it might be difficult and/or expensive to change the focus of their work. – If the project is complex or has had a complex background or history, it might require some time and cost for consultants to understand the issues. – Program staff might undervalue the research findings, especially if they contradict their own beliefs about the engagement program's progress. This might affect their response to the findings and recommendations.

Another option is to employ a monitoring and evaluation or social science expert to guide the engagement team in doing it themselves. This would also allow for capacity building in the team and less need in future for expert involvement.

As a short analogy, imagine going on a road trip. To know whether you are travelling in the right direction you need to know your destination. It is then a matter of deciding what will tell you that you are making progress (indicators); where and how you will find the information (data collection); and how you will make sense of it (data analysis). You can then use this information to check and if necessary adjust your travel plans. At some point you might also need to assess how far you have travelled and what slowed down or sped up the journey. Finally, you need to decide how the information could be communicated to others interested in your journey.

Like the engagement strategy, the monitoring and evaluation component should also be a 'living system' and be adjusted as new needs are identified, or as some monitoring and evaluation activities prove obsolete.

3.3 Where to start

The need for a 'theory of change'

The monitoring and evaluation strategy is best developed in consultation with key stakeholders. It is important that those responsible for developing the monitoring and evaluation component have a common understanding of what the engagement program objective is, and how the engagement strategy is meant to achieve the objective.

It is recommended that the monitoring and evaluation component be identified as part of developing the engagement strategy (see Appendix A)—at least as a start—as the 'theory of change' forms the foundation for its design. If a monitoring and evaluation component is introduced to an existing biosecurity engagement program, it is recommended that the theory of change be developed in retrospect. This will ensure stakeholders and the engagement team articulate and understand what the underlying cause and effect processes are meant to be.

The need for baseline information

It is important to establish baseline information before or shortly after writing the first draft of the monitoring and evaluation strategy. It is valuable to know what your departure point is when monitoring and evaluating your progress towards an end point. It should relate to tangible things, like what proportion of the target group is already doing the preferred action, and less tangible things, like the target groups' attitudes and levels of understanding of the pest control program. These measures could be vital to providing insight into the progress or impact of an engagement program.

For example, imagine a community engagement program is being launched to encourage people to report suspected sightings of pest x, which is present in low levels in the region. An investigation at the beginning of the program finds that the community believes the possibility of eradicating pest x is slight. This might indicate that the community would see little point in reporting suspected sightings. If you were able to demonstrate, at the end of the program, that this attitude had significantly changed and that awareness of how to report suspected sightings had increased, it would show that the engagement program was making progress. Using 'an increase in reports of suspected sightings' as the only indicator of success might not be appropriate because if pest numbers remain low there might not be much to report.

3.4 Developing a monitoring system

This section provides a step-by-step method to developing a monitoring system. Steps 1 to 3 could be identified as part of the planning meeting to develop the engagement strategy; Steps 4 and 5 could subsequently be determined by the engagement team.

Step 1 Develop monitoring questions

Articulate the focus of the monitoring exercise in a number of questions that the engagement team would like answered; such as questions that will provide them with insight into whether the engagement strategy is progressing as intended.

In other words, not everything needs to be monitored. What is being monitored depends on the engagement team's needs, available resources and priorities of the engagement program.

Clear Horizon (2010) recommends first focusing on the engagement team's information needs. If this is the departure point, monitoring and evaluation will be meaningful. If monitoring and evaluation is about doing the minimum to fulfil reporting requirements, the information tends to be less valuable to the engagement team.

Other than finding evidence of progress, the team could also monitor things they would like to understand better. For example, if a new engagement activity, such as shed meetings, has been introduced the team could seek feedback and suggestions from growers who attended one of the first meetings to finetune subsequent meetings.

In one of the Engaging in Biosecurity trials, the engagement team in collaboration with some key stakeholders identified the following monitoring questions:

- What works well about the engagement activities in achieving their intended outcomes?
- What could work better about the engagement activities in achieving their intended outcomes?
- What motivates people to do the preferred action?
- What stops people from doing the preferred action?

About the awareness-raising activities:

- How do people become aware?
- Of all the strategies, which are the most effective?
- What is missing from current activities?

These are fairly broad questions; if you need to narrow monitoring questions, consider the following components of the engagement strategy (see section 2.2):

- **Target groups**—Which target groups require priority? What is it they need to know or do as a minimum? What information would tell you that these groups are making progress toward doing the preferred action(s)?
- **Assumptions**—Which important engagement activities are based on assumptions that either have a high likelihood of being wrong, or that would have a significant impact if they are wrong? Determine if it is important to investigate whether these assumptions are true.

Step 2 Identify indicators of progress

The next step is to determine what 'signs' or 'indicators' would provide the necessary evidence of progress.

The medium-term results (intermediate outcomes), such as signs that people are becoming more engaged, are often best suited for monitoring. If the program is not on track at this point it is not too late to change its course.

Indicators that people are starting to be engaged could include evidence of an increasing number of people doing the preferred action. However, it often relates to less tangible things like increased awareness levels and changed attitudes and perceptions. See Table C1 for more examples.

Clear Horizon (2010) recommends applying the 'AIMS filter' when identifying indicators; that is, indicators must be:

- **A**ction focused—if no action can be taken as a result of monitoring data for a certain indicator, then it is not worthwhile monitoring the indicator.
- **I**mportant—must provide meaningful information.
- **M**easurable—must be able to find data for the indicator.
- **S**imple—must be relatively easy to collect, interpret and communicate findings about the indicator.

Measuring intangible indicators—those things that are not obvious to count—normally requires a qualitative approach using tools like interviews and focus groups. An overview of tools is provided in Box 2.

Monitoring activities are not limited to the intermediate term. At the initial stages and during the engagement program, monitoring could also involve keeping track of how many engagement activities are being done and how often. For example, this could be how many presentations are being delivered and how many people attended. Or how many media releases were published and how many copies of brochures or manuals were distributed. However, this data provides no indication of whether the activities have translated into the desired behavioural change, which is why the intermediate outcomes are so important.

Step 3 Identify how data will be collected

Be efficient in the way data are collected as it could be a time consuming exercise. Where possible use existing data that could contribute to answering the monitoring and evaluation questions, or identify other opportunities to simplify collecting information. Here are some examples:

- ask agronomists or supply chain representatives about improvements in on-farm hygiene rather than surveying a large group of farmers
- ask operational staff doing backyard spraying to keep a simple record of how many backyards have rotten fruit lying on the ground
- ask call centres to keep a record of where people who are reporting pests have found out about the hotline and what motivated them to call; asking these questions could become part of standard operating procedure for hotline staff when answering calls
- compliance officers might have records of non-compliance with biosecurity regulations (such as when fruit is being transported without the necessary paperwork) that could give an indication of how well growers and transporters understand the biosecurity regulations.

Figure 3 Overview of monitoring and evaluation activities and tools that could be used over the lifetime of a biosecurity engagement program

Start ← **Implementation stage**
Conducting activities as outlined in Engagement Strategy
Monitoring and evaluation activities → **End**

DO

EARLY AND ONGOING		INTERMEDIATE		TOWARDS END	
Keep track of engagement activities		Look for signs that people are engaged/disengaged (monitoring) Identify what works and doesn't work Identify opportunities to strengthen engagement activities		Determine to what extent the engagement program has achieved its objectives (evaluation). Look for tangible (positive behavioural change) and intangible (changes in attitudes and 'readiness' to do the preferred action) evidence.	
Examples of what to look for	**Possible tools**	**Examples of what to look for**	**Possible tools**	**Examples of what to look for**	**Possible tools**
– No. of meetings, talks, presentations, visits (incl. no. of attendees) – Spread of effort across high, medium and low priority groups – No. of media releases or advertisements – No. of door knocks – No. of brochures distributed (incl. no. of distribution points)	Record keeping	**Intangible info:** – Where do people source information about the pest issue? – Awareness levels in terms of the pest(s), its potential impact, what to do or where to report suspected sightings. – Issues that might cause confusion. – Issues preventing key messages getting through. – People's perceptions and attitudes about the pest(s), its impact, the preferred action and the engagement activities. **Tangible info:** – No. of people looking for more information, e.g. no. of website hits and request for more info. – No. of people/groups wanting to take action, e.g. people championing the cause, community groups wanting to get involved, etc. and their distribution. – No. of partnerships to address pest problem.	Focus groups Semi-structured interviews: – face-to-face – phone Short surveys: – paper – phone – online Casual conversations Recordkeeping	**Intangible info:** – Awareness levels about and attitudes towards the pest(s), its potential impact and the preferred action. – People's motivations for doing or not doing the 'right thing'. **Tangible info:** – No. of pest being reported. – No. of growers complying with best recommended practice. – No. of residents maintaining backyard fruit trees; picking up and bagging fallen fruit. – No. of travellers not bringing fruit into restricted zones. – No. of people actively keeping an eye out for a certain pest. – No. of non–compliance events with biosecurity regulations.	Semi-structured interviews Short surveys Look at records Ask those who know through interviews or surveys

CHECK

Note: Before deciding what tools will be used, first determine what existing information is available, then identify what tools are best suited to fill information gaps.

The most common tools used include semi-structured interviews, focus groups and surveys. An overview of these tools and what to consider when asking people questions, is in Box 2.

Step 4 Determine how data will be analysed

It is highly recommended that someone with the appropriate skills analyse the data. Good data analysis skills will ensure that:

- data are interpreted correctly and misleading conclusions are prevented
- the team gets the best possible value from the data.

If staff lack skills in this area, it is highly recommended they undergo training and analyse data under the guidance of an experienced and skilled person.

Various software tools are available to help analyse data; the most commonly used are Microsoft Excel or Microsoft Access. Specialised software like NVivo can be used to analyse very complex qualitative data.

For qualitative data it is important to identify recurrent themes relating to the monitoring and evaluation questions as well as the contexts in which these apply.

For quantitative data it is important to categorise data (such as per community members, commodity x growers, commodity y growers, travellers) and look for trends and correlations. Findings are often best represented in tables, graphs or charts.

Step 5 Determine how monitoring and evaluation information will be reported and communicated

The way monitoring and evaluation information is reported depends on the needs of the engagement team and stakeholders, including external requirements from funders. The modern tendency is to move away from long, wordy reports, because they take considerable time to compile and not many people to have time to read them. Short and sharp ways to communicate findings include:

- results tables that provide an overview of the engagement strategy and the monitoring and evaluation findings presented as evidence next to each activity (see Appendix B for an example)
- Microsoft PowerPoint presentations using dot point format and graphs
- text boxes in documents to capture findings per target or stakeholder group in dot points.

In formal reports that will be used beyond the engagement team it is important to include the method(s) used to collect data and how many respondents were involved. Acknowledge information gaps and when there was a lack of evidence.

Step 6 Ensure the monitoring and evaluation data shapes the engagement strategy

Finally, the engagement strategy needs to be adjusted based on insights gained through the monitoring process. Clear Horizon (2010) recommends:

> Involve the engagement team in reflecting on and using monitoring data—Monitoring tends to be really meaningful if all engagement staff participate in making judgements about the engagement program's progress and how this information could be used to update the engagement strategy ... Ensure the M&E system evolves—M&E systems seldom start off perfectly. Once the team starts to reflect on the data it will become clear which aspects of the M&E system could be dropped or changed, or if new aspects should be added to provide more meaningful information.

Box 2 Tools and tips to obtain baseline and monitoring and evaluation data

Remember to check available sources of information and use these tools only to fill information gaps. This information is based the Engaging in Biosecurity project's findings, Denscombe (2007) and Roberts Evaluation (2006).

1. Tools to explore issues (qualitative approach)

If the focus is on gaining a deeper understanding of a situation, tools based on asking open questions provide the best option. Open questions allow for a wide range of responses to a specific topic; for example 'What do you think about the new pest manual?'

Qualitative (non-numerical) information describes and explains a situation, such as underlying factors like attitudes and perceptions, which influence people's behaviour. It allows for a holistic perspective to help understand the context and interrelated factors.

For example, it is useful to know what growers' views are about new on-farm requirements to control pest x and what would motivate people to do the preferred action, or how a community group perceives pest y.

As this approach could deliver a range of responses, data analysis could be fairly complicated and time consuming, but it provides a greater depth of understanding of the topics at hand.

Respondents are chosen based on their knowledge of the topic, and to obtain a good representation of all groups and sub-groups within the scope of the investigation.

The sample size of respondents is flexible. As a rule of thumb, if you keep receiving similar answers it is an indication that 'saturation' has been reached. If you continue to receive a significant number of new answers, it is an indication that more interviews or focus groups might be beneficial.

Focus groups involve a facilitated group discussion involving around eight to 12 participants to explore a topic. Groups could be homogenous (such as all growers) or heterogeneous (a range of people representing different groups). A facilitator leads the meeting based on a number of key open-ended questions, best between five and seven questions, and preferably no more than 10. Meetings normally go for between one and two hours. Ideally, participants discuss topics with one another, rather than through the facilitator. Participants are best seated in a circle or oval to encourage interaction. The facilitator or possibly a scribe observe and record the interaction and key points of the discussion.

Semi-structured interviews are conversational in nature, but are based on a list of predetermined, open-ended questions. Semi-structured interviews are used to explore people's views, attitudes and behaviours in relation to a certain topic. They are time intensive, but if done by engagement program staff could also offer a good opportunity to strengthen relationships and open new opportunities to disseminate the message. They could be undertaken face-to-face or over the phone. It is useful to involve two people in conducting the interview; one person can focus on the conversation and the other on recording responses. Responses could be recorded on a voice recorder, but transcribing audio recordings to text is time consuming.

Continued

Box 2 Tools and tips to obtain baseline and monitoring and evaluation data *continued*

Casual conversations, unstructured or informal interviews are unlikely to form the backbone of a monitoring and evaluation system, but opportunistic conversations with key informants could be a good source of information, especially to feed into monitoring information. They have the added benefit of occurring in a relaxed environment during which people generally feel free to speak their minds. It might be worthwhile to maintain a simple log of such conversations including the date, the person with whom you spoke, and the key points raised. People in regular contact with target groups could also be asked to maintain a simple record of feedback they receive. For example, an industry development officer could keep a short record of feedback received from growers about a certain pest.

2. Tools to determine the extent of something (quantitative approach)

If the focus is on obtaining numbers, such as how many people are doing the preferred action, closed questions are the best option. Closed questions normally provide a number of answer options, such as yes or no, true or false, agree or disagree. They might also provide a scale or list of options that reflect the respondents' opinion.

Closed questions typically feature strongly in surveys. Survey respondents are often chosen randomly in order to obtain a representative sample of the larger group to which they belong, and sample sizes are typically much larger than for interviews or focus groups.

Ideally sample sizes are large enough to allow statistically valid generalisations to be made from the results. However, biosecurity engagement programs seldom have sufficient resources to undertake large studies. It is important to communicate the sample size when findings are reported. Options such as mixed methods (see '4. A few tips' below) could be used to strengthen the validity of data.

Data are usually fairly easy to analyse, but because the questions presuppose possible answers, it is important to recognise the risk that they might not represent reality. There is, therefore, often a need to use more exploratory tools, such as interviews or focus groups, to gain a good understanding of the best questions and multiple choice answers.

Short survey is the tool most likely to be used in the context of biosecurity engagement to determine the extent of something of interest, such as how many travellers disposed of their fruit, how many households have seen the advertisement on television.

Short surveys could be paper-based (posted or handed out in conjunction with another meeting of target group members), conducted over the phone or the internet. It is best to choose the method based on known target group preference.

When designing the survey it is important to:

- Consider what you really need to know.
- Provide instructions about how to answer questions, for example, 'tick the most appropriate box' or 'tick all options that apply'.
- Keep the length of a questionnaire as short as possible; long questionnaires are the biggest deterrent to participation.
- Make the task of responding as easy and smooth as possible.

Continued

Box 2 Tools and tips to obtain baseline and monitoring and evaluation data *continued*

- Factor in the turnaround time for post or internet surveys; set a due date by which respondents need to reply.
- Consider sending reminders to respondents a few days before the due date as this can often boost response numbers.

3. Designing questions

All tools involve asking key people a number of questions. Denscombe (2007) provides a number of considerations for constructing questions for interviews, focus groups and surveys:

- Pin down what exactly it is that you need to know. It could be tempting to add questions just because it would be interesting to know the answer. All questions add to the time it takes to collect and analyse data. Before adding a question, consider what information it will give you, how you will use it, and how it would add to your knowledge base.
- Use plain English, avoid jargon and ambiguity. Keep questions as short as possible.
- Ensure there is no duplication between questions. Ask one question at a time.
- Avoid leading questions that prompt respondents to give a certain answer (e.g. 'Do you agree that the council should play a larger role in addressing pest x?'). Rather ask 'What do you think would be the appropriate role for the council to play in addressing pest x?'.
- Be careful with presumptions in questions. For example, rather than just asking 'What do you do to maintain your backyard trees?', ask first 'Do you maintain your backyard trees?' and if the answer is yes, follow with 'What do you do to maintain your backyard trees?'
- Test your questions with someone who is experienced in developing questionnaires; an operational 'expert' of the biosecurity program to ensure any technical references are correct; and a few people from the group you intend to survey to ensure questions come across as intended.
- People can only speak for themselves. For example, if an agronomist is interviewed to get a better understanding about how growers respond to an intervention, they can only respond based on their own experience. The agronomist cannot be asked to make statements about all growers.

4. A few tips

- Before you decide which tools to use and how many respondents to interview or survey, consider:
  - Resources—how many staff, how much time and funding are available to collect and analyse the data?
  - What opportunities exist, are there upcoming events, such as grower or community group meetings that could be used to access key people for interviews or surveys?
  - What tool would best suit respondents?

Continued

Box 2 Tools and tips to obtain baseline and monitoring and evaluation data *continued*

- Start any interview, focus group or survey with an introduction reminding respondents:
  - who you are and to what organisation you belong (mainly for interviews and focus groups)
  - what organisation(s) is responsible for the study
  - what the meeting/conversation/survey is about
  - why their input is needed
  - how the data will be used
  - that their confidentiality will be maintained
  - that their input is valued; thank them for their participation.
- Mixed methods (also called 'triangulation') could be used to strengthen the validity of data. For example, to better understand growers' practices, you might decide to interview a few agronomists commonly used in the region. The key themes raised could be verified and further explored during a focus group with growers. Alternatively, growers could be handed a short survey during a field day in order to check key themes the agronomists raised.

5. Further reading

Roberts Evaluation 2006, *Tools and approaches for evaluating extension*, available at www.robertsevaluation.com.au/images/pdfs/tools_evaluate_extension.pdf

Wadworth, Y 2011, *Do It Yourself Social Research*, available at www.allenandunwin.com/default.aspx?page=94&book=9781742370637

3.5 Developing an evaluation approach

Toward the end of biosecurity engagement programs it is important to evaluate the extent to which the engagement activities achieved program objectives. To ensure independence and objectivity, it might be best for external experts to do the evaluation (specifically at the request of program funders).

In principle, an evaluation could be conducted at any point in the engagement program, to get a 'snapshot' of progress. However, given the relatively short-term nature of many biosecurity engagement programs, it is more likely that an evaluation would be needed at the end of the program.

An evaluation can be designed at any point. The benefit of doing it as part of developing the engagement strategy means key stakeholders are already engaged in the program objectives and 'theory of change'. The monitoring and evaluation activities could then be truly integrated. However, if an evaluation is planned for the end of the program it might be worthwhile developing the approach closer to the due date. This approach would put less pressure on key stakeholders at the start of the program and allow for the lessons learned from monitoring activities to be taken into consideration.

Evaluation questions

Like monitoring, the focus of an evaluation is captured in a key evaluation question, which is broken down into a few 'sub-evaluation' questions. It is important to get the questions right, as they will set the scene for the evaluation. They are worth careful consideration in collaboration with key stakeholders.

Key evaluation questions often start with 'To what extent …'. The Australian Government (2009) points to five measures that could be used to evaluate a program's worth, that is, its impact, appropriateness, effectiveness, efficiency and legacy.

While it might seem that the simplest way to conduct an evaluation is to demonstrate that x% of the target group is doing the preferred action, in many biosecurity engagement cases this would either not be possible or be too simplistic to fully appreciate the impact of the engagement program. Here are some examples:

- The opportunity to do the required action might not have presented itself. For example, if the community is asked to report sightings of a pest and it is present in very low numbers, reported numbers would be very low as well. It is a good idea to determine the 'readiness' of the community to report, for example, by assessing peoples' awareness of the pest, what to look for and how to report it.
- People might be doing other things to address the biosecurity risk. Consider travellers being asked not to bring fresh produce into certain areas or to deposit fresh produce in bins before entering those areas. Measuring the percentage of travellers depositing fresh produce in bins in isolation might be difficult or dangerous. Low usage of bins might mean people are:
  - not aware of the need to dump their fruit and vegetables
  - not travelling with fresh produce because the message has got through
  - eating fresh produce before entering the area, in which case it might be valuable to investigate travellers' awareness of the regulations and their practices around travelling with fresh produce.
- Other factors might be motivating people to do the preferred action. For example, if the pest is a nuisance and its numbers are increasing, people might be calling the council or pest exterminators for advice. These agencies might encourage them to report the pest. In such a situation it is important to determine why people are doing the preferred action and whether it could be attributed to the engagement activities.
- Likewise, growers might be asking a supply chain member about required paperwork to move produce rather than visiting a designated website. The success factor is therefore not the website alone, but the growers' relationship with supply chain members and supply chain members' awareness and use of the website.

It is therefore important to consider the need for tangible and intangible evidence when designing evaluation questions. For example, if the program objective is 'Growers follow best recommended practice for on-farm hygiene' the evaluation questions might be:

- Key evaluation question:
  - To what extend has the engagement program contributed to growers following best recommended practice for on-farm hygiene?
- Sub-evaluation questions:
  - What percentage of growers is following best recommended practice on-farm?
  - To what extent were growers engaged?
  - What would growers' on-farm practices have been without the engagement activities?
  - To what extent were the engagement activities appropriate to influence change?

As some engagement programs have several target groups, with distinct objectives for each, it might be necessary to have several key evaluation questions.

The rest of the evaluation process is the same as steps 3 to 6 under 3.4 Developing a monitoring system.

3.6 Maintaining two-way communication

A fundamental component of continual improvement is maintenance of two-way information flow with key representatives of stakeholders, intermediaries and target groups.

In addition to monitoring and evaluation, consider incorporating feedback mechanisms into an engagement strategy. Such mechanisms could include:

- Giving people the opportunity to engage in two-way conversations about the program or information provided; encourage them to ask questions, discuss concerns and provide suggestions. Take feedback seriously.
- Considering how stakeholder groups will be kept informed about the progress of the program.
- Ensuring any changes to the program, whether management-related or technical, are explained to stakeholders and relevant target groups as soon as possible to prevent confusion.
- Actively monitoring and addressing confusion by finding and addressing the source.
- Motivating stakeholders by highlighting program achievements.
- Continually valuing people's efforts and reminding them that their support is making a difference.

> We're probably all aware that there're baits and stuff, but there doesn't appear to have been anybody that's contacted us again [after the initial talk at a gardening group meeting] and we obviously have been registered with the program somewhere as a garden club. Nobody, whoever's doing it now, whether it's DPI, whoever, nobody has contacted us as a garden club saying this is where we're up to now and this is what we're going to be doing. Nothing seems to be happening. (Garden club representative, Vic.)

> But we don't know; is the program still running or what's happening? I mean there were people running around spraying and there were people going around hanging baits in trees but I personally haven't seen anybody out spraying for a while, but I have seen all these baits that have suddenly appeared in all my trees at home. (Resident, Vic.)

A mini-champion network

Maintaining two-way communication with a wide range of people could be a time consuming exercise. Establishing a mini-champion network could help make the exercise more time efficient. This would typically happen after the coordinator has made contact with the stakeholder or target group through, for example, a presentation or training session. This kind of network involves identifying people within the groups who are enthusiastic about the cause, respected by the group they represent and willing to represent the cause within their group.

The engagement program coordinator ensures regular contact with mini-champions to communicate program progress or updates. Mini-champions relay feedback from their group to the engagement program coordinator. Ideally, the coordinator could meet face-to-face with mini-champions. A social environment might make it more attractive for mini-champions to participate.

For example, a mini-champion network involving representatives from target groups, such as the local gardening group, the regional farmers' group, the visitor information centre and schools, could meet quarterly (or whichever frequency would be most appropriate) for a barbeque or in a quiet corner of a local club or pub. The engagement program coordinator would share any new developments of the biosecurity program with the mini-champions and the mini-champions would provide the engagement program coordinator with feedback from the groups they represent. It is the responsibility of the mini-champion to pass updates of the biosecurity program on to their groups.

Even though it might still be necessary to make phone calls and send emails between meetings, a mini-champion network could ensure continuous engagement with specific target groups without the need for follow-up visits.

Dialogue and reporting

Ensure regular two-way communication occurs between the engagement team and the stakeholders of the 'formation stage' of the biosecurity engagement engine. They are the people who allocate resources to the engagement program and have an overview of how the program relates to other initiatives and organisational goals. Communicate progress and program needs to these stakeholders as needed. This process is illustrated in Figure 1. The biosecurity engagement 'engine' has the 'dialogue and reporting' feedback loop between the formation and design stages.

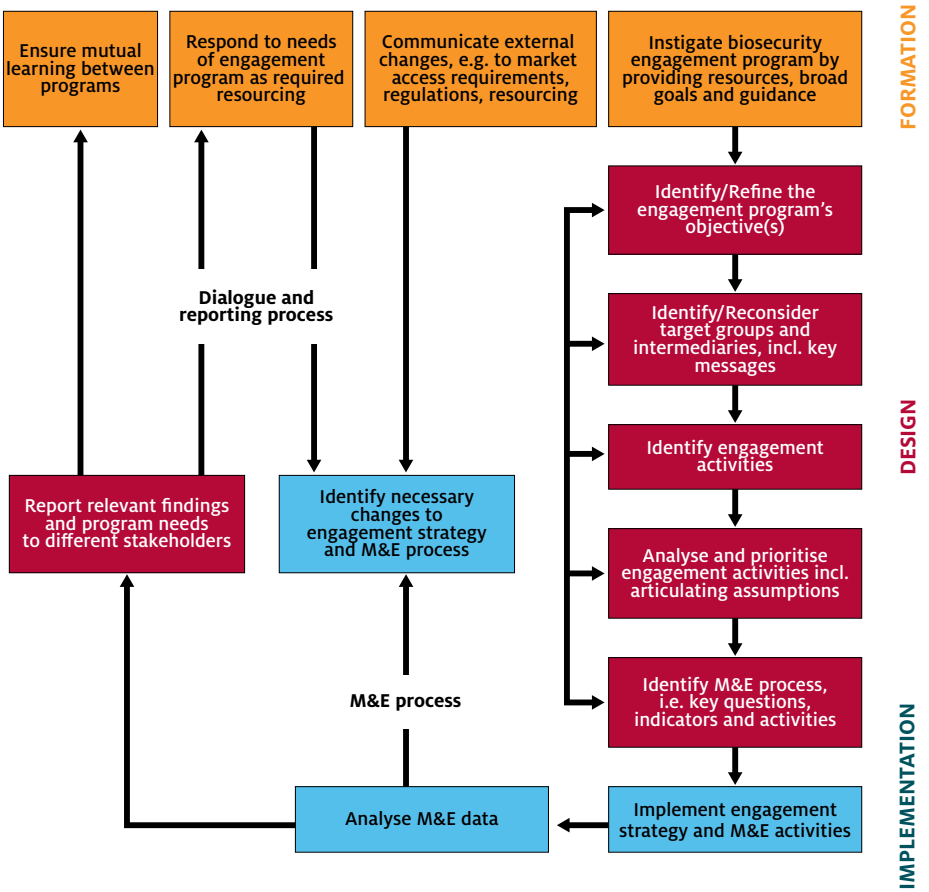
In addition, mutual learning between biosecurity engagement programs is important to prevent different programs 'reinventing the wheel'. Communicating key lessons learned from an engagement program to relevant stakeholders, such as senior managers of key organisations, helps ensure they are passed on to and considered by other similar engagement teams. Likewise, find opportunities to learn from other biosecurity engagement programs.

3.7 Bringing it together

Figure 4 provides an overview of how the different aspects of developing an engagement strategy, including a monitoring and evaluation component, fit together. Note that it is colour coded to reflect the colours of the biosecurity 'engine' (Figure 1) to illustrate how the steps discussed relate to this conceptual framework for effective biosecurity engagement.

Appendix A gives an overview of how to integrate development of a biosecurity engagement strategy and a monitoring component. Appendix C provides a detailed imaginary case study of how to develop an engagement strategy and a monitoring component.

FIGURE 4 Overview of monitoring and evaluation cycle in the context of the biosecurity engagement 'engine'



Appendix A: How to develop a biosecurity engagement strategy, including a monitoring component

This appendix provides an overview of how development of an engagement strategy and a monitoring component could be integrated (see section 2.2 for more details on developing the engagement strategy; and section 3.4 for more details on developing the monitoring component).

1. Identify and engage stakeholders who have knowledge, skills or experience that could help develop the engagement strategy

To identify stakeholders, ask questions such as:

- Who will be affected by or have an interest in this engagement program?
- Who do we need to influence?
- Who are likely partners?
- Start early on building relationships with key stakeholders through discussions and by making them feel valued.

2. Conduct a planning meeting involving stakeholders to develop the first draft of the engagement strategy and its monitoring and evaluation component

2.1 Introduction

Set scope (e.g. geographical, target groups, issues that need to be addressed, timelines and resources)

2.2 Identify the overall objective of the community engagement strategy

- What would success look like at the end of the project's lifetime?
- What is achievable, realistic but would still require some effort to get there?

2.3 Identify and prioritise target groups and possible intermediaries and key messages for them

Target groups:

- Which risk pathways are most important to focus on?
- Which community groups are most likely to be able to help reduce the biosecurity risk? Be specific.

  If not obvious, prioritise target groups based on the importance of influencing these groups (e.g. high, medium or low) and the feasibility of influencing them (e.g. high, medium or low).

Intermediaries:

- Which agencies/businesses/individuals could help influence target groups?

  Consider the likelihood that intermediaries would be willing to use their influence and be a channel for key messages to reach target groups.

2.4 Identify engagement activities (including how they will be conducted) to reach intermediaries and/or target groups

Flesh out the activities by:

- Articulating what it will achieve (expected outcomes). Describe what the target group or intermediary will do differently as a result of the activity.
- Identifying and prioritising underlying assumptions. Rate assumptions based on their likelihood of being wrong (high, medium or low), and the impact if they are wrong (high, medium or low).
- Identifying improvement measures. What factors could either undermine or improve the engagement activity? For those that are within your control, what could be done to ensure the best outcome for the engagement activity?
- Identifying indicators of progress. What are the tangible and intangible 'signs' or 'indicators' that will indicate over time that this activity is going to achieve the desired outcome.
- Prioritising activities. If it is not obvious which activities require priority, consider each activity in terms of its importance in contributing to the overall objective, and its cost effectiveness; rate activities as high, medium or low priority.

2.5 Consider how progress could be monitored

- Identify key and sub-monitoring questions. The ratings of the target groups, assumptions and activities should provide clues of what could be meaningful to monitor.
- Identify progress indicators with emphasis on intermediate outcomes. Identify the signs that will show people are starting to be engaged.
- Determine how data will be collected. Identify what information exists to answer the monitoring questions and how to fill information gaps, including how data will be collected.
- Consider how data will be analysed (could also be done outside the scope of the meeting).
- Consider how findings could be best communicated.

2.6 Other tips for the planning meeting

Conduct a risk analysis before the meeting to ensure it proceeds smoothly.

Record information gaps during the planning meeting and other matters that required follow-up.

3. Conduct an investigation to establish baseline information

Baseline information could be established before or shortly after the planning meeting.

Specify what the investigation will involve:

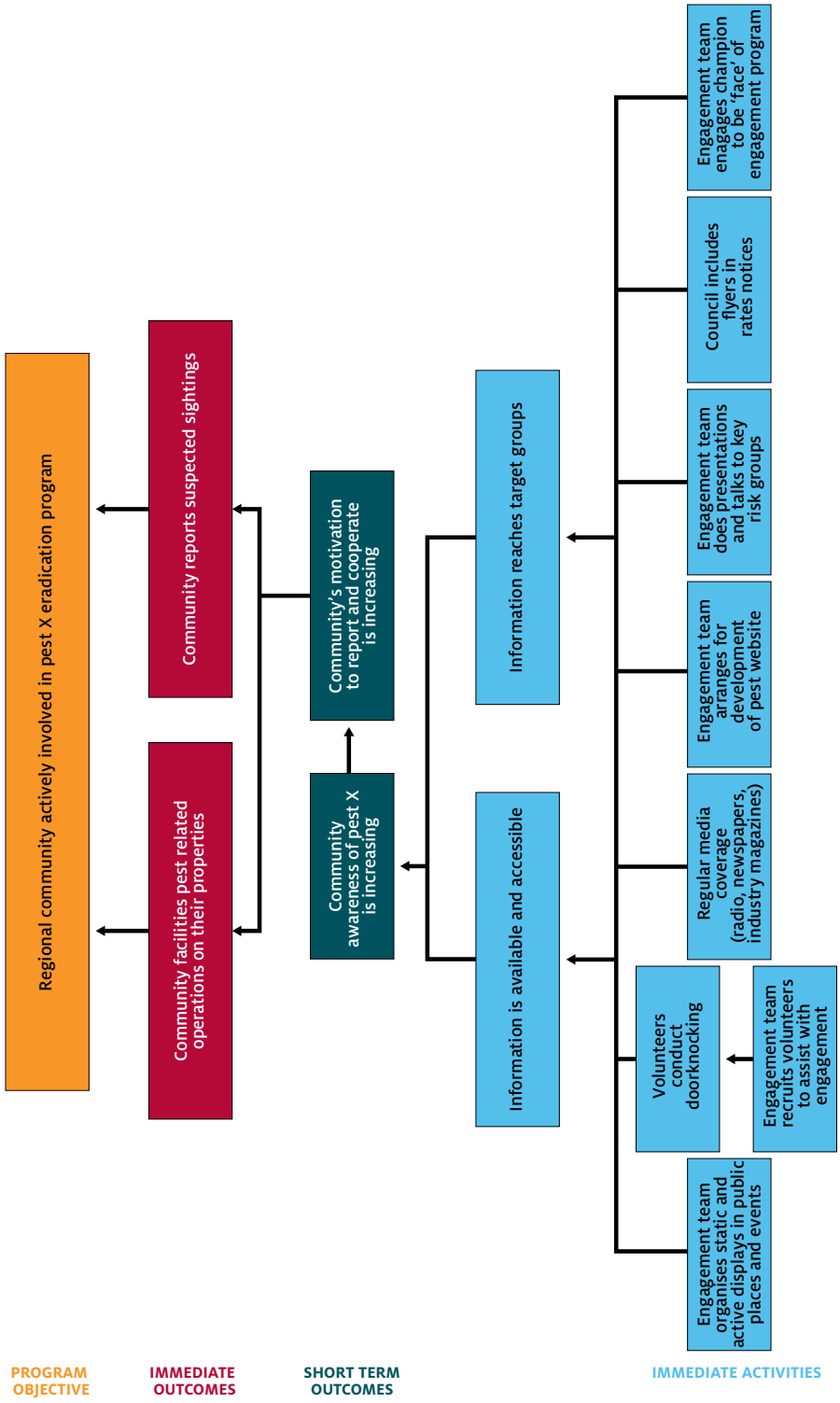
- What questions need to be answered (research, monitoring or evaluation questions)?
- Who will conduct the investigation?
- What tools will be used (interviews, surveys or focus groups)?
- Who will be the key informants?
- Who will analyse the data?
- How will findings be communicated?

4. Update the engagement strategy and monitoring component based on findings from the baseline investigation

Developing tools and materials, such as brochures, presentations and posters.

Test materials before they are widely distributed.

Appendix B: Simple example of a 'theory of change' for a community engagement strategy



Appendix C: Developing a community engagement strategy that includes a monitoring component for Big Bad Bugs

This appendix is a scenario, **featuring an imaginary pest**, which outlines how to develop a community engagement strategy that includes monitoring. It is intended as a resource for people working at the level who have been tasked with such an undertaking and do not feel confident in applying the principles outlined in this document. It also provides ideas for engagement activities and how these could be monitored. Examples of how to prepare for a planning meeting, what the agenda might look like and semi-structured interview questions, are included.

This scenario is based on a low threat situation, requiring a long term program of community engagement. It should be noted that such a scenario allows ample time for planning and consultation, which may not be available during the response to a high threat or highly pathogenic pest or disease.

Introduction

Big Bad Bug (BBB, **an imaginary pest**) was new to Australia and could transfer a disease—Wicked Wilt—to orplunas trees that causes developing fruit to remain small and shrivelled. BBB itself causes lesions on the skins of summer fruit, apples and pears. Although the lesions do not lower yield or the taste of the fruit, quality is compromised. BBB breeds in Gumba trees and will feed on any rotting fruit.

A few BBB detections had been made in the coastal region of Kleenjiup, however, to-date no signs of Wicked Wilt had been observed. As a result of these detections, a BBB surveillance and eradication program was launched, based on the state's established response arrangements and PLANTPLAN[1] . This program was implemented by the local DPI office and overseen by the head DPI office in the state's capital. There was regular contact between the local and state DPI office. The state office also provided regular updates on progress to the Australian Government and other states/territory governments due to the increased threat of the pest should it spread to other jurisdictions.

1 Nationally consistent guidelines which cover management and response procedures for emergency plant pest incursions.

The state based program was managed from a local control centre, established in Kleenjiup, and included input from DPI staff, the local orplunas grower group and the orplunas growers' national industry body. Some of the operational activities managed from the local control centre included:

- checking the local harbour and incoming vessels for signs of BBB
- spraying Gumba trees
- monitor a network of traps to catch BBBs and to better understand their movements. However, due to limited resources DPI was not able to monitor as many traps or spray Gumba trees as often as would be ideal.

Stage 1 Program formation

In consultation with the state DPI it was decided that a community engagement program should be launched to gain the support of community groups along the key risk pathways that BBB could spread:

- Growers needed to be made aware of the restrictions placed on the movement of orplunas. There was some confusion about the rules. Growers also needed to improve their on-farm hygiene practices.
- Residents needed to report any suspected sightings of BBB; and needed to be engaged to bag fruit fallen from their backyard trees, and to remove or spray their Gumba trees.
- Capable volunteers needed to monitor traps, which would strengthen the trapping grid.
- Transporters carrying goods from the local port needed to ensure they did not unwittingly carry BBB in their loads.

The state DPI, and the horticultural industry agreed to contribute funding to the surveillance and eradication program, including the community engagement program, for two years. The need for further funding would be considered toward the end of the two years. A community engagement program coordinator, Jim, was appointed by the DPI to oversee design and implementation of an engagement strategy. Jim was selected based on, among other things, his proven ability to relate well with people from all walks of life. He was supported by a representative of the local orplunas grower group and another DPI staff member; however, these two people had limited capacity to provide hands-on help. Together they formed the engagement program team.

Stage 2 Program design

Jim planned to develop a draft engagement strategy in consultation with a range of stakeholders during a planning day. He would then conduct an investigation to obtain baseline information, test the ideas put forward in the draft engagement strategy, and fill information gaps before the engagement strategy would be implemented.

1. Planning meeting

The following is an overview of what happened before the planning day.

1.1 Who to invite to the planning meeting

Jim planned to involve around 10 or 12 key people in a one-day planning meeting to develop the first draft engagement strategy. To help him decide who to invite to the planning day, Jim had conversations with a range of people to identify key stakeholders:

- the local orplunas grower group representative, who provided him with contact details of a couple of key growers in the area

- a local council person, who provided him with the contact details of the gardening group president, the Lions Club president, and the chair of the local community association (many community members are sharing their backyard fruit and vegetables)
- the DPI operational staff manager, who provided him with the contact details of two major trucking companies.

Jim contacted the suggested people, briefly explained the BBB eradication program and outlined what the community engagement program intends to achieve. These discussions gave him some idea of how appropriate these people would be as key stakeholders, based on how well they knew the target groups and whether they were able to influence them. He also developed a better understanding of what the main barriers might be to different groups doing the preferred actions.

Jim invited 10 key stakeholders as well as:

- a representative of the national industry body for orplunas growers
- a person with technical expertise about BBB and how it can be controlled
- someone from the DPI communications and media area.

1.2 Preparing for the planning day

1.2.1 Setting the agenda

The team planned the day around the needs of participants: not starting too early to allow the grower representative to complete some on-farm chores, and not ending too late so the community association attendee can collect children from childcare. The trucking company representative was very busy, so Jim negotiated with him to attend only for an hour after lunch.

In consultation with the engagement program team, it was decided that Jim would facilitate the planning day. The other engagement program team members would help by recording the discussions during the meeting. The planning agenda is contained in the box below.

1.2.2 Risk assessment

As further planning for the meeting, Jim and his engagement program team brainstormed what could possibly undermine the day by critically considering:

- the draft agenda to ensure the time allocation per item was realistic and to prioritise items in case they ran out of time
- any risks around the interaction with and between participants.

Agenda

As it was going to be a full day, Jim and the team prioritised the agenda items. They decided that if, despite their efforts to stay on time, they still fell behind they would:

- cut back on lunch time—ask people to accept a shorter or working lunch
- for the 'Engagement activities' agenda item:
  - identify engagement activities in the large group
  - split into small groups and divide the engagement activities across the groups to analyse them (allocate people to activities that best match their knowledge)
- for the 'Monitoring' agenda item:
  - focus on identifying the key and sub-monitoring questions only. Jim could then use the 'possible success indicators' identified as part of the engagement activities to put together a monitoring plan that would answer the monitoring questions. If needed, he could follow-up with participants afterwards.

Planning meeting agenda

9.15	Tea and coffee
9.30	Welcome and defining objective of planning meeting
9.35	Introductions (All)
9.45	Introduction to the BBB community engagement program (DPI's BBB response manager) – Outlining the overall program objective – Why is BBB an issue? – Boundaries of the BBB community engagement program (geographical, funding, staff, timeframe, etc) – The role of the community, including growers
9.55	An overview of the planning method (Jim)
10.00	Expectations for this meeting (All)
10.15	**Stakeholder analysis (All)** – Who are the target groups? Prioritise (High/Medium/Low) – Who are potential helpers to reach these groups (Intermediaries)? – Key messages for each key stakeholder group ('What's in it for me' messages)
11.00	Refine the engagement program objectives (All)
11.15	Morning tea
	Engagement activities
11.30	Brainstorm session: Identify activities to engage the community (All)
11.50	Analyse each activity (possibly in small groups) – What will they achieve (expected outcome)? – Assumptions – Precautionary measures – Possible success indicators – Information gaps and possible information sources
1.00	Lunch
1.45	Continue to analyse each activity
2.30	Reconsider activities: – Will they collectively lead to the overall objective? – Prioritise activities
2.50	**Monitoring** How will we know we are making progress? (All)
3.30	Next steps (Jim) – Confirm who does what/when? – Filling in information gaps
3.45	Meeting ends

Interaction with and between participants

As Jim had facilitated only a few substantial meetings in the past, he contacted an experienced facilitator, Sarah, in DPI's head office, for advice on the identified risks. The identified risks and solutions were:

- A few grower representatives might still be unhappy about how DPI recently handled the pest x outbreak and this might undermine their ability to focus on the BBB engagement program. Sarah suggested inviting a senior DPI official involved in the decision-making about the pest x outbreak to attend during lunch and/or afternoon tea to address any grower concerns.
- The community association representative is insightful, but can be domineering and long-winded. Whereas the local council representative is quiet and struggles with a slight speech impediment. Sarah taught Jim a couple of techniques to manage both types of people in meetings.

The team decided that to keep participants engaged in the program it is important for them to feel the meeting is worthwhile. To help the program team fulfil participants' expectations, within the scope of the program, they should also be asked why they came to the meeting.

1.2.3 Logistics

Jim booked a venue and catering for the planning day. He also ensured an ample supply of butchers' paper, permanent markers and sticky labels was available. He set the tables and chairs around a U-shape to encourage interaction between participants.

1.3 Planning day outcomes

An overview of key things that came out of the planning day follows.

1.3.1 Stakeholder analysis

Target groups were identified based on the key risk pathways that BBB could spread, which were:

- Gumba trees in backyards, on public land and on farms
- rotten fruit in backyards, on public land (wild and ornamental fruit trees) and on farms
- unintentional carriers such as vessels coming to Australia and trucks and trains transporting goods from ports.

Primary target groups and groups/agencies/individuals that could help reach them were identified as:

- **orpluna and other fruit tree growers** could be reached through the following intermediaries:
  - supply chain members (fruit retailers)
  - agronomists.

  Possible key message:
  - Big Bad Bugs can bite your profitability. Maintain your farm hygiene.

- **Backyard fruit growers (backyarders)** could be reached by the following intermediaries:
  - nurseries (to distribute information and stop selling Gumba trees)
  - real estate agents (in contact with people renting homes and absentee land owners)

– gardening groups
– schools (children take messages home)
– ex-mayor (much loved and respected by local community)
– hardware stores.

Possible key messages:
– Big Bad Bugs can bite our region's income and job opportunities—maintain your fruit trees.
– Don't let Big Bad Bugs destroy your fruit crop—maintain your fruit trees.

- **Residents with Gumba trees could be** reached via the same intermediaries as backyarders.

  Possible key messages:
  – Big Bad Bugs can bite our region's income and job opportunities—spray or remove your Gumba tree.

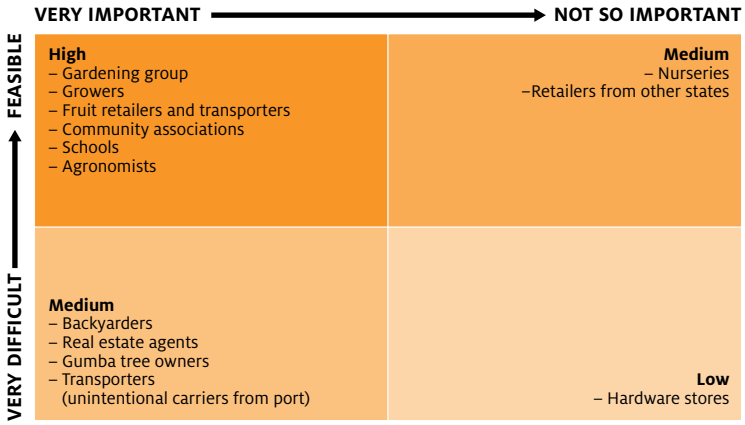
- **Truck and train transporting companies** (to do regular checks of signs of BBB).

  Possible key messages:
  – Big Bad Bugs can bite our region's income and job opportunities—check for signs of BBB. It's quick and easy.

- **Council** (to make removing or maintaining Gumba and fruit trees on public land a priority).

  Possible key messages:
  – Big Bad Bugs can harm our region's income and job opportunities—the council's cooperation in the fight against them is important.

Jim then asked participants to prioritise target groups and intermediaries as high, medium or low. As many groups were involved, he asked participant to consider them in terms of how important it was that they would do 'the right thing' and how feasible it would be that they do it. This was the result:



1.3.2 Vision for BBB community engagement program—defining the objective (All)

Jim asked participants to write down their vision for the engagement program: what they thought could realistically be achieved in two years, and what they thought would need a bit of extra effort. He then asked participants to form into small groups and combine their ideas into one vision statement. These vision statements were again combined into one overall statement that all participants could accept as an overall, realistic objective for the BBB community engagement program. This is what they came up with:

> Growers, residents, the council and transporters understand the potential impact of BBB and are playing an active role in combating it
>
> – Growers strengthen their on-farm hygiene and comply with fruit movement regulations
> – Residents bag fallen fruit and maintain Gumba trees
> – Transporters check for signs of BBB
> – Council makes removing or maintaining Gumba and fruit trees on public land a priority
> – All target groups report suspected findings of BBBs

1.3.3 Engagement activities

The outcomes of the brainstorming activity to identify and analyse potential engagement activities are contained in Table C1.

Once the table was completed, participants did a preliminary prioritisation of the activities and sub-activities that showed most potential to be progressed, keeping in mind the:

- likelihood that they would be successful in achieving their objectives
- effect on the control of BBB if they were successful
- need to ensure a good spread of high priority activities across the key pathways and key target groups and intermediaries.

They also considered if the objectives of each activity would collectively lead to the overall objective of the engagement program.

As several unknowns existed at the time, this prioritising exercise provided Jim with direction as to where to focus his efforts during his investigation to gather baseline information.

TABLE C1 Outcomes of potential engagement activities analysis

Activity (aim and tools/ mechanisms)	Expected outcome	Assumptions	Precautionary measures	Possible success indicators and information source	Information gaps
Promote the need to bag fallen fruit; spray or remove Gumba trees; report sightings of BBB with the community at large. – Communicate with community through brochures, radio talks, posters at public spaces – Keep DPI website up-to-date about the BBB eradication program, including recommendations for residents – Council to put brochures in rates notices – Operational staff to do letterbox drops – Advertisements in local newspaper – Talks on local radio – If possible, involve ex-mayor to be face of campaign.	Increased awareness of the BBB issue leading to people 'doing the right thing'.	Increased awareness of the BBB issue will motivate people to 'do the right thing'.	Use a range of mechanisms as people have different learning styles. People often need to hear messages a number of times before they will respond to them.	People are increasingly 'doing the right thing'. Operational staff to keep simple log of backyards they visit, e.g. mark backyards as either 'BBB risk sufficiently managed' or 'BBB risk not sufficiently managed'. Reports of suspect sightings increase in response to engagement activities. Call centre to ask callers: – 'How did you find out about BBB?' – What motivated you to call?' Assess residents' awareness halfway through the program and how they became aware. Conduct random survey with people on the street.	What opportunities exist to do radio talks? How willing would nurseries be to display posters? Check with call centre whether they could ask and keep record of responses to two additional questions. Further explore with operational people how keeping a simple log could be made as practical as possible, including what to look for. Ask ex-mayor if he is willing to be the face of the campaign.

Continued

TABLE C1 Outcomes of potential engagement activities analysis *continued*

Activity (aim and tools/ mechanisms)	Expected outcome	Assumptions	Precautionary measures	Possible success indicators and information source	Information gaps
Removal of Gumba and 'public area' fruit trees: – DPI to offer free Gumba tree removal to residents. DPI to also remove Gumba trees from community housing – Council to remove Gumba (and fruit) trees from public land – Advertise free Gumba tree removal service through media, real estate agents, gardening group and community association – Council to include BBB brochure, with information about free Gumba tree removal, in rates notices	Fewer breeding and feeding places for BBB.	A significant number of residents are willing to have Gumba trees removed.	Could get community backlash from people passionate about Gumba trees: – Investigate opportunities for replacement with free seedlings – Maintain positive public relations; widely communicate reason for tree removal and potential impact of BBB.	Number of Gumba trees removed by DPI (DPI to keep record). Number of Gumba and fruit trees removed by council and where from (Council to keep record). Operational team to give indication of total number of Gumba trees in Kleenjiup (count them as they spray).	What is DPI's capacity to do tree removal? What is council's capability to remove trees from public land? What is willingness of real estate agents, gardening group and community association to pass information on? Options for tree replacements, e.g. what could DPI offer? Perhaps nurseries?

Continued

TABLE C1 Outcomes of potential engagement activities analysis *continued*

Activity (aim and tools/ mechanisms)	Expected outcome	Assumptions	Precautionary measures	Possible success indicators and information source	Information gaps
Engage schools Raise awareness among children about: – the value of the local horticulture industry to the region – the responsibility of growers, government and the community to keep pests, such as BBB, out. Best tool/mechanism, unsure.	Children are educated. Children pass key information on to their parents and remind them to 'do the right thing'.	Schools are willing to participate. Children are receptive to these messages. Children will pass messages on to parents and others. Increased awareness will lead to people 'doing the right thing'.	Need to adjust to what works best for schools	High participation rate among schools. Keep track of number of schools and number of children participating in BBB activities. Schools/children become a significant source of information to residents about the BBB eradication program. Survey residents half way through program and refer to call centre data about where people heard about BBB or what motivated them to report.	Investigate interest among schools. Investigate what approach(es) would work best for schools, e.g. activity packs for kids, presentation by DPI staff member, tagging information onto existing curriculum, colouring-in competition, etc.

Continued

TABLE C1 Outcomes of potential engagement activities analysis *continued*

Activity (aim and tools/ mechanisms)	Expected outcome	Assumptions	Precautionary measures	Possible success indicators and information source	Information gaps
Encourage growers to: – comply with the Best Practice Guide for on-farm hygiene – report suspect sightings of BBB. Presentations at grower events, e.g. field days, grower meetings, etc. Displays at key points, e.g. farm supply store, field days, etc. Advertise in local growers' newsletter and other publications read by growers. Channel best practice guide and key messages through trusted intermediaries, including local agronomists.	Increased grower compliance with best recommended practice. Increased reporting of BBB by growers.	Growers will read and respond to the best practice guide in the absence of the disease (it has already been available for almost two years). Agronomists and supply chain members are willing to recommend the best practice guide to their suppliers and clients.	Consider developing checklist for orplunas growers based on guide as several sections of the guide do not relate to them. (Growers currently focus on lack of on-farm labour in the area and the drought.) Need a variety of intermediaries, as not all growers have close relationships with a supply chain member and/or employ an agronomist.	Requests for best practice guide increase (DPI to keep track of number of guides distributed and where and how many requested are received). Keep in touch with agronomists and/or fruit retailers about which part of the guide growers find hard to comply with and why. Ultimately: On-farm hygiene practices increase. DPI could do short survey with growers halfway through engagement program. Ask agronomist to keep count of growers strengthening on-farm hygiene practices.	What are growers' views and attitudes about the guide? What is best way to bring the issue of BBB to growers' attention? Investigate willingness of key supply members and/or agronomists to pass on key messages and encourage use of the guide. Investigate willingness of agronomists doing on-farm visits to keep anonymous count of how many growers strengthen their on-farm hygiene.

Continued

TABLE C1 Outcomes of potential engagement activities analysis *continued*

Activity (aim and tools/ mechanisms)	Expected outcome	Assumptions	Precautionary measures	Possible success indicators and information source	Information gaps
Encourage growers to comply with latest transport requirements for their fruit to prevent delays and penalties when transporting fruit: – Refer to DPI website for latest updates on transport requirements for their produce – Investigate if supply chain would be willing to channel information to growers. Same methods as above.	Fewer non-conformances and fewer delays in fruit being transported.	All growers have internet access to check website for updates. A significant number of growers ask supply chain members about the transport requirements for fruit rather than using the internet.	Work with supply chain members to determine the best way they could be supported to channel information to growers.	Less non-compliance when fruit is transported. Ask DPI staff checking loads for number of non-compliances.	Ask fruit transporters and retailers about their willingness to pass information on to growers and how they could be best supported to do this. Where else do growers currently access information about the transport requirements for their fruit?
Engage transport companies to create awareness of BBB and ask that they check for signs of BBB. Do presentations to staff of main transport companies in the area.	Truck and train companies monitor for and report signs of BBB.	Transporters will conduct checks without direct benefit to them. Transporters would know what to look for.	Develop user-friendly checklist for transporter companies to know what to look for.	Transporters actively check for and report signs of BBB – Survey transporters half way through program.	What would be the easiest way for transporters to do checks? E.g. could checks be integrated with other checks, e.g. for rodents.

Continued

TABLE C1 Outcomes of potential engagement activities analysis *continued*

Activity (aim and tools/ mechanisms)	Expected outcome	Assumptions	Precautionary measures	Possible success indicators and information source	Information gaps
Set up a mini-champion network, i.e. maintain regular contact with enthusiastic key people (champions) in community and other groups/ institutions in order to discuss how their group is responding to the BBB issue. Mini-champions also feed program updates back to their groups. Identify people in community groups who show interest in BBB issue and who have the trust and respect of the group they represent. Use first meetings with community groups to identify someone who might be a suitable mini-champion.	Groups' awareness of, and interest in, BBB issue is maintained through regular updates from mini-champions. Coordinator to receive early notification of issues and opportunities relating to BBB.	Most groups will have a person who is willing to take on this role. Mini-champions will pass information on in both directions. Mini-champions will seek feedback from group about the BBB eradication program and engagement activities.	Need to provide incentives for people to be mini-champions.	Significant two-way information flow through mini-champions, e.g. mini-champions are a significant source of information about issues and new opportunities and there is evidence that mini-champions pass program updates on to groups.	Investigate what would be preferred method for potential mini-champions to run such a network, e.g. would they like regular get-togethers, e.g. a quarterly sausage sizzle or meeting in a quiet corner of the local club or pub; or just regular email or phone communication.

Continued

TABLE C1 Outcomes of potential engagement activities analysis *continued*

Activity (aim and tools/ mechanisms)	Expected outcome	Assumptions	Precautionary measures	Possible success indicators and information source	Information gaps
Train operational team members about how to respond effectively to questions and comments from the public when they visit backyards. Develop a short engagement training course. Develop a brochure operational staff can hand to community members or deposit in letterboxes.	The engagement efforts are extended through the operational team that is often the 'face' of the eradication program to the community.	Operational staff are willing to accept an engagement role.	Operational staff could be focused on getting the spraying/ trapping job done and might prefer to minimise interaction with residents. Training needs to stress the importance of sound community engagement to overcome this issue.	The operational team becomes an important source of information about the BBB eradication program to residents. Survey residents halfway through engagement program.	How do operational staff currently respond to questions and feedback from the community? How do operational staff ensure consistency in response and message across the state and the country.

1.3.4 Monitoring and evaluation

To ensure the program stays on track, participants agreed:

- initially it would be important to keep track of how many activities are being done, e.g. materials developed (brochures, checklist for growers, etc.); how many presentations; how many attendees, how many notices sent out with rate notifications, etc.
- around halfway through the program it would be important to gather evidence about the effect of these activities, e.g. increase in awareness, people starting to 'do the right thing'. It would also be good to know how the engagement efforts could be strengthened. As a result they identified the following monitoring questions:
  Key question: How could the engagement strategy be strengthened?
  Sub-questions: What work and does not work about the engagement strategy?
  - What evidence exists that groups are starting to be engaged?
  - How does progress compare across the priority target groups?
  - How could engagement be improved with groups who show the least progress?
  - What other new opportunities exist to strengthen the engagement program?

In order to answer the monitoring questions, participants identified a need for ongoing monitoring and interviews and focus groups (fieldwork) around halfway through the engagement program.

Ongoing monitoring activities:

- Feedback through the mini-champion network
- Call centre—provide updates on number of reports, how people found out about BBB and what motivated them to call (ask for reports every two months)
- Council—provide updates on how many Gumba trees removed from public land and how many brochures went out with rates notices
- Operational staff—keep record of number of backyards where BBB risk is controlled or not and how many Gumba trees have been removed
- Jim to keep track of:
  - activities—groups/schools engaged, how many events and how many participants
  - requests from growers for best practice guide/checklists
  - number of traps volunteers monitored
  - participation in mini-champion network, how many people are actively participating and which target groups/intermediaries are not represented?

A week's fieldwork around halfway through the engagement program (plans to be refined closer to the fieldwork date):

- Conduct a series of face-to-face interviews with key people:
  - agronomists (about growers' on-farm hygiene practices)
  - supply chain members (about growers' on-farm hygiene practices; need to check if supply chain members would be appropriate people to ask about this)
  - real estate agents (about absentee landlords and renters)
  - council representative (about removal of Gumba and fruit trees from public land)
  - members of the operational team (about the response they get from residents and how they find the process of interacting more with residents)
  - volunteer monitors (about how they think the volunteer monitoring system could be improved)

  - transport companies (about how checking for signs of BBB could be improved and/or made more user-friendly)
  - short surveys with people on the street or other public areas (about their awareness of the BBB issue, the possible impacts and where to report).
- Run focus groups with:
  - representatives of key groups, such as gardening group, schools and the community association (depends on how well the mini-champion network is functioning. If the two-way information flow is working well with a wide range of target group representatives, a focus group might not be necessary)
  - growers about their understanding of the protocols for transporting fruit; their perceptions about the BBB eradication program and their perceptions and issues around strengthening their on-farm hygiene practices.

As there was no strict requirement for independence, the group decided it would be best if Jim and other engagement program team members conduct the interviews and focus groups.

1.3.5 Meeting conclusion

To conclude the meeting, Jim briefly explained the next steps and made sure anyone who had agreed to do something was reminded of it. Jim also explained that the next step for him and the team was to do a baseline investigation to better understand the target groups and intermediaries, to fill in identified information gaps and to ensure the engagement strategy was appropriate.

2. Baseline investigation

To refine the engagement strategy and monitoring and evaluation activities, Jim's next step was to fill in the information gaps identified during the planning day and other information needs identified along the way. Jim and a representative of the local orplunas industry body (the industry person) had discussions with representatives of the different target groups and 'helper' groups based on a number of questions they had previously identified (also called semi-structured interviews). Preparing the questions and setting up and conducting the interviews took about three weeks.

2.1 Growers

Growers in the Keenjiup region vary significantly in terms of industry, size and market-orientation, so it was not practical to interview a representative sample of growers. Instead, Jim and the industry person decided to interview a number of people who had good insights into growers' attitudes, perceptions and practices, i.e. agronomists and a few key growers. They would then use similar questions during a focus group with growers.

To better understand growers and determine the extent to which agronomists might be willing to help, Jim and the industry person asked the two most commonly used agronomists a number of questions:

- From where do growers get their information about pests?
- How aware do you think growers are about BBB on a scale of 1 to 5 (if 1 is not aware at all and 5 is most aware)? You can distinguish between different groups among growers. Please explain your answer.
- How aware do you think growers are about Wicked Wilt on a scale of 1 to 5 (if 1 is not aware at all and 5 is most aware)? You can distinguish between different groups among growers. Please explain your answer.

- What kind of feedback have you heard from growers about the best practice guide for on-farm hygiene?
- If you had to raise awareness among growers about BBB and encourage them to strengthen their on-farm hygiene, how would you do it?
- How willing would you be to pass information relating to BBB control on a scale of 1 to 5 (if 1 is not willing at all and 5 is most willing)?
- How willing would you be to give us simple feedback about how growers are responding to the key messages control on a scale of 1 to 5 (if 1 is not willing at all and 5 is most willing)? For example, passing on feedback received from growers or a percentage figure on how many growers have strengthened their on-farm hygiene.

Jim and the industry person asked two key orplunas growers the first five questions as well. For the focus group with growers they adjusted the questions and asked them how DPI could better support them to comply with the guide and the transporting requirements. For example, would they find a checklist for on-farm hygiene handy?

Jim and the industry person also had discussions with a few fruit transporters and retailers to investigate their awareness of the BBB issues; whether they were a key source of information to growers about transport requirements; and, if so, whether there was potential for DPI to support them in passing information to growers (e.g. sending them email alerts changed requirements, etc.).

2.2 Residents

Jim and the industry person arranged for interviews with the principals of three schools in the area to find out if they would be interested in participating in creating awareness of BBB. After explaining what the issues and potential impact of BBB were, they mentioned that one of the ways through which they'd like to get the community on-board was by involving schools in a way that would suit them. They then asked the principals questions like:

- How willing would you be for messages about BBB to be communicated to the children in your school on a scale of 1 to 5 (if 1 is not willing at all and 5 is most willing)?
- Which ways would suit your school best? (If the respondent requires more information prompt with the following: 'For example, doing an interactive presentation with the kids; colouring-in competition for primary schools; sitting down with some teachers to determine how information could be integrated with the existing curriculum or other ways that you could think of?')

As most principals are in contact with a wide range of the community members (parents), Jim and the industry person also asked them more general questions, such as:

- If it was your job to get the residents of Keenjiup on-board to control BBB, how would you do it?

The president of the gardening club offered Jim a 30-minute timeslot during the next gardening group meeting. Jim decided to do a 10 minute presentation about BBB and Wicked Wilt, their potential impacts on the region and fruit; how BBB could be controlled and the need for the community to support the control program. The remaining 20 minutes he used for open discussion based on:

- the potential to set up a volunteer monitor network to monitor traps; what would motivate people to be part of it?
- ways to get people to pick up fallen fruit, spray/remove Gumba trees and report suspect sightings of BBB.

Jim also explained that a mini-champion network, i.e. a mini-champion in the gardening group, would ensure that the group remains up-to-date about the BBB eradication program and it would enable members to channel any feedback and questions about the program through this person to DPI.

Likewise, the community association allowed Jim to do a presentation and lead a short discussion about the need to pick up fruit, report suspect signs of BBB and remove Gumba trees. He also flagged the benefits the mini-champion network to them.

Jim and the industry person organised an information night about setting up a volunteer group to monitor traps. As well as advertising it in the local newspaper, he invited people face-to-face during his meetings with the men's shed, gardening group and the local Landcare group. To tap into attendees' sense of place for Kleenjiup and its farming character, as well as residents' concern for the region's natural fauna and flora, they emphasised how devastating BBB and Wicked Wilt could be to the region and that the impact of BBB on native species is unknown. They also handed out short surveys to better understand what would motivate people to be part of a trap monitoring network. It looked as follows:

1. How did you hear about the information session tonight? (circle answer(s))

– word of mouth
– radio
– newspaper
– email/post
– Other?_____

2. Are you interested in becoming a community pest monitor? Yes / No

3. If yes, how much time would you be prepared to spend on these activities? (circle answer)

– 1 hour/week – 3 hour/week – Other?_____/wk

4. What would encourage you to join a community pest monitoring group and stay on over the long term? (motivations) (circle answer/s)

– learning something new
– meeting new people results
– helping look after agriculture
– helping protect the environment
– help get a job/work experience
– regular social events
– regular feedback of monitoring
– recognition of my efforts
– working with pest experts
– winning prizes
– Other?_____

5. What would prevent you from joining a community pest monitoring group? (circle answer(s))

– time availability
– distance
– conflicts with other activities in my life
– tasks too difficult/boring/repetitive
– Other?_____

Other interviews Jim and the industry person conducted included:

- A few real estate agents to investigate their influence on absentee landlords and renters and their willingness to pass on information about BBB to these people.
- The council member (as a follow-up from the planning meeting) was interviewed about the council's ability to remove Gumba and fruit trees from public land. The council member also referred him to the public library as a potential engagement opportunity.
- The library lady offered to display BBB information and make brochures available.
- The ex-mayor about his willingness to be the 'face' of the campaign.
- A couple of radio stations about doing an advertisement for the BBB eradication program and to identify opportunities to include BBB as a topic for existing radio programs.
- A few nurseries to ask them about their willingness to display posters and stop selling Gumba trees. He also enquired about other ways they might be able to help to eradicate BBB and engage the community in the issue.

2.3 Trucking companies (potential unintentional carriers of BBB from port)

Jim and the industry person had discussions with three trucking companies in the region. He explained that BBB and Wicked Wilt have the potential to significantly harm the prosperity of the Kleenjiup region. Few direct incentives for truckies to do 'the right thing' existed, so Jim discussed how they could make it as easy as possible for truckies to check for signs of BBB.

3. Finalising the engagement and monitoring plan

Based on the information Jim and the industry person received through interviews and surveys, they updated the engagement and monitoring plan and forwarded it to all planning meeting participants to keep them informed and give them the opportunity to comment. Jim also discussed it with the BBB reference group and explained some of the findings from the interviews and focus group.

Appendix D: An example of a results chart (including next steps) for Big Bad Bugs

Notes:

For longer-term programs the number of columns could be increased to present the findings of different periods.

It would depend on the circumstances of each program to determine whether the result chart would be best based on the objective, sub-objective, activities, monitoring questions and/or target groups, or any combination of these in order to present the results in the most effective way. The results chart below has been based on target groups.

Information sources	
1. Interviews were conducted with:	
4 key grower informants (incl. two agronomists)	3 school principals/teachers
20 residents at two shopping centres	2 nurseries
2 operational staff	1 council representative
	3 transporters
2. Short hand-written surveys were conducted with:	
9 volunteers from volunteer network	24 orplunas growers (as part of October field days)
3. Two focus groups were conducted with:	
The mini-champion network	9 growers (as part of October field days)
4. Call register from the call centre listing all reports of BBB	

Target group	Desired outcome	Progress (one year after program implementation started)	Next steps
Growers	Overall	All growers seem aware of BBB outbreak, but according to focus group participants not all growers understand the potential consequences if Wicked Wilt establishes in the region. Many growers seem to believe other existing pests require more attention from DPI.	Increase awareness of potential impact of Wicked Wilt to local orplunas growers. Ensure this message is included in all future communication with growers, including media releases, presentations.
	Maintain on-farm hygiene	Approximately half of growers have made changes to strengthen on-farm hygiene, mainly by insisting on a vendor declaration for new stock and/or increasing pest monitoring. Around three-quarters of growers have a copy of the best practice guide for on-farm hygiene; between 50 and 60 per cent of those have read it. The drought and lack of labour is restricting growers' ability to maintain on-farm hygiene, mainly relating to dealing with fallen fruit. The checklist is widely recognised: 80 per cent of growers interviewed said they read it and found it useful. The focus group and grower informant also said it was a valuable tool. However, Section 2 'Cleaning and disinfecting equipment' of the checklist causes confusion (mentioned by seven respondents). It is not clear what cleaning methods apply to which equipment.	Continue promotion of checklist and best practice guide. Talk to BBB experts to identify other ways that risk of fallen fruit in orchards could be managed. Revise, reprint and redistribute checklist through supply chain members, industry body and agronomists. Replace version on website.
	Comply with fruit transport regulations	About 60 per cent of growers seem confident they understand the BBB control related regulations. There has been a decline in non-conformances reported over the last few months. Widespread frustration with the slow turnover of paperwork by DPI. DPI website is the most mentioned source of information about regulations, followed by local industry bodies; DPI officers supply chain members; fellow growers and agronomists. Six growers interviewed said the language used to explain the regulations on the DPI website is too bureaucratic. They want short and plain English instructions.	Speak to DPI team responsible for paperwork to find ways to speed up the processing of paperwork. Review language use on DPI website and simplify. Test new wording with a few growers before changing it.
	Report suspected sightings of BBB	Anecdotal evidence suggests growers would be reluctant to report suspected BBB sightings on their properties; they would rather 'squish them under the boot'. Four of the 128 reports made of suspected sightings of BBB came from growers.	Continue encouraging growers to report suspected sightings of BBB and that 'squishing BBBs under the boot' does little to address BBB issue.

Continued

Target group	Desired outcome	Progress (one year after program implementation started)	Next steps
Residents	Overall	Almost two-thirds of residents interviewed (13 out of 20) were aware that a BBB eradication program was happening in the Kleenjiup region. People learned from various sources about BBB: ex-mayor champion (mention by 11 people), media (9); brochure (8), children/schools (4), friends and family (4), real estate agents (4), displays (3) and nursery (1).	Convince ex-mayor to continue involvement in BBB eradication program. Broaden media exposure to include local newspaper and more radio stations.
	Bag fallen backyard fruit	Operational staff indicated that the number of householders removing fallen backyard fruit is increasing (around 30 to 40 per cent of backyards with fruit trees since start of program). Backyards in the east of the town are better maintained than those in the west. Just under half of residents interviewed (9 out of 20) were aware of the need to bag fallen fruit. Of the 12 resident interviewed who had backyard fruit trees, seven were bagging fallen fruit at least once in the fruit-growing season. However, four of them thought only fallen orplunas had to be bagged and no other fruit.	Ensure messages to residents at all points state that all fallen fruit needs to be picked up from backyards. Update presentations, brief ex-mayor, revise brochures and information on website. Ask operational staff checking backyards to keep reminding residents about the need to bag fallen fruit. Investigate the opportunity for using volunteers to do door-knocking in the west of the town to talk to residents about key BBB messages.
	Maintain or remove Gumba trees	Of the nine residents interviewed who had Gumba trees, three had them removed, two were maintaining their Gumba trees and four were doing nothing to reduce the risk of BBB. Operational staff indicated that householders are increasingly maintaining Gumba trees (around 20 to 40 per cent of backyards with Gumba trees since start of program).	Ask operational staff checking backyards to keep reminding residents about the importance of maintaining or removing Gumba trees. Investigate the opportunity for using volunteers to do door-knocking in west.
	Report suspected sightings of BBB	Of the 128 reports made of suspected sightings of BBB, 56 came from residents. Of the 20 residents interviewed, eight were aware that suspected BBBs needed to be reported. All were willing to report BBB when they see them. However, only six of them knew there was a hotline to which to report, of which three would try to find it on the internet, two would phone DPI and one would use the brochure. Five 'more or less' knew what a BBB looked like. One of the 20 residents interviewed reported suspected BBBs. She said she had to wait 15 minutes before her call was transferred to an operator.	Ensure the hotline number appears clearly on the first BBB page on DPI's website. Investigate with call centre if long waits are common when people want to report BBB and if so, how it could be improved. In new brochure, enclose a very clear close-up photo of a BBB and highlight its main recognisable features.

Continued

Target group	Desired outcome	Progress (one year after program implementation started)	Next steps
Council	Maintain or remove fruit trees and Gumba trees on public land	Council has allocated resources to address the BBB issue by removing Gumba trees and maintaining fruit trees on public land. They had removed 83 Gumba trees when interview was conducted. They will only be able to conduct these activities until the end of the financial year. They believe they would be able to remove another 50. That should cover most Gumba trees on public land in the town. However, there are several wild fruit and Gumba trees in the nearby state forests.	Talk with other areas in DPI if they have capacity to remove Gumba trees from state forests. Also investigate if there is opportunity to recruit volunteers to help remove fruit and Gumba trees in state forests (check out occupational health and safety and other liability issues).
	Support BBB eradication program	Council included the BBB brochure with 253 rates notices. Council has a BBB display in its entrance hall and in the public library.	Provide council with BBB in resin blocks to include in displays so people can see what BBBs look like. Also include large poster with clear photo of BBB, highlighting its key features.
	Other	Council will include brochures in its 'new resident' packs. Of the 128 reports made of suspected sightings of BBB, 12 came from council staff.	Ensure council includes new brochure in next mail out. Check with council if there could be special focus on the west of the town. Organise follow-up presentation with council staff to thank them for their reports and to remind them how important it is to keep reporting.

Continued

Target group	Desired outcome	Progress (one year after program implementation started)	Next steps
Transporters	Check loads for signs of BBB Report suspected sightings of BBB	All transporters said they check loads for signs of BBB. They have included a BBB check in their regular vermin check. Of the 128 reports made of suspected BBB sightings, nine came from transporters. One transporter mentioned having reported a suspected BBB sighting; DPI staff came to check the insects and seemed annoyed that it was not BBB. As a result the transporter would be hesitant to report something again.	Visit transporters again to thank them for their efforts and remind them that reporting is important even if the suspect insect is not a BBB. Provide them with updated brochure and poster. Run a session with operational staff following up on BBB reports to ensure they understand the importance of positive interaction with people who report BBBs.
Volunteer network	Making significant contribution to monitoring trap grid	Ten per cent of trap grid is monitored by a team of 11 volunteers. Based on the survey conducted at the start of the volunteer network most people joined because they hoped the network would enable them to learn more about backyard pest management (7 out of 8), give back to the community (5 out of 8) and look after the environment (4 out of 8). The recent survey indicated people remain involved because they learn more about backyard pest management (8 out of 9), it provides friendships (6 out of 9), give back to the community (6 out of 9) and to look after the environment (4 out of 9). Three volunteers indicated that their motivation to be involved is lower than when the network was started. Four people reported concerns about occupational health and safety issues, for example, a retiree volunteer's car got stuck in mud while checking traps. Two volunteers would like to see a reallocation of traps to monitor as the traps currently allocated to them are far from where they live. Four volunteers found the quarterly newsletters too technical with too much scientific jargon.	At next volunteer meeting: – Remind volunteers of the significant contribution they have made and how it is contributing to eradicating BBB. – Investigate opportunities to attract new volunteers. – Discuss allocation of traps. – Identify what the group sees as unaddressed occupational health and safety issues and how they could be addressed. – Discuss how people's motivation for involvement could be better maintained. Ensure it is standard practice to ask contributors to the newsletters to write in a way that people without a scientific background can understand.

Glossary

Backyarders	Urban and peri-urban residents with backyards where fruit, vegetables or ornamental plants could potentially host pests.
Community	Often thought of as the people living in a local area. However, a community can also mean 'community of interest' where a group of people have something in common, such as a personal interest (gardening, sports), group affiliation (Lions Club) or industry membership (melon growers).
Engagement strategy	The strategy developed to interact with target groups. It is developed during the Program design stage and implemented during the Program implementation stage.
Engagement team	The people responsible for designing, implementing and coordinating the biosecurity engagement program.
Intermediaries	Organisations, groups or individuals who help achieve change by channelling information to target groups.
Pests	In the context of this document, a collective term for pests, weeds and diseases.
Program	Refers to the biosecurity engagement initiative, including the formation, design and implementation stages. As there is considerable variation among biosecurity engagement initiatives (in terms of size, number of stakeholders and target groups involved, and duration), the term program is used inclusively in the context of this document to cover 'program' and 'project'.
Stakeholders	Organisations, groups or individuals who have a potential interest or involvement in the biosecurity engagement program. Stakeholders typically include representatives of industry, government, community groups, local councils, supply chain members, and elected officials, local experts and opinion leaders. Sometimes a stakeholder may not recognise that they have influence over or an interest in a biosecurity issue.
Target groups	The groups the engagement strategy intends to influence. Biosecurity engagement target groups typically include—but are not restricted to—growers, households with backyard fruit trees and vegetables, travellers, culturally and linguistically diverse groups and various community groups. Target groups could also be or become stakeholders if the program objective is of interest to them.

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