



Australian Government
Bureau of Rural Sciences

**Engaging in Biosecurity:
Literature review of Community
Engagement Approaches**

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Executive Summary

Purpose of the study

Risks to Australia's biosecurity are increasing as the mobility of people, plants, animals and trade increases within Australia and across international borders. In order for Australia to improve on-farm biosecurity it is necessary to enhance the capacity of landholders and people in rural communities to recognise, act upon and plan for animal and plant pests. This can only be achieved through careful communication with and engagement of these people and communities.

The purpose of the study is to review current literature on community engagement concepts and tools, and to provide an overview of key principles that could be employed by the horticultural industry for biosecurity engagement activities. It should be noted that there are very few participatory evaluations undertaken, including those specifically addressing the effectiveness of community engagement aspect of NRM or agricultural extension programs. Typically, program evaluations focus on output objectives related to participation numbers or costs. This trend is in the process of change however, with the Federal government in the last few years implementing a review of the innovations system in Australia.

This is a companion document to 'Engaging in Biosecurity: Gap analysis' prepared for the Engaging in Biosecurity in Horticultural Regions Project.

Key research questions

There are three key questions guiding this report:

1. What are the key principles and concepts relevant to biosecurity and community engagement?
2. What are the social structures that support engagement in biosecurity?
3. What are the gaps in the current practice of biosecurity engagement in Australia?

Core principles of community engagement

A continuum of community engagement is proposed as a way of understanding the range of approaches that are available to engage communities. These range from short-term, one-way, top-down information transfers to longer-term, self-sustaining partnership approaches. Several broad, but key, principles and issues need to be considered if effective community engagement is to be achieved, including:

- recognise the context specificity of activities and information
- develop a collective vision and recognise diverse perspectives, including representation of all stakeholders

- engage the support of a facilitator, knowledge broker, trusted intermediary or champion
- understand the social networks that can assist with information exchange
- involve government officials or representatives, and industry and the public – a partnership approach
- develop a participatory contract between stakeholders outlining roles and responsibilities
- ensure sustained systematic learning through the use of tools and strategies at the empowerment end of the engagement continuum (refer to Table 1)
- monitor and evaluate programs in the context of the relevant community and program objectives to learn from these experiences.

Engagement approaches and tools

There are several ‘toolkits’ available that can facilitate the selection of an engagement strategy depending on the objectives of the project or program. These methods range from specific negotiation and conflict resolution tools through to participatory monitoring and evaluation tools. Other engagement strategies can be adopted that focus on building community capacity and community capital, learning communities, communities of practice and participatory governance.

Challenges of community engagement

Challenges for those seeking to use community engagement as a strategy for enhancing biosecurity outcomes may include:

- *Expectations*: When expectations about engagement differ between project proponents compared with the community
- *Cynicism*: Stakeholders in a community engagement process may be sceptical about the process as a result of previous engagement experiences or engagement ‘fatigue’
- *Resources*: A community engagement process may require a significant amount of resources (e.g. funding, time) in order to succeed, however these can sometimes be difficult to estimate and secure in advance
- *Divergent views*: Community engagement processes can be subject to the differing perspective and opinions of the parties involved and this can create friction unless appropriately handled.

Flaws in current biosecurity engagement programs

Current biosecurity engagement programs fail to address the ‘Want to’ aspect of the biosecurity implementation framework. That is, people’s aspirations for the engagement process are not examined nor addressed, and their attention is also not necessarily captured in a way that encourages

them to focus their efforts. This results in programs that are less effective than they could be. As part of this gap, engagement programs tend to involve one-way, top-down communication or information exchanges. A shift from communication programs to participatory programs, which have the potential to be longer-term and self-sustaining, could improve impact and effectiveness. There is a range of tools and approaches that can be used to understand, involve and ultimately engage target audiences or communities. Some of these approaches include the use of knowledge brokers, engaging the support of champions and trusted intermediaries as well as generating an understanding of social networks. Community engagement can therefore be said to be about building a relationship between stakeholders and communities that have not traditionally been actively involved in biosecurity program activities and building among them a sense of understanding, responsibility and ownership of local biosecurity issues.

Social structures underpinning biosecurity engagement

The Australian Government requires community engagement in surveillance, detection, reporting and monitoring of biosecurity threats and incursions. Organisations involved in biosecurity engagement must therefore extend beyond the one-way knowledge transfer approaches to a stakeholder-based partnership approach that embraces the concepts of participatory governance.

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1 Introduction

Risks to Australia's biosecurity are increasing as the mobility of people, plants, animals and trade increases within Australia and across international borders. In order for Australia to improve on-farm biosecurity it is important that the capacity of landholders and people in rural communities to recognise, act upon and plan for animal and plant pests is enhanced. This can only be achieved through careful communication and engagement of these people and communities.

In a recent report to the Australian Government, Beale *et al.* (2008) list nine reasons why managing biosecurity has become more complex:

- globalisation
- population spread into new habitats and increasingly intensive agriculture
- tourism growth and the subsequent increase in passenger and cargo movements
- agri-terrorism by animal rights or political extremists
- the global movement of genetic material
- climate change
- a shortage of highly qualified plant and animal pest and disease professionals
- physical constraints on border interception activities
- financial constraints.

Further, Beale *et al.* (2008) highlight the increased prominence of biosecurity events in the media due to several disease and pest outbreaks around the world as indicating the need to investigate how biosecurity is managed in Australia (e.g. foot and mouth disease, and bovine spongiform encephalopathy (BSE) in the UK; zoonoses such as avian influenza and, most notably in Australia, equine influenza). Beale *et al.* (2008) have also reiterated the three core principles of effective biosecurity management highlighted by the Nairn Report of 1996, namely:

- the importance of maintaining an integrated biosecurity continuum
- risk assessments that reflect scientific evidence and rigorous analysis
- shared responsibility for biosecurity between different levels of government, the business community and the general community.

The value of these principles is reflected in the findings of this report.

Currently, biosecurity in Australia tends to be the domain of governments and experts. The concept is not well recognised among the broader community. However, the increased movement of people and products across borders and within Australia means that governments are unable able to manage post-border biosecurity in isolation, if they ever were (Beale *et al.* 2008). This raises the question of how the broader community can be involved in aspects of biosecurity – particularly surveillance, detection and reporting. The potential for the broader community to play a more active role in biosecurity activities needs to be further investigated as do the conditions under which this is likely to work. As acknowledged in the Beale Review (Beale *et al.* 2008), working in isolation limits the ability of governments to successfully manage all aspects of biosecurity across the biosecurity continuum – particularly those activities related to surveillance, reporting of incidents and implementing tools to prevent incursions at the local and community level. The Engaging in Biosecurity Project is the spearhead of this challenge and seeks to examine the best approach to more actively involve the public in aspects of biosecurity management in the horticultural industry.

1.1 The Engaging in Biosecurity in Horticultural Regions Project

The Engaging in Biosecurity in Horticultural Regions project (referred to as Engaging in Biosecurity) is tasked with forming a biosecurity engagement framework. This framework will ultimately involve landholders, industry and local communities in the detection, surveillance and prevention of exotic pest and disease incursions. The project is funded by the Department of Agriculture, Fisheries, and Forestry (DAFF) and is managed by the Product Integrity, Animal and Plant Health Division (PIAPH). PIAPH has contracted the Bureau of Rural Sciences' (BRS) Social Sciences Unit to carry out Phase 1, which runs from May 2008 until February 2009. The aim of phase 1 is to consolidate existing information about biosecurity engagement, identify potential case studies to be carried out over the next three years, and to develop an evaluation framework for the four year project. The consolidation of existing information comprises four components: a stakeholder analysis; The National Biosecurity Engagement Forum (the Forum); a literature review; and a gap analysis. This document combines the gap analysis and the literature review. Further detail on the components of Engaging in Biosecurity Phase 1 is provided in Appendix A.

This report focuses on the intersection between biosecurity and community engagement and its approach is twofold. Firstly, a gap analysis has been undertaken. This gap analysis includes a review of the current approaches taken to biosecurity engagement in Australia via stocktaking of current programs, as well as a review of grey literature relating to biosecurity engagement arrangements in Australia. Secondly, this report contains a review of academic literature relevant to community engagement concepts, tools and institutional support structures. There are three key questions guiding this report, namely:

1. What are the gaps in the current practice of biosecurity engagement in Australia?
2. What are the key principles and concepts relevant to biosecurity and community engagement?
3. What are the social structures that support engagement in biosecurity?

The first question has been addressed in a companion document 'Engaging in Biosecurity: Gap analysis' also prepared for this project. In preparing this literature review, this question has also been kept in mind, as have the findings of that analysis.

The first section of this paper will outline the concept of community engagement, including definitions of key terms, the benefits of involving communities, potential drawbacks and engagement tools. Section 2 discusses the social structures required to support the implementation of effective community engagement. The report concludes in Section 3 with a summary and recommendations about key principles for achieving effective community engagement for biosecurity in the horticultural industry.

1.2 Why worry about biosecurity engagement?

The Beale Review (Beale *et al.* 2008) identifies community communication and awareness campaigns as a vital part of managing biosecurity across the whole of the biosecurity continuum. The Review contains one recommendation specific to effective communication:

29 To enhance communications effectiveness:

- a** messages promoting Australia's biosecurity should cover the biosecurity continuum;
- b** new communication options, including those available on the Internet, should be employed by the National Biosecurity Authority; and
- c** particular efforts should be made in collaboration with the states and territories, local governments, community and business groups to inform peri-urban farmers, including from non-English speaking backgrounds, of Australia's biosecurity policies and to engage them in monitoring, surveillance and response strategies.

The Beale Review does not discuss best practice communication approaches and is focussed on the communication of messages as a means of effecting behaviour change. In the Beale Review (2008), the authors maintain that national-level quarantine messages, such as 'Big Bugs' and 'Quarantine Matters' have been highly successful, however the focus of these programs are pre-border and border specific, furthermore the benchmark against which they evaluate the success of these programs is unclear, as is the way in which information from tools such as hotlines have been fed back into policy and practice (if at all). There is little mention of post-border (internal) biosecurity in the report, despite the existence of a number of State and industry-body funded programs (refer to the GAP Analysis companion document). It should also be noted that there is a focus on quarantine messages rather than broader biosecurity issues. This is somewhat surprising as the authors make a point early in the report of indicating that there needs to be a redirection of focus generally from of biosecurity from a focus on quarantine to a broader issues and practices on-farm and in the community. The lack of attention to more active community engagement mechanisms in the Beale Review could be influenced by a general view that one-way communication, or information transfer, is a sufficient form of community engagement. This report, and modern agricultural extension literature, challenges that view (Pannell *et al.* 2006).

Notwithstanding the limited discussion of community engagement, and the lack of attention given to a broader range community engagement tools and approaches, it is obvious that the Beale Review authors view community engagement as essential to the 'One Biosecurity' partnership approach. This criticism of the Beale Review occurs in the context of the objectives of this report, one of which is to highlight the different levels of community engagement that exist.

In addition to the Beale Review, there are core principles of biosecurity that involve many different stakeholders, from the Australian Government, through to industry bodies, farmers and even volunteers. These principles are:

1. surveillance
2. detection
3. diagnostics
4. preparedness
5. rapid response.

The first three of these principles are particularly relevant to individuals and communities; while the final two require the involvement of broader social structures, such as government agencies and industry bodies. This structure is reflected in Figure 2, where the social structures are located at the base of the pyramid supporting the implementation of programs. Issues associated with the engagement of communities and individuals are located at the top.

At the top of the pyramid there are three broad components needed to implement the first three principles. These components are represented in Figure 1 as ‘know how’, ‘have resources’ and ‘want to’. These components are described in detail below.

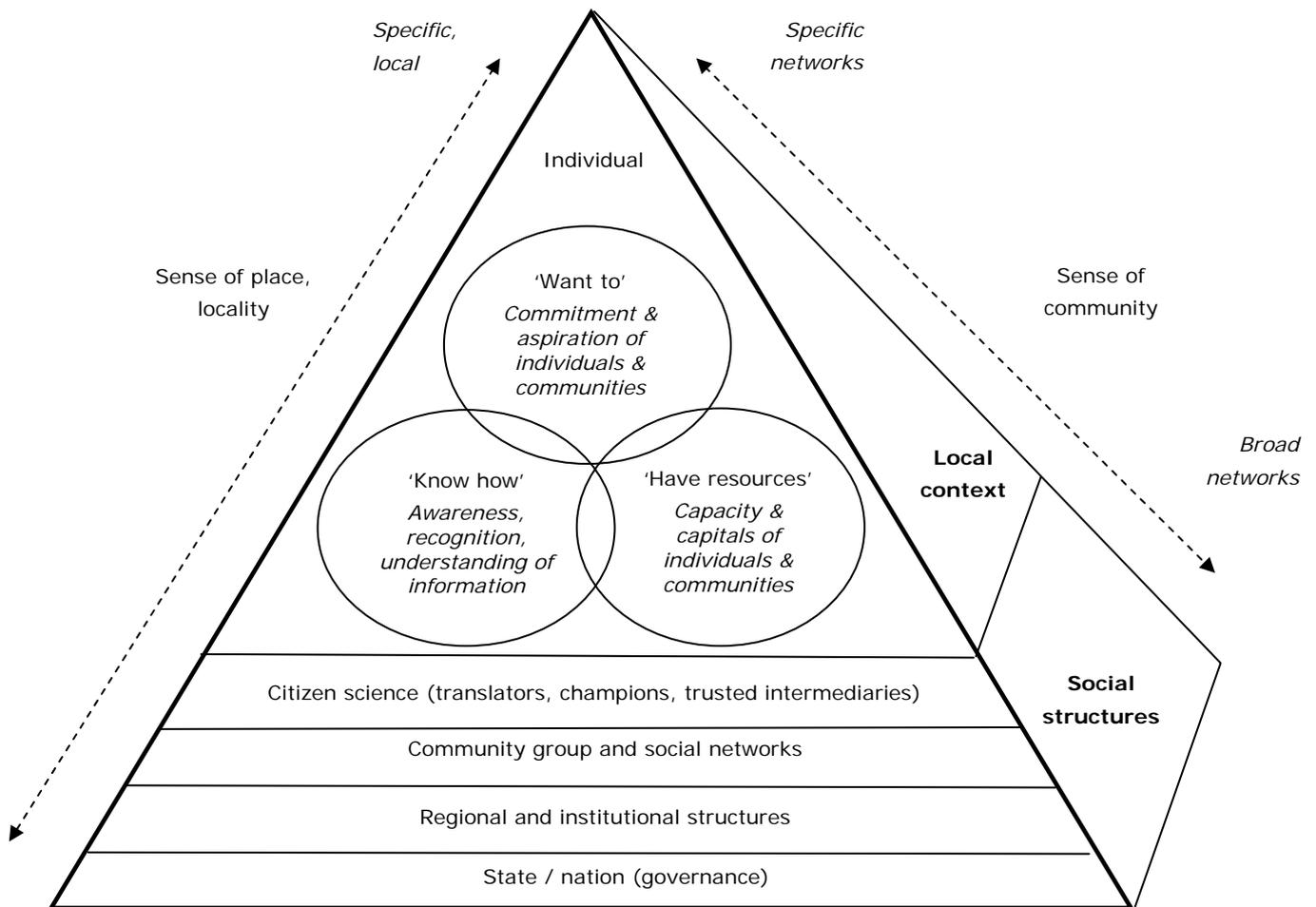


Figure 1: Relationships between the individual, community and social structures supporting biosecurity

1.2.1 ‘Know how’

Scientists from various key areas of animal, plant and veterinary science have developed large bodies of knowledge about the eradication and management of pests and diseases. These bodies of knowledge are the basis upon which policy-makers, industry bodies and even individual primary producers make decisions. Theoretical and empirical scientific knowledge is fundamental to developing strategies for effective biosecurity management; however this knowledge is not sufficient to ensure effective implementation of the key biosecurity principles by individuals and communities.

One of the reasons for this is that scientific knowledge is highly specialised and is not accessible to the general or ‘lay’ population. This means that much of what is known by ‘experts’ will not be understood, nor therefore, utilised by non-experts. Secondly, the variety of different types of knowledge required for different pests and diseases, as well as for different hosts (plants or animals), is too great for any one non-expert (or even experts in another field) to know, assimilate and implement. There is therefore a need to communicate large bodies of scientific knowledge in a way that is understood by non-experts and which is also relevant to the context in which they are

operating (e.g. what type of primary producer are they – plant, animal, mixed?). Hence, while having a large, well-developed body of theoretical and empirical practical knowledge is vital and is often the starting point for science, innovation-development and policy, it cannot stand by itself as an effective means of facilitating biosecurity management.

1.2.2 'Have Resources'

A common step in the process of attempting to encourage the adoption of scientific knowledge or the derived innovations is to determine the ability or capacity of the target audience to use or implement the knowledge or innovation. Hence an industry or policy-making body may assess the resources that are available for adoption and seek to add to or improve what is already in place. The latter may not be by direct means, but through alternative incentives or penalties that encourage the development of capacity or capital by others (e.g. by the primary producer). Typically, this phase involves activities designed to inform the wider public and also invite participation at some level.

Again, the availability of resources is not itself sufficient to ensure adoption, nor are activities designed to 'transfer' information to the wider public. Although communication activities, incentives and penalties may encourage some level of adoption, research has shown that agricultural adoption rates in Australia are typically low, relative to expectations of adoption, despite extension efforts across different industries (Pannell et al. 2006). As an example of the types of activities that may be used to encourage adoption, a table of biosecurity projects identified by the Engaging in Biosecurity Project is available in Appendix B and a brief summary of the components of these projects and programs is provided.

1.2.3 'Want To'

The analysis of the programs presented in Section 2 highlights the lack of attention given by biosecurity engagement activities to the commitment, aspirations, perceptions, attitudes, knowledge and capacity of landholders and the broader community who are the target of these activities. This list represents the potential issues relevant to effective implementation in the 'want to' category depicted in Figure 2. McGrath et al. (2008) state that more research is required into people's perceptions of biosecurity risks and responsibilities and the barriers, drivers and incentives relating to the uptake of biosecurity practices by different groups, particularly on-farm uptake. Specifically there is a need for:

- Cost:benefit studies of biosecurity communication activities to assess the relative value of risk mitigation communications versus incursion management communications
- measuring the impact of biosecurity communications on behaviour
- determining how different groups perceive biosecurity
- determining the motivational factors behind behavioural change in key groups and explore the options to accelerate change, including legislative and market-based drivers.

Central to understanding why such research is important, and therefore relevant for understanding why many engagement programs have not been fully effective, is an understanding of the concept of community engagement. What is obvious from previous and current engagement activities in biosecurity is that there is a lack of understanding about what community engagement means and therefore how it should be approached. Central to this lack of understanding, is the lack of participative evaluation that has been conducted of many community engagement programs – including in the NRM and agricultural extension fields. Although, the implementation of the Australian Government Natural Resource Management Monitoring, Evaluation, Reporting and Improvement Framework (MERI) is seeking to establish indicators for monitoring all aspects of NRM programs funded at the Federal level – including through the use of participant reflection

(NRM MERI 2008). Too often in agriculture and regional and local NRM programs, if evaluation has occurred, this has been restricted to meeting output-based objectives related to implementation, rather than effectiveness through measuring behaviour change or changes in community perceptions. Section 3 will outline key terms, concepts and principles related to community engagement from the literature in this area. This situation is changing however, particularly in the innovations and knowledge exchange industries, for which the Federal Government has recently completed a review of Australian innovations approaches and is seeking ways in which to increase effective knowledge exchange (Cutler & Company Pty Ltd 2008).

2 Community Engagement: Key Concepts & Principles

Community engagement is relevant to each of the five principles of biosecurity presented in Section 1, since various communities, and especially those in rural and regional areas, are often on the frontline of pest/disease detection, identification and control. It is important then that these communities are familiar with biosecurity concepts and the importance of their role in detection and ‘rapid response’. Further, the importance of government continuing to engage these communities in ongoing management and surveillance should not be overlooked. As stated by M.S. Swaminathan, a leading agricultural researcher in India, on the issue of biosecurity “We have no time to relax. Eternal vigilance is the price of a stable, prosperous, and productive agriculture” (Dil 2005).

Community engagement is typically defined along a continuum of participation, ranging from the passive receipt of information, through to self-empowered communities that initiate actions independent of external agents. Aslin and Brown (2004) indicate that community engagement is not just a single event, but an ongoing process with the aim of ‘engaging the community to take action’ (p.3). They further stress that the community engagement process does not stand alone, but forms part of another process – that of ‘decision-making for a particular purpose’ (p.3). These authors also point to a typology of engagement, which includes consultation, participation, involvement and engagement. They stress that engagement:

... goes further than participation and involvement. It involves capturing people’s attention and focusing their efforts on the matter at hand... Engagement implies commitment to a process which has decisions and resulting actions. So it is possible that people may be consulted, participate and even involved, but not be engaged.

(Aslin and Brown 2004, p.5)

Of particular importance to this definition is the commitment that is made by the participants – including both the government and the community. Without commitment there is unlikely to be full and sustained engagement.

The following are also integral components of community engagement:

- ongoing ownership and commitment from all stakeholders
- acknowledgement and development of community capacities
- collaborative planning, decision-making and action
- monitoring-evaluation-feedback-action cycle for stakeholders.

Ultimately engagement activities should capture community attention, engender ownership of an issue and promote local responsibility for decision-making, with ongoing commitment and resourcing from external agents where necessary. Table 1 presents the continuum of community engagement and is discussed further below. In this report we acknowledge that the community engagement approach taken by a project is dependent upon the objectives of that project. Hence, a project may not seek behaviour change and simply seek to inform people about a particular issue – in this case an empowerment approach is unnecessary. Notwithstanding this however, there is a tendency for agencies and organisations to view one-way communication approaches as agents for behaviour change for more complex issues. It is the aim of this report to encourage agencies and organisations involved in biosecurity engagement projects to broaden their understanding of the levels of engagement along the engagement continuum, as well as the different tools available for undertaking engagement programs that more actively encourage behaviour change.

2.1 Benefits of community engagement

In support of engaging the public in the policy and decision-making process, Petts (2006) indicates that not only is engagement the ‘right thing to do’, but it should also ‘lead to better decisions’ (p.172). Effective public engagement can also result in more resilient relationships between community and government agencies and other stakeholders, and in particular increased trust between the parties involved (CEN 2005; Dare et al. 2008). Resilient relationships can be useful to fall back on in times of crisis. Petts (2006) further defines engagement as being “predicated on creating the necessary conditions to support a new relationship between expert and lay understandings of an issue, one that promotes learning about different perspectives, views, and knowledge” (p. 172). She notes that designing and delivering an engagement process does not just involve transforming expert or technical information into a publically accessible form, but also involves “translating practical questions and public problems into an expert discourse” (Petts, 2006 p. 172). Issues related to this latter point on communication are discussed later in Section 3.

Table 1: An engagement continuum

(Adapted from Dare et al. 2008; Hashagen, 2002 and Tamarack, 2003 and The Community Engagement Network, 2005).

Type of Engagement	Description	Examples of Tools	Level & Longevity of Engagement		
Inform: one-way communication	Advertising, education, traditional extension	Newsletters, media, brochures, websites, demonstration plots		Passive	Non-ongoing
Listen: One or two-way communication with decision-making not resting with community	Consultation, reporting	Toll-free numbers, public meetings, surveys, focus groups, panels		Increasing level of engagement	Increasingly self-sustaining nature of engagement
Involve: creating shared understanding and solutions pursued by one partner only	Community involvement	Community advisory groups, joint planning groups, forums			
Partners: developing shared action plans through collaboration	Community participation and negotiation	Community management committees, negotiation processes			
Mobilise and Empower: People take independent initiatives and develop contacts with external institutions for resources and advice	Self-direction planning with limited support through governance arrangements	Action plans developed and implemented by the community with access to experts and resources available through government		Proactive	Ongoing

Community engagement can provide benefits to both the community/public and organisations (including governments) initiating public engagement. The Community Engagement Network (2005) lists the benefits to these groups as indicated below:

- provides the opportunity for a diversity of voices to be heard
- helps to manage expectations around standards of engagement and opportunities to evaluate the process against these standards
- allows identification of priorities by community
- leads to increased levels of ownership of and responsibility for problem resolution
- fosters a sense of belonging within communities
- creates empowerment for individuals with respect to issues that affect them.

Benefits to government (or other initiating bodies) can include:

- improving the quality of policy being developed
- improving effectiveness and efficiency of service delivery
- better response in times of emergency
- ability to check reputation and status within the community
- early notice of emerging issues and the opportunity to be proactive on issues of concern to the community
- develop a reputation for being open and accountable.

Of course not all benefits will occur all the time for every engagement process. The benefits that accrue are dependent on the objectives of the project, the effectiveness of the engagement and the commitment of those involved. Furthermore, many of the benefits listed require that the engagement process (where relevant) is sustained over the long-term since many of the benefits above rest on continued communication between the parties involved and the development of trust and mutual respect. This typically requires a longer, rather than shorter-term time frame.

2.2 Public participation and community engagement

Wiseman (2006), suggests that the interest in strengthening or engaging local communities by governments in Australia and internationally, has resulted from a concern that ‘investment in social connectedness, social capital and civil society...(will lead to)...improvements in economic productivity, social inclusion, public safety and public health’ (p.96). Other support for community strengthening has come from ‘emerging public policy experimentation with the ideas and practices of network governance’ (Wiseman 2006), also known as ‘participatory governance’ (Edwards 2002; Reddel and Woolcock 2004).

The term ‘community engagement’ has evolved from the interest and research into mechanisms of public participation. Public participation has been defined as “involving members of the public in the agenda-setting, decision-making, and policy-forming activities of organisation/institutions responsible for policy development” (Rowe and Frewer 2005). Participation tends to refer to a set of actions or mechanisms without engaging people’s attention e.g. tick box participation. This definition however is quite broad, since ‘participation’ can range from the public being passive recipients of information, to more active involvement in engagement processes (CEN 2005; Rowe and Frewer 2005). Rowe and Frewer (2005) have further refined the concept of public participation as including three main descriptors, including *public communication*, *public consultation* and *public participation*. They refer to these three terms collectively as public engagement. The methods for achieving these are referred to as ‘engagement mechanisms’ or, more specifically, ‘engagement initiatives or exercises’ (Rowe and Frewer 2005).

Within Rowe and Frewer’s (2005) framework, *public communication* is defined as the conveyance of information from the body commissioning the engagement activity (e.g. government body) to

the public. Hence this transmission is a one-way process (also referred to as being ‘top-down’ in agricultural extension literature). In *public consultation*, information flows from the public to the initiators of the engagement activity (e.g. the government). Again, this is a one-way process and may include surveys, for example. Finally, *public participation* involves an exchange of information, or dialogue, between the body initiating the public engagement and the public.

While the word ‘public’ refers to ‘the community or the people as a whole’ (TheFreeDictionary.com) - i.e. there are many ‘publics’ to consider - ‘community’ can refer to defined groups of people and may be relevant to a geographic location, shared interests or identity (Hashagen 2002; CEN 2005; Falk et al. 2008). Falk et al. (2008) make the point that a community does not just refer to a ‘single network of people’, but rather – particularly in reference to a community of place – comprises ‘networks of networks’. Falk et al. (2008) state “a community of place is more complex than a single network; it has members with multiple identities, roles and aspirations, who belong to a number of networks within their own community and others” (p.4). This statement reflects not just the potential diversity of individuals that comprises a geographic community, but also the potentially competing goals individuals within a geographic community may have when considering biosecurity issues and action (or engagement). The implications are that engagement as a policy tool would need to incorporate a wide range of different individuals and communities with competing attitudes, values, interests, needs and objectives.

The Community Engagement Network (CEN) (2005) states that combining the word ‘engagement’ with ‘community’ serves to broaden the scope of participation “from the individual to the collective, with associated implications for inclusiveness, to ensure consideration is given to the diversity that exists within any community” (The Community Engagement Network, 2005, p. 10). CEN also indicate that community engagement can take many forms, with varying levels of communication and dialogue, including:

- providing information to the public;
- consulting the public as part of a process for policy or decision-making;
- involving the community through different mechanisms to ensure issues and concerns are understood and considered;
- collaborating with the community and establishing partnerships to aid in the formulation of options and recommendations; and
- empowering the community to make decisions and to implement and manage change.

Hashagen (2002, p.3) states that the use of the word ‘engagement’:

implies there is a need for those in community planning to think clearly about the communities they are working with, to understand their history and culture, the nature of local community organisation and networks, the range of local needs and issues and how they are experienced, the assets and strengths of the community that may be built on, and the nature of existing dialogue and participation in the community.

Hashagen (2002) specifically addresses issues of definition attached to the public participation literature, including community consultation and community involvement – neither of which suggests an active community role or dialogue and collaboration with the governing or policy-making body initiating the activity.

Tamarack (2003) - an organisation specialising in community engagement processes - has defined community engagement as “people working collaboratively, through inspired action and learning,

to create and realise bold visions for their common future” (p. 1). They also nominate seven key criteria which they believe define community engagement. These criteria include:

- a *broad range* of people are participating and engaged in the process
- people are trying to solve *complex issues*
- the process *creates vision*, movement and/or change, and achieves results
- different sectors of the community are included in the process
- there is a *focus on collaboration* and social inclusion
- *local priorities* are determined by the local community
- there is a *balance* between the engagement process and creating action.

In short, there is an emphasis on *empowering communities* to have *control* over their *own resources* and *decision-making*.

Table 1 above depicts the continuum of practices through which stakeholders might exchange information or engage in more collaborative processes, such as problem solving and developing strategies and plans. The difference between practices along the continuum can be relative to the balance of power and control between participants and the initiators of the engagement process (e.g. a government agency). This is reflected in the level of engagement ranging from passive to proactive. The level of engagement further depends on factors such as the nature of the problem and the availability of resources. Full engagement with the goal of empowerment requires a high level of ownership and control by the local community over decisions and the resources to make those decisions. An extra dimension to this continuum is the permanence that the levels of engagement represent. Engagement activities that are found at lower levels of the continuum (one-way communication) are typically short term in nature, while those at the highest level (encouraging empowerment) are ongoing and designed to result in self-sustaining activities.

It should be noted that although these levels of engagement appear as distinct entities in this matrix, in reality there are overlaps and multiple levels to many engagement strategies. In this way for instance, an engagement strategy may involve ‘listening’ at the broader community level, but may be more ‘involving’ or even represent a ‘partnership’ across levels of government. The timing at which a proposal or engagement strategy is introduced will also impact on the level of community engagement as will the project objectives.

2.3 Principles of community engagement

Regardless of the approach taken to community engagement, or the tools used, there are several overarching principles that many authors and practitioners in the area of participation and community engagement agree on. Flora (2004) has identified nine elements of participation. The nine elements of participation include:

- Context specificity: each place is different and has different levels of the six capitals (including: Financial/built capital, Political, Social, Human, Cultural and Natural Capitals – see Section 3 for further details)
- Collective vision: acknowledgement of a community’s capital/s can lead to a sense of place being made explicit and allows the community to build ideas about future conditions
- Diverse perspectives: all relevant communities need to be involved in goal-setting and decision-making in order to create a sustainable plan of action or vision
- Use a facilitator: someone trusted by the community (either from inside or out) can help reach decisions that are more likely to be implemented or supported

- Involving government officials or representatives: this can help with the legitimisation of technical or regulatory information and involving the community in any monitoring or reporting that might be required can improve trust and sustainability of decisions
- Participatory contract: relationships and responsibilities between stakeholders and government and non-government bodies/individuals should be negotiated and made clear
- Monitoring and feedback: with particular attention to outputs and outcomes in order to ensure project objectives are being met
- Sustained Systematic Learning: based on the action learning model of measure, reflect, act. This is linked to monitoring and reporting
- Evaluation in the context of the relevant community: this ensures that not only are any technical objectives being met, but that agreed community objectives (or vision) are also being reached. This helps with sustaining whole of community engagement rather than just a few citizens.

Flora's nine elements have been distilled from a 'meta-analysis of participatory practice' (2004 p.10) and are therefore relevant to a broad range of community engagement projects. Many of these principles are supported by research in Australia, with Wiseman (2006) for example listing key factors in 'community strengthening' (as it is known in Victoria) as including:

- Strong local ownership and leadership (which typically involves the inclusion of as many community members/representatives as possible)
- Sustained government investment in the social and physical infrastructure priorities identified by the community.

Elements that are important to many frameworks and definitions of community engagement include:

- Inclusiveness and meaningful consultation - and therefore representativeness to encourage and sustain ownership and responsibility by all stakeholders. Stakeholders need to know that their input, if sought, has an impact and that the representativeness of a process is not just token
- trust between stakeholders - in particular the effectiveness of communication between experts and non-experts can be affected by a lack of trust, while communities and farmers may have an inherent distrust of government agencies (Wynne 1989; Beale et al. 2008)
- context - participants, stakeholders, government agencies and even projects are all different and require diverse approaches
- sustained engagement and commitment by all parties - which includes elements of monitoring, evaluation, feedback and action (CDCP 1997; Hashagen 2002; Tamarack 2003; CV.CB (Cooperative Venture For Capacity Building) 2004; Flora 2004; Flora 2005; Royce 2005; Falk et al. 2008).

2.4 Engaging the public in science: Scientific Citizenship

Communication is fundamental to any approach to, or program for. Context and relevance are of key importance to engaging and sustaining people's interest. Further investigation and understanding of the 'Want to' component of the community engagement framework - as opposed to assuming 'know how' and 'have resources' will lead to behaviour change - can improve the effectiveness of biosecurity engagement programs. It is important to make a connection between the 'Know how' and the 'Want to' components of community engagement through effective and appropriate communication and engagement strategies. This is particularly relevant to biosecurity as much of the information related to biosecurity can be quite technical and based on scientific research. In an attempt to bridge this divide between scientific and lay knowledge, researchers and

practitioners involved in public participation and community engagement have developed the concept of scientific citizenship (Irwin 2001).

Scientific citizenship has also been referred to as participatory, civil, stakeholder or democratic science (Backstrand 2004). Non-scientific knowledge is frequently referred to as lay, local, public or indigenous knowledge (Wynne 1989; Kloppenburg 1991; Long and Long 1992; Irwin 2001; Lovett 2005). Citizen science has been defined by the Citizen Science Toolkit initiative in the UK as “projects in which volunteers partner with scientists to answer real-world questions” (Ely 2008). However, this definition is relatively narrowly defined within the confines of environmental volunteering, and the term is used more broadly here to include governments and other stakeholders in the policy- and decision-making processes.

Irwin (2001), a UK author, has written extensively on the concept of the scientific citizen and how this concept is incorporated into government policy and consultation processes. With a particular emphasis on the biosciences, including the handling of the mad cow disease (BSE) and genetic modification of organisms (GMO) debates by the UK government. During the 1990s, the UK government attempted to introduce a new, transparent dialogue with the public on scientific issues (such as GMOs), which focussed on improving the public’s understanding of science in order to develop trust in the scientific advice given to and utilised by government. This move to include the public in scientific debates was championed by the UK government’s Chief Scientific Advisor who highlighted the links between science, uncertainty and public trust (Irwin 2001). Aspects of the dialogue surrounding this new transparency and public engagement focussed on issues such as who gets to decide which knowledge is more important and what legitimate problems for discussion are. Further, the right balance required between information giving and information gathering was also debated. The fundamental issue seemed to be: how can science and democracy work together given that scientific knowledge implies a focus on people with highly specialised knowledge, while democracy is based on public involvement in government? Irwin (2001) identifies several major factors that can have an impact on the interaction between science, the public and governance; including institutional frameworks, the audience of the information gathering and consultation process, and the knowledge orientation (e.g. science versus lay knowledge).

The value typically accredited to scientific knowledge by governments has impacts during a policy-making process, with information-giving and consultation processes typically formulated according to a scientific perspective. This has implications for how information is presented and communicated, what information is sought (and valued) and how indeed questions are framed both for government, the public and scientists. Further, this has import for the way in which the public in particular interpret and apply this information, as well as to whether or not they accept the information as having relevance or being credible. These issues of relevance, credibility and, ultimately, trust have been identified for example in agriculture with regards to the selection of research and the delivery of extension programs (Wynne 1989; Lees et al. 2006; Crawford, Nettle et al. 2007; Thompson 2008). As a form of engagement, the experience of agricultural extension has relevance to the broader concept of community engagement because there has been a tendency for extension programs to stay at the lower end of the Community Engagement Continuum. The example of agricultural extension is of particular relevance to horticultural biosecurity, which has traditionally relied on extension theory and practice to engage communities and with a similar tendency to conduct programs focussed at the passive, short-term end of the engagement continuum (e.g. pamphlets, hotlines, posters etc) (see programs in Appendix B of the companion document ‘Engaging in Biosecurity: Gap analysis’).

2.5 Knowledge brokers, trusted intermediaries, champions and social networks

This section examines the role of various types of facilitators, knowledge brokers or intermediaries who can help with both the communication of knowledge and the championing of knowledge or causes – such as participation in biosecurity. There are various forms these champions or facilitators can take, and several of the most common are described here, including knowledge brokering, trusted intermediaries, champions and social networks. These types of knowledge facilitation are strongly tied to the concept of engaging the public in science described above in section 2.4.

2.5.1 Knowledge brokers

Knowledge brokering typically involves a person, often referred to as a facilitator, who helps build contacts between stakeholders who might not typically interact and share ideas or information (Australian Biosecurity CRC for Emerging Infectious Disease n.d.; Land & Water Australia n.d.). Knowledge brokering is frequently used in the natural resource management (NRM) industry and Andrew Campbell has defined knowledge brokering in the following way within the NRM context:

Knowledge brokering is typically used to refer to processes used by intermediaries (knowledge brokers) in mediating between sources of knowledge (usually science and research) and users of knowledge. Knowledge brokering is usually applied in an attempt to help knowledge exchange work better for the benefit of all parties.

(Land & Water Australia n.d.)

Land and Water Australia (n.d.), which has conducted research into the role of knowledge brokering in NRM, suggests that knowledge brokering has several purposes that are also benefits, including:

- brings people together
- helps to build links
- identifies gaps and needs and sharing ideas
- assists people in communicating and understanding each others' abilities and needs
- helps guide people to sources of research
- encourages the use of research outcomes in planning and implementation
- uses evaluation to identify successes or improvements.

Although commonly found in an NRM context, knowledge brokering is highly relevant to biosecurity engagement due to its purpose in helping to transfer knowledge between stakeholders. Further, knowledge brokering is already being implemented by the Australian Biosecurity CRC for Emerging Infectious Disease (AB-CRC). A Pamphlet produced by the AB-CRC on the value of knowledge brokering indicates that the concept is a core component of its research adoption strategy. The CRC lists four levels at which knowledge brokering occurs, including:

- Project-based knowledge brokers who 'maximise the impact of individual research and education projects on policy and practice'.
- Program-based knowledge brokers who work across programs to 'enhance integration of research outcomes across disciplines, sectors, and between providers and users of research.
- Network-based knowledge brokers who 'coordinate across the national biosecurity networks.

- Issues-based knowledge brokers who ‘facilitate a coordinated response across all AB-CRC Programs to specific, identified biosecurity issues.

The AB-CRC lists the purpose of knowledge brokering as:

- Informing the strategic direction of research projects and the research centre through stakeholder feedback
- Facilitating the adoption of new knowledge and technologies
- Fostering effective collaborations
- Enhancing communication networks in the biosecurity arena.

Knowledge brokering is utilised worldwide by organisations including the Canadian Health Service Research Foundation, the World Health Organisation, Land & Water Australia, and many of the CRCs in Australia, including the Aboriginal Health and the Bushfire CRCs.

2.5.2 Trusted intermediaries

The trusted intermediary concept is a new idea arising from agricultural extension research. The idea behind trusted intermediaries is for research or government bodies to facilitate or channel extension activities and/or information through a member of a community who has the respect and trust of the target audience (Lees et al. 2006). In some cases, this might require the utilisation of more than one person since the farming community is diverse and not all landholders view the same person with equal respect and trust (Thompson 2008). A trusted intermediary has the benefit that their experience is likely to be similar to that of their audience and they are better able to ‘talk the same language’ as their audience. As noted by Wynne (1996) a common issue arising between researchers, government representatives and landholders is the failure of these groups to communicate effectively such that they understand each other. In this way, the trusted intermediary acts like a knowledge broker who is known to the target audience.

2.5.3 Champions

The idea of high profile champions who ‘champion’ a cause is very similar to the trusted intermediary concept except that a champion is not known personally by the target audience. Rather, a Champion would more likely be a well-recognised public figure who is viewed with respect, and probably trusted, by the audience. A recent Champion used for post-border biosecurity purposes for example is the late Steve Irwin who was the face of the ‘Biosecurity Matters!’ media campaign aimed at increasing border and post-border quarantine awareness for both Australians returning from overseas and international travellers entering the country.

Another type of Champion found in the agricultural context is ‘Master Gardeners’. The Master Gardener concept has its roots in the King and Pierce counties of Washington State, USA where a program was developed in 1972 to ‘meet the research and educational needs of home gardeners’ (Geisel and Feathers 2006). The Master Gardener Program has been implemented in 45 US states and in four Canadian provinces; it has also made it ways slowly to Australia, with the Victorian Botanical Gardens running a Master Gardener program also. The purpose of the Master Gardener program at the University of California, which runs a program training Master Gardeners who can volunteer their services, is to ‘extend research based knowledge and information on home horticulture/pest management issues’ (Geisel and Feathers 2006). This concept has utility to horticultural biosecurity such that not only can communities be provided with access to a Master gardener, but celebrity gardeners, such as Don Burke, Peter Cundell or Jamie Durie, could be

adopted as well known Champions to advocate for biosecurity issues and activities, such as surveillance, detection and reporting.

2.5.4 Social Networking

Social networking refers to the relationships that people form with others via various means of communication – whether through social groups, participation in specific activities, or even through the internet – such as the Facebook and YouTube internet sites. Networks are typically comprised of a collection of individuals and the linkages, relationships or patterns of interaction among them can be analysed using social network analysis (Wasserman and Faust 1994). While social network analysis as a method for understanding social structure can be a relatively complex, mathematically-based exercise, the relationships between people in a particular community does not have to be so complex. Understanding the linkages between individuals and other members of communities can help engagement practitioners to identify where people are sourcing information and who they trust to provide relevant and valid information. This links back into the concepts of knowledge brokers and trusted intermediaries in particular. Tapping into these social networks can aid in disseminating information – whether for a particular piece of knowledge or about a particular activity designed for consultation. Utilising the trusted social network can potentially enhance the trust afforded the information or activity being promoted.

2.5.5 Summary

These four approaches to engaging the public in science and knowledge are not necessarily mutually exclusive. It is possible to utilise a combination of approaches to reinforce the messages of biosecurity programs. As a starting point, an analysis of the social networks utilised by landholders or other stakeholders to access knowledge can help to identify people who might be effective knowledge brokers or trusted intermediaries. Further, an understanding of public figures, such as Master Gardeners, who might have the affection and trust of stakeholders could again help identify the most effective person or people for conveying biosecurity messages.

2.6 Choosing an engagement strategy: guidelines and toolkits

There are several ‘toolkits’ available that can facilitate the selection of an engagement strategy based on the objectives of the project or program. Aslin and Brown (2004) developed a compendium of engagement tools for the Murray-Darling Basin Commission which provides an overview of ‘What makes for good community engagement?’ and a guide on how to choose the most appropriate tools. Various methods are detailed, ranging from negotiation and conflict resolution tools through to participatory monitoring and evaluation tools.

Another tool which focuses on the citizen science approach to engagement was developed by the Coastal CRC and Griffith University Australia. The URP Toolbox (Urban Research Participation Toolbox) (<https://www3.secure.griffith.edu.au/03/toolbox/>) is an online database providing a free resource listing principles and strategies for designing ‘meaningful stakeholder involvement in decision-making’ (URP Toolbox website, accessed December 2008). The authors indicate that the strategies listed need to be specifically tailored to the engagement project and that a combination of tools may be required to achieve meaningful and effective involvement. A key factor of the URP Toolbox is that it provides advice on the importance of evaluating community engagement, as well as a summary of the types of evaluation that might occur. The value of evaluation includes providing monitoring and feedback which can ultimately improve community engagement strategies.

The Community Engagement Network, an initiative of the Victorian State Government, has produced a series of three booklets that provide an overview of community and engagement, how to plan an engagement strategy and the various options for communication, consultation and feedback that can form part of an engagement strategy. These booklets are available online at: <http://www.dse.vic.gov.au/dse/wcmn203.nsf/Home+Page/8A461F99E54B17EBCA2570340016F3A9?open>.

McGrath et al. (2008) have developed a communications toolkit for the Cooperative Research Centre for National Plant Biosecurity. Although not a toolkit designed specifically for achieving engagement at the higher, empowering end of the Community Engagement Continuum (see Table 1), this document does contain many of the key principles of community engagement outlined by Flora (2004) above. As such it is a useful reference to these principles and also an excellent guide for designing a communication and/or advertising strategy for plant biosecurity projects. Relying on one-way communication, however, places this approach at the lower end of the Community Engagement Continuum.

Finally, DEMOS (2003) has developed ‘seven steps toward successful influencing’ based on a literature review and case studies conducted for a report to DEFRA – the UK government’s Department for Environment, Food and Rural Affairs (<http://www.defra.gov.uk/>). The seven steps for a successful ‘influencing’ strategy include:

- Define your objective.
- Make the links across government goals and policies.
- Don’t assume that information leads to awareness – or awareness to action.
- Assess the audience and finesse the message.
- Communicate creatively.
- It’s all about networks.
- Sustain, build and learn the lessons.

These steps also represent points upon which an engagement strategy can be assessed in order to ensure that the actions and assumptions noted by DEMOS (2003) are included either prior to a strategy being implemented or during a formal evaluation.

2.7 The challenges of community engagement

Although community engagement is generally regarded positively, the process is not without problems and challenges. At the most broad level, although there is a move in government toward ‘participatory governance’ in public administration (see discussion below in Section 3.2), there is a need to also be aware of the inherent realities and limitations of the ‘political systems, the pervasiveness of rationalist policy design and the embedded nature of hierarchical and market forms of public administration’ (Reddel and Woolcock 2004 p. 82). These characteristics of public administration tend to favour more passive approaches to consultation and collaboration between government and non-government bodies (see discussion of projects in ‘Engaging in Biosecurity: Gap analysis’). Further, Reddel and Woolcock (2004) point to issues raised by other authors of ‘ideological ambiguity’ surrounding the term ‘community’ and the potential for problems ‘implicit in the construction of a dichotomy of community versus the state’ (p.82). Buchy (2000) has also pointed to a number of assumptions made about the positive benefits of community engagement, which may not exist in all situations. Buchy’s and others’ observations about the pitfalls related to community engagement are listed below.

- Expectations and boundaries: An open and flexible discussion with community participants could lead to raised expectation unless clear and realistic objectives are established at the beginning of the community engagement process. Limitations of the process and its impact on policy and decision-making should be made evident at the start. There is also an assumption that greater participation will lead to better resource management, empowerment and greater social practice (Buchy 2000).
- Cynicism: Stakeholders in a community engagement process may be sceptical about the process. This may occur if they have been consulted or ‘engaged’ several times without obvious results, or they may also be suffering from ‘participation fatigue’ from being over-consulted (Dare *et al.* 2008). Communities may not always be able or willing to engage in the activity being proposed, and they may not be interested in increased power in decision-making processes (Buchy 2000). It is important to understand the origin of cynicism or disinterest (and distrust) and learn from it (refer back to Expectation and boundaries for instance).
- Resources: A community engagement process may require a significant amount of resources in order to succeed; however these can sometimes be difficult to estimate in advance (Dare *et al.* 2008). Resistance to the process could add considerable time and cost to a process and result ultimately in its failure. While community engagement can take time and resources, the process may help avoid disputes later on.
- Divergent views: As a form of communication involving more than two parties, community engagement processes are subject to the differing perspective and opinions of the parties involved. While the aim of community engagement is not to achieve consensus, facilitation may be required to manage differing opinions, positions and perceptions in order to reach the objectives of the process.

There is a range of reasons why things might go wrong with a community engagement process, including poor planning, lack of resources, lack of commitment or interest from one or more stakeholders, bad timing etc. Dare *et al.* (2008) stress that it is important to identify what is happening to cause problems in a process and to not abandon the process or ignore any problems. Buchy (2000) proposed ten questions that decision-makers should ask before embarking on a community engagement program, including:

1. Why do I want to start a community engagement process?
2. What is available for negotiation, what is not? Have I stated my intention clearly? Have we established a clear understanding?
3. Am I committed to listening to the people and acting on their input or am I just going through the motions?
4. Does the process add value to the community – what’s in it for them?
5. Given the scale, the process and the issue, have I allocated sufficient time and resources?
6. Have I identified the major stakeholder groups and do I understand how they relate to each other? Do all stakeholders have an equitable chance to participate? Do they have the capacity to participate?
7. Which useful skills/information will we potentially learn from taking part in this process?
8. What are the risks?
9. Is the approach we have designed appropriate for the Indigenous, organisational or other group/s to be involved?
10. Have we sought advice from participating Indigenous organisations or key informants, to ensure the approach is suitable?

Other key questions that might also be asked include:

- What are the evaluation criteria for this process – do these suit the objectives of the project and the needs of the stakeholders?
- Will the processes and policies of my organisation allow for a program flexible enough to meet the expectations and needs of stakeholders?

These questions reflect the key principles of community engagement identified in section 3.3 of this report. Ongoing analysis of the engagement process and previous processes is important to ensure mistakes are not repeated. It should be noted that community engagement is not a precise science and that its focus lies in developing a sense of shared responsibility and understanding for community projects.

2.8 Summary

This section has provided a definition of community engagement and outlined the broad continuum over which engagement can occur, ranging from passive, short-term, one-way knowledge provision, through to active, ongoing, self-sustaining programs involving a range of stakeholders joined through open communication, shared understandings and objectives, as well as trust. A series of key principles and toolkits has also been presented, as well as a series of ways in which the profile of biosecurity information and programs can be increased in target communities. The next section will examine the social structures that support the relationships developed between stakeholders in order for effective community engagement to occur.

3 Social Structures Supporting Biosecurity Engagement

This final section of the report will examine the social structures supporting effective community engagement (see Figure 1, Section 1.2). In order to achieve this, commentary on the concepts of social capacity, capacity building and related concepts, as well as governance will be examined in the context of horticultural biosecurity.

3.1 Social capital, capacity building, learning communities and community engagement

As can be seen from Table 1 in Section 2, community engagement activities can range from passive, short-term, one-way communications - such as leaflets and websites- through to more proactive models where the ultimate aim is to develop community empowerment such that any program is self-sustaining and long-term in nature, such as the Landcare movement. As indicated above, optimally, but also depending on the objectives of the engagement, a program should result in this more proactive level, where the community has recognised the issue, takes responsibility for it and is in control of the program as much as is possible through mobilisation of community resources. Such a model requires iterative communication and feedback with other stakeholders and monitoring of progress.

This level of engagement might seem unattainable given the complexity of actively engaging a particular community; however one model of engagement attempting to address this is *capacity building*. There is a growing body of research departing from the traditional public participation or engagement literature to focus on community or social capital (CVCB 2005; Love et al. n.d.; Flora 2008; Mudita and Natonis 2008; Vipriyanti and Rustiadi 2008; Pariela 2008). Much of this research is focused specifically on natural resource management issues but also biosecurity (see Falk et al. 2005). The question that capacity building research addresses in the biosecurity context is: ‘How do communities acquire new knowledge and develop new strategies for identifying and managing the plants, pests and diseases that affect their food supplies and livelihoods?’ (Falk et al. 2005, p.1). The capitals approach (see below) is considered of value according to Flora (2008) because the ‘capitals framework allows us to mobilise local resources and combine them with external resources for a vital economy, social inclusion and a healthy ecosystem’ (p.41).

Flora et al. (2004), Flora (2004 and 2008) have developed a framework for understanding the various components of a community that may be accessed in the process of community engagement, particularly in relation to sustainable development. These components can also be considered as resources or ‘capital’ and include: Financial/Built Capital, Political Capital, Social Capital, Human Capital, Cultural Capital and Natural Capital. Flora (2004) states that “natural, cultural and human forms of capital are the basic resources that can be transformed into social, political and financial/built capital” (p.8). Flora (2004 and 2008) has also developed a diagram representing the intersection between these various Capitals, which is reproduced in Figure 4.

Flora (2004) has defined each of the capitals in the following way:

- natural capital refers to the environment and natural resources
- cultural capital is a human construction that often arises from responses to natural capital (and includes) ways of knowing, language, ways of acting and of defining what is problematic
- human capital is the native intelligence, skills, abilities, education, and health of individuals within a community

- social capital is a community characteristic based on the interactions among individuals and groups (such as) mutual trust, reciprocity, collective identity, cooperation and a sense of a shared future
- political capital refers to the ability of a community to influence the distribution of resources and to determine which resources are made available...it includes voice, organisation, connections and power
- financial/built capital: includes debt capital, investment capital, savings, tax revenue, tax abatements, and grants.

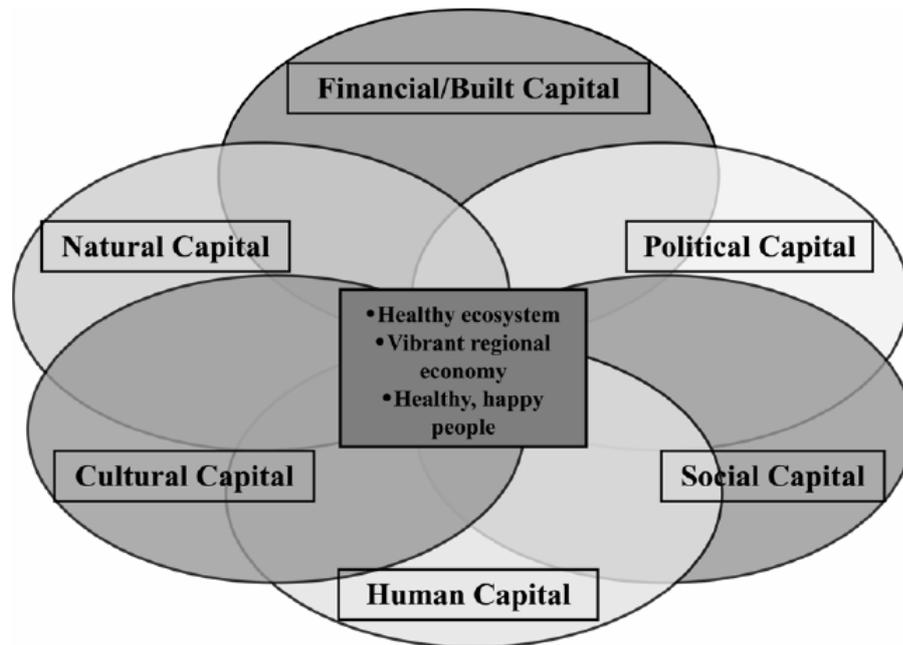


Figure 1: The intersection of forms of community capital

(Source: Flora 2004, p.9)

The aim of capacity building is to approach working with communities from a positive perspective which recognises the inherent strengths and capabilities that already exist within a community. Capital identified is viewed as a basis that can be built upon by the engagement process. Further, capacity building represents an attempt to balance the competing objectives that sectors of the community might have by attempting to ensure that all types of capital are enhanced, not just one or two. For example, a traditional agricultural extension campaign may just seek to enhance human capital through the provision of information ('Know how' and 'Have resources') or skills development and not address other issues/capital that impact on the ability or willingness to be informed or take action based on the information provided (the 'Want to' aspect).

Cultural, human and social capitals in particular are central to the idea of capacity building, and related concepts, such as *learning communities* and *communities of practice* (Royce 2005). Royce (2005, p.94) describes *learning communities* as groups of people who are 'linked through common location or shared interest, (and) collaborate and work together to address the learning needs of their members' (see also Kilpatrick et al. 2003). Wenger (1998) has also proposed the concept of *communities of practice*, where communities develop around issues or activities that are important to them, and the creation of this community results in practice, learning and engagement that reflects what is important to community members.

What is important in these models and concepts is that engagement involves communities that learn and develop practice (or activities) based on what is relevant to their needs. This is an area (i.e. 'Want to') that traditional agricultural extension has failed to adequately account for (see companion document, 'Engaging in Biosecurity: Gap analysis'). It is also an opportunity for the concept of community engagement to develop better understanding and practice in actively engaging communities around issues of relevance in ways that acknowledge diversity of understanding, interest, knowledge and ability – or capacity.

Community engagement also presents the opportunity within the context of biosecurity to establish new relationships with communities, as well as between the various stakeholders (who also represent their own communities of interest, practice, geography, etc), including industry bodies and Government agencies. Royce proposes that as a result of establishing these relationships and open communication:

Community engagement can present opportunities...that in turn, provide a platform for increased community learning, improved access to private and public resources and instigate change in policy, programmes and practice to achieve common goals.

(Royce 2005, p. 94)

This is a role envisioned for community engagement shared by several authors and practitioners in the area (see CDCP 1997; Hashagen 2002; Tamarack 2003; CV.CB (Cooperative Venture For Capacity Building) 2004).

3.2 Participatory governance and community engagement

It can be seen from the discussion above and in section 2 that the concept of community engagement focuses on a partnership between all stakeholders in an issue or activity – including communities, private bodies, industry bodies and government agencies or representatives. This partnership approach, which is supported by both major reports into Australian biosecurity processes and activities (see Nairn 1996, and Beale et al. 2008), poses new issues for how government in particular develops and implements policy. The increased engagement of the private sector in public policy-making is an emerging area for debate and research in public administration literature and practice. Several authors have in the last ten years indicated that there is a growing conflict between the organisational structure of government and the desire to develop broader, more collaborative, relationships with private organisations and the public (Edwards 2002; Hess and Adams 2002; Reddel and Woolcock 2004; Boxelaar et al. 2006). This theme has been referred to as 'participatory governance' (Edwards 2002; Reddel and Woolcock 2004).

Research conducted by Boxelaar et al. (2006) indicates that the current organisational structure and culture of government is positivist in nature (where approaches to policy are intended to be rational, objective and value-free with a dominance of scientific knowledge) and that this conflicts with a more constructivist approach to collaborative policy-making since constructivism values different types of knowledge, subjectivity - in addition project or policy objectives may be emergent. Their article suggests that 'the discourse of collaboration and community engagement' does not necessarily lead to a constructivist path for policy-development' (as suggested by Hess and Adams 2004), but instead 'significant organizational alignment is required for that to occur' (Boxelaar et al. 2006 p. 114). Basically, the rigid structures of government where evaluation of policies and programs is based on traditional economic or scientific goals conflicts with a more social and culturally aware engagement process. This has the effect of making the evaluation of engagement projects difficult since their aims may not be economic or scientifically measurable.

As an example of this conflict in Australia, Boxelaar et al. (2006) highlight a project implemented by a Victorian government department seeking to involve a diverse range of stakeholders in natural resource management in the agricultural sector. Their study found that whilst the initial project discussions focussed on a constructivist approach to stakeholder engagement (where objectives were based on emergent community needs) by the end of the project discussions had reverted to a typical outcome-based, positivist, model. Boxelaar et al. (2006) identified several factors contributing to this change, including:

- systems of government accountability, evaluation
- government management processes
- organisational culture.

In the end, instead of developing evaluation around community needs and project objectives, implementation and evaluation was hi-jacked by the government's traditional focus on economics, productivity and similar outcome-driven factors. This stifled the novelty and creativity of the project, and ultimately the meaningfulness of the project for the community.

These findings led Boxelaar et al. (2006) to support assertions by other authors that public servants need to acquire new skills, including 'conflict resolution, negotiation, communication and knowledge management' in order to deal with the complexity in their role created through increased government collaboration with private bodies or individuals during policy development processes. (Edwards 2002; Hess and Adams 2002; Macadam, Drinan et al. 2004)

In reviewing the issue of participatory governance, Edwards (2002) indicates also that there are potential conflicts between a move towards corporate governance and the co-emerging policy favouring participatory governance. These conflicts arise primarily due to issues of accountability associated with adopting corporate (or private sector) processes and structures. Particular issues arise in relation to public and individual responsibilities. Further, the concept of 'integrated or collaborative government', whereby governments seek to 'enable' rather than 'do', creates difficulties across government departments, as well as between government and other levels of government (Edwards 2002). These issues are further impacted upon by the move to participatory governance and therefore how the relationships between government and non-government bodies should be managed. Edwards (2002) poses the following questions:

On what issues should non-government players – organisations as well as the public more generally – be brought into the policy development process, and at what stage or stages in the process. And a related set of questions arise in the context of assessing who is responsible for what, or the appropriate accountability regime if non-government agencies are brought into the decision-making process.

(Edwards 2002, p.57)

Hence, in reviewing the concept of community engagement, we should also be addressing the questions raised by Edwards. This requires that we question the relevance or appropriateness of community engagement in a policy development process not just based on the nature of the issue at hand, but also based on the accountability and responsibilities associated with involving non-government bodies (or individuals) in decision-making processes. Another aspect of the social structure that must also be taken into account is the economic influence, such as resourcing and funding since, as indicated in Section 3.7, community engagement can be resource-intensive.

3.2.1 Questions to ask prior and during implementation of an engagement process

As might be gathered from the above discussion, this approach requires consideration of some key questions for any agency or organisations seeking to embark on an engagement process, and also as part of monitoring during the program. Some of these questions were previously presented in Section 3.7, including (adapted from Buchy 2000):

- Why do I want to start a community engagement process?
- Have I identified the major stakeholder groups and do I understand how they relate to each other? Do all stakeholders have an equitable chance to participate? Do they have the capacity to participate?
- What is available for negotiation, what is not? Have I stated my intention clearly? Have we established a clear understanding?
- Am I committed to listening to the people and acting on their input or am I just going through the motions?
- What strategies will I use to achieve the expected outcomes?
- Does the process add value to the community – what's in it for them?
- Given the scale, the process and the issue, have I allocated sufficient time and resources?
- Which useful skills/information will we potentially learn from taking part in this process?
- What are the risks?
- Is the approach we have designed appropriate for the Indigenous, organisational or other group/s to be involved?
- Have we sought advice from participating Indigenous organisations or key informants, to ensure the approach is suitable?
- What are the evaluation criteria for this process – do these suit the objectives of the project and the needs of the stakeholders?
- Will the processes and policies of my organisation allow for a program flexible enough to meet the expectations and needs of stakeholders?

There are also several key questions that need to be asked after the program has finished (these may also be asked as part of monitoring ongoing progress):

- What were the impacts and changes that occurred as a result of the program? What is the evidence of these impacts and changes? Did these match my objectives and evaluation criteria? Was my evaluation approach appropriate? Were my objectives appropriate?
- What were the barriers and enablers to achieving the desired outcomes?
- Were there any unforeseen factors that had an impact on the outcomes of the program?

4 Summary and recommendations

This report explored key terms relevant to community engagement and the concept of a continuum of community engagement was outlined. Core challenges and potential opportunities of community engagement were identified, including at the individual or group level, as well as at the institutional level through social structures. Recent analyses of biosecurity programs in Australia (McKell 2008; Mooney 2008; Kruger et al. 2009) have shown that these rely on the use of written communication strategies; however, it appears that the emphasis is on one-way, top-down communication rather than two-way communication and engagement. Recent research into agricultural extension and the use of community engagement as a policy tool indicate that top-down 'one-way' knowledge transfer approaches to achieve community engagement and behaviour change will be less effective in generating lasting change than collaborative or participatory approaches (Marsh and Pannell 1998; Pannell et al. 2006; Thompson 2008).

Collaborative and participatory programs have as their chief objective the development of a sense of ownership, understanding and responsibility for local biosecurity issues. Much could be gained by exploring innovative approaches to biosecurity engagement that aim higher on the engagement continuum such as participative governance and capacity building. Another point made by community engagement and participatory governance literature, is that not only do the ways in which authorities engage with communities have to change, but potentially there is a need for the top-down culture of organisations to change so that the 'Want to' aspect of engagement are considered. This may require institutions to modify the identification of 'outcomes', such that these can emerge from community engagement processes and be less concrete in terms of requiring a specific benefit to production e.g. the 'outcome' may be an enhancement of one of the community capitals discussed in Section 3.

Engagement projects have different objectives and these must be taken into account when designing engagement processes and selecting community engagement tools. The capacity to deliver is acknowledged as sometimes being a limiting factor in the selection of engagement activities, and this is one reason why it is recommended that current programs for natural resource management and pest and disease management be used to deliver biosecurity messages.

It is recommended that further empirical work be undertaken, including on-the-ground case studies, to better establish the types of community engagement strategies that are being undertaken, where they sit on the community engagement continuum and whether the principles of community engagement are evident. This could be done by profiling these experiences using a community engagement lens.

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Appendix A - Components of Engaging in Biosecurity in Horticultural Regions Project – Phase 1

(i) Stakeholder analysis

BRS engaged Rural Development Services (RDS) to conduct a stakeholder analysis by:

- developing a database of people and agencies active in biosecurity
- consulting with a subset of stakeholders about their key biosecurity concerns and ultimate outcomes. Stakeholders were asked about their key biosecurity concerns, desired outcomes and biosecurity practices. The output of this activity is a short paper titled *Stakeholder perceptions of key bio-security issues for horticulture* detailing stakeholder perceptions of issues, concerns and desired outcomes relating to horticultural biosecurity.

These activities were completed by the end of July 2008.

(ii) The National Biosecurity Engagement Forum (the Forum)

The Forum was held on Wednesday 17 September 2008 in Canberra as a first step towards a coordinated project to develop community-based biosecurity engagement strategies. Participants to the Forum were invited to help develop a clear framework of effective community-based programs and activities to do this better. The focus on the day was to develop biosecurity engagement programs for horticulture but with reference to the experiences and lessons learned from other primary industries and natural resource management community-based programs.

The main objective of the Forum was to identify practical action for biosecurity engagement across Australia, and the day's agenda was framed around this objective. Specifically, the Forum aimed to:

- Share current knowledge on biosecurity engagement
- Negotiate and develop a national approach to the project
- Identify key biosecurity outcomes
- Prioritise critical factors in biosecurity for selection of case studies
- Define and identify suitable engagement mechanisms
- Encourage networking between stakeholders and practitioners in the field.

Biosecurity engagement is an issue of concern to a wide range of industries, and the experiences of representatives from a wide range of industries and sectors outside the horticultural industry added significant value to discussions at the Forum. The event attracted over 100 representatives from diverse stakeholder groups, including grower groups, farmer organisations, research and development groups, retailers and numerous government agencies from across all Australian states. Organisers received very positive feedback from participants, underscoring the need for integration of biosecurity engagement across Australia.

(iii) Literature review

The literature review provides a review of current literature on community engagement concepts and tools and provides an overview key principles that could be employed by the horticultural industry for biosecurity engagement activities

(iv) Stocktake and gap analysis

The gaps analysis has been conducted by the Bureau of Rural Sciences as a companion document to this literature review. The purpose of this document is to provide a stocktake of current biosecurity programs and activities and to identify opportunities for improving biosecurity engagement (Kruger et al. 2009).