



REPORT NO. C.06.09

# EVALUATING BUSHFIRE COMMUNITY EDUCATION PROGRAMS

FINAL REPORT: PROJECT C7

RMIT University, Melbourne, Victoria, Australia



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The C7 team included, at various stages of the project, the following researchers: Gerald Elsworth, John Gilbert, Helen Goodman, Alan Rhodes, Sonia Whiteley, Kaye Stevens, Catherine

Rowe, Karl Anthony-Harvey-Beavis, Sandra Nolte, Graeme Marsh, Philip Buckle and John Fien. Additional contributors to the project writing were Jacques Boulet, Lucy Healey, Helen Rosenbaum, John Gawen and Carole Pearce (editorial). This report would not have come together without the hard work of John Gilbert, Jane Mullett and John Fien.

Permission to reproduce the following copyright articles is acknowledged:

The following articles are reproduced with the kind permission of *The Australian Journal of Emergency Management*:

Elsworth, G., Gilbert, J., Rhodes, A. and Goodman, H. 2009. Community safety programs for bushfire: what do they achieve and how. *Australian Journal of Emergency Management*, 24, 2, 17-25; and Goodman, H. and Gawen, J. 2008. Glimpses of 'community' through the lens of a small fire event. *Australian Journal of Emergency Management*, 23, 1, 30-36.

The following book chapters are reproduced with the kind permission of CSIRO from J.

Handmer and K. Haynes, eds, Melbourne: *Community Bushfire Safety*, Melbourne: CSIRO:

Elsworth, G., Anthony-Harvey-Beavis, K. and Rhodes, A. 2008. What should community safety initiatives for bushfires achieve? Pp. 139-150; Goodman, H. and Proudley, M. 2008. Social contexts of responses to bushfire threat: a case study of the Wangary fire. Pp. 47-56; and Rhodes, A. and Gilbert, J. 2008. Using program theory in evaluating bushfire community safety programs. Pp. 129-137.

The following articles are reproduced with the kind permission of *New Community Quarterly*:

Goodman, H., Dunstan, F. and Boulet, J. 2007. Community bushfires and how to 'measure' the former's preparedness for the latter. *New Community Quarterly*, 5, 4, 21-44; Goodman, H., Healy, L. and Boulet, J. 2007. Community responses to bushfires. The role and nature of systems of primary sociality *New Community Quarterly*, 5 1, 11-25; and Sewell, F. 2007. Reflections on community response to bushfires *New Community Quarterly* 5,4, 16-20.

## EXECUTIVE SUMMARY

The Evaluation of Bushfire Community Education Programs (Project C7) was a significant five-year project in Program C of the Bushfire CRC. The objective of this project was to develop and test a comprehensive framework and methodology for evaluating the broad range of bushfire community safety policy and programs in Australia, highlighting (i) an approach that has the potential to lead to a comprehensive and sound evidence base for identifying which policies and programs work best, for whom and in what settings; and (ii) the provision of a consultative and collaborative approach to working with end-users and community members.

The project was conducted by a team of researchers at RMIT University in Melbourne. The research team worked closely with a wide range of fire and emergency service agencies around Australia throughout the project's lifespan. The report is divided into two main sections:

- Part A provides an overview of the project. It summarises the key background and policy behind the community safety approach, and provides the results of a theory-based approach to the evaluation of bushfire community safety programs;
- Part B includes a summary of the training materials developed for fire agencies by C7. It includes an overview of two courses on evaluating community education and an introduction to the evaluation handbook.
- Two CD-ROMs include the reference materials in full for Parts A and B.

C7 has successfully delivered a comprehensive evaluation framework for bushfire community safety programs. In doing so the project has documented the current community safety approach in Australia and developed an evidence base for evaluating bushfire community education, awareness and engagement programs. In addition, an evaluation methodology has been developed, trialled and documented that will enhance the capacity and capabilities of fire agencies to plan and implement program evaluations on the basis of a rigorous theoretically informed approach. This is vital as the community safety approach becomes increasingly embedded in the policy and planning for bushfire community safety across Australia.

# PART A: EVALUATING BUSHFIRE COMMUNITY EDUCATION PROGRAMS: A THEORY-BASED APPROACH

## INTRODUCTION

Improvements in bushfire mitigation and management will be significant only if the community is better educated and engaged.

Ellis *et al.*, 2004, p.42<sup>1</sup>

## BACKGROUND

The Bushfire Cooperative Research Centre (CRC) is split into four major research themes. One of these themes is the Community Self-sufficiency for Fire Safety (Program C) containing seven projects. This report focuses on the outputs of one of these projects - 'The Evaluation of Bushfire Community Education Programs' (C7). The project ran from July 2004 through to June 2009 at RMIT University in Melbourne originally under the project leadership of Associate Professor Gerald Elsworth in an evaluation research group known as CIRCLE. After Gerald Elsworth's retirement in 2008 a new project leader, Professor John Fien, was appointed. Throughout the lifespan of C7 the research team has worked closely with a wide range of fire and emergency service agencies and other end users.

The rationale behind C7 was the emergence in recent years in Australia of an increasing number of programs designed to enhance bushfire community safety. These were typically designed and developed by fire and land management agencies and utilised within their state or territory. Existing information about these programs was limited and not strongly theorised and the programs were very rarely evaluated. Their development appeared to be ad hoc and both the desired and the actual outcomes were not always clear. Measures of success about these programs were largely confined to outputs such as the number of meetings held during a bushfire campaign, rather than a deeper understanding of what was being achieved. In line with other aspects of emergency management the establishment of an evidence base that underpinned current practice in this area was needed.

The objective of C7 was to develop an overarching framework and methodology for evaluating bushfire community safety and education programs. The framework would tackle the central problem (the loss of life and property and environmental damage from bushfire) that community education, awareness and engagement programs were seeking to address by

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<sup>1</sup> Ellis, S., Kanowski, P. and Whelan, R. 2004. *National Inquiry on Bushfire Mitigation and Management*. Canberra: Commonwealth of Australia.



examining the emerging community safety paradigm. In addition there was a need to articulate clearly what the desired and anticipated outcomes of community education programs were in the context of bushfires. The research team advocated taking a theory-based (realist) approach as one that was well suited to evaluating complex interventions in diverse settings that sought to bring about social/behavioural change. It was also felt that it should encourage the active engagement of evaluation not only with agencies (as the developers/providers) but also the community (as recipients of the programs).

Three major research questions were identified:

- i. What are the best ways of evaluating and improving community safety activities and programs for bushfire?
- ii. What activities and programs work best, for whom and in what organisational and local settings?
- iii. What are the best ways to support agencies in the development and improvement of bushfire community safety programs?

## OUTLINE

Part A of the final report contains an overview of the framework for evaluating bushfire community safety programs developed by C7. This is accompanied by a CD-ROM that includes many of the research papers and reports generated by the project. The overview is intended to be indicative rather than comprehensive, highlighting some of the key issues that emerge from the extensive body of research while linking many of the strands together.

There are two main sections to the overview:

- i. **Background policy and theory.** This summarises key aspects of the community safety approach to bushfire in Australia and the principles and values that govern it. It highlights the results of the concept mapping of desired outcomes of community safety programs and provides a breakdown of the classification of programs. Finally, the section offers an insight into the theory-based approach to the development of an evaluation framework.
- ii. **What works in bushfire community safety: how, for whom and in what settings?** This section reviews the synthesis of published evaluation research on seven bushfire community safety initiatives and the theoretical model of bushfire community education, awareness and engagement programs. It then provides illustrations of the realist approach from C7's evaluation studies.

At the end of each subsection there is a short list of relevant reports and papers that relate to the topic covered. These are available in full on the accompanying 'Evaluating Community Safety Programs for Bushfire: A Theory-based Approach' CD-ROM.

## BACKGROUND POLICY AND THEORY

### THE COMMUNITY SAFETY APPROACH TO BUSHFIRE IN AUSTRALIA

Over the past decade or so in Australia there has been an increasing shift to a community safety approach to bushfire. Modelling the community safety approach in Australia is an important step in providing the context in which the programs and initiatives are implemented by fire agencies in the community. There are several important factors that help explain the transformation from a focus on response (including recovery) to preparedness. These include:

- The loss of life and property from bushfires and the heavy toll from recent events (including Canberra in 2003 and the Lower Eyre Peninsula, South Australia in 2005) that have emphasised the risk to communities around the country. Subsequent Government inquiries into these and earlier fires have advocated the broad principle of community responsibility and self-reliance.
- The increasing openness of fire agencies to the understanding that there are not the resources available to defend every property that may be in danger during a fire.
- Recognition that reducing the risk from bushfires can be enhanced by greater community preparedness.
- Parallel shifts in thinking in related areas such as emergency management, crime prevention and public health, both locally and internationally.
- The notion of self-reliance as an important aspect of community safety.
- The implications for community safety of the widely endorsed 'stay and defend or leave early' policy.

A rationale was therefore identified for the community safety approach that helped explain its emergence. However, in order to get a more thorough understanding of the development of policies and programs for bushfire community safety a review of the values and principles underpinning the approach was required. This was achieved by reviewing six commonwealth and state government reports and inquiries into bushfires and natural hazards. The reports chosen were produced between 2002 and 2004 and built on the findings and recommendations of other previous inquiries, notably the Bushfire Review Committee report after the Ash Wednesday fires in South Australia and Victoria in 1983.

The review examined the recommendations and analyses that related to the general themes of community education, awareness and engagement. From the analyses six foundational values were identified and seven operational principles derived from them that directly inform policy development and planning for bushfire community safety programs.

**Foundational values:**

- Community safety in bushfires is a shared responsibility between householders, communities, agencies and governments.
- While responsibility is shared, individuals and households have a specific responsibility for taking action to mitigate their own bushfire risks.
- People and communities differ in terms of their risks, assets and capacities.
- Priorities differ between individuals and communities. They include environmental, social and economic considerations that may be competing or interrelated.
- Increasing community safety requires a risk management approach.
- Bushfire policy and practice should be evidence based.

**Operational principles:**

- adopting a comprehensive emergency management approach
- working in partnerships
- understanding local people and communities
- identifying and prioritising risks and assets
- planning locally to mitigate risks
- household planning to prepare, stay and defend or leave early
- building and using knowledge through research, monitoring, evaluation and improved information management.

In addition, the analyses uncovered a small number of general recommendations for good practice that were closely linked to the operational principles.

**Programs should be**

- targeted to residents and communities at high risk
- characterised by diverse approaches that are tailored to the priorities and capacities of local individuals and communities
- flexible and responsive to differences and changes in individuals and communities
- evidence based but innovate and
- monitored and evaluated, and thus able to add to an accumulating knowledge base about effectiveness for different communities in different contexts.

The links between the foundational values, operational principles and general recommendations for good practice were not simple, one-to-one linear relationships. Instead a complex pattern emerged where the operational principles and general recommendations were often informed by two or more foundational values. In some cases foundational values appeared to inform not

only what should be done, but also the process for doing it. In addition, while the principles were common across the reports there were also differences in the detail of how they were discussed and their suggested application. Working concurrently with the review of inquiries, the research team began to explore in more depth the desired outcomes of the community safety approach with agencies and the community.

#### Related documents

Elsworth, G., Stevens, K., Gilbert, J., Goodman, H. and Rhodes, A. 2008. The community safety approach to bushfire in Australia: values, principles and desired outcomes (unpublished).

Stevens, K. 2007. Improving the bushfire safety of communities through community awareness, education and engagement: a review of policy directions in six recent Australian reports (unpublished).

## DESIRED OUTCOMES OF THE COMMUNITY SAFETY APPROACH

The research team undertook a series of concept mapping workshops with different agencies and communities across Australia in order to examine the desired outcomes of the community safety approach. Eleven workshops were held, six of which were with fire agency personnel and five with members of community groups. The approach was designed to elicit ideas about the changes that engaged and knowledgeable informants believed should occur to make households and communities safer from bushfires. Statistical analysis of the data generated in the workshops yielded eleven concept maps that were then consolidated into a single list of constructs by the project team over a series of workshops. The resulting synthesis identified fourteen general clusters of desired concepts of the community safety approach. These spread across three levels of desired change: individual, household and neighbourhood; community and local agency; and central organisation and policy level (Tables 1 to 3).

**Table 1: Central organisation and policy level**

Concept name	Concept description
Principles underpinning program development and adult learning	The importance of creating an environment conducive to effective learning by adults
Policy framework for agency and organisational roles	Ensuring the fire agencies implement appropriate policies and procedures to support community safety initiatives

Use of incentives to achieve preparedness	The use of incentives to encourage preparedness or, conversely, the use of penalties to discourage inappropriate or risky behaviour
Understanding/application of regulations for bushfire safety	The need for appropriate legislation to be put in place and enforced as well as ensuring that community members and local governments understand why those laws are necessary

Table 2: Community and local agency level

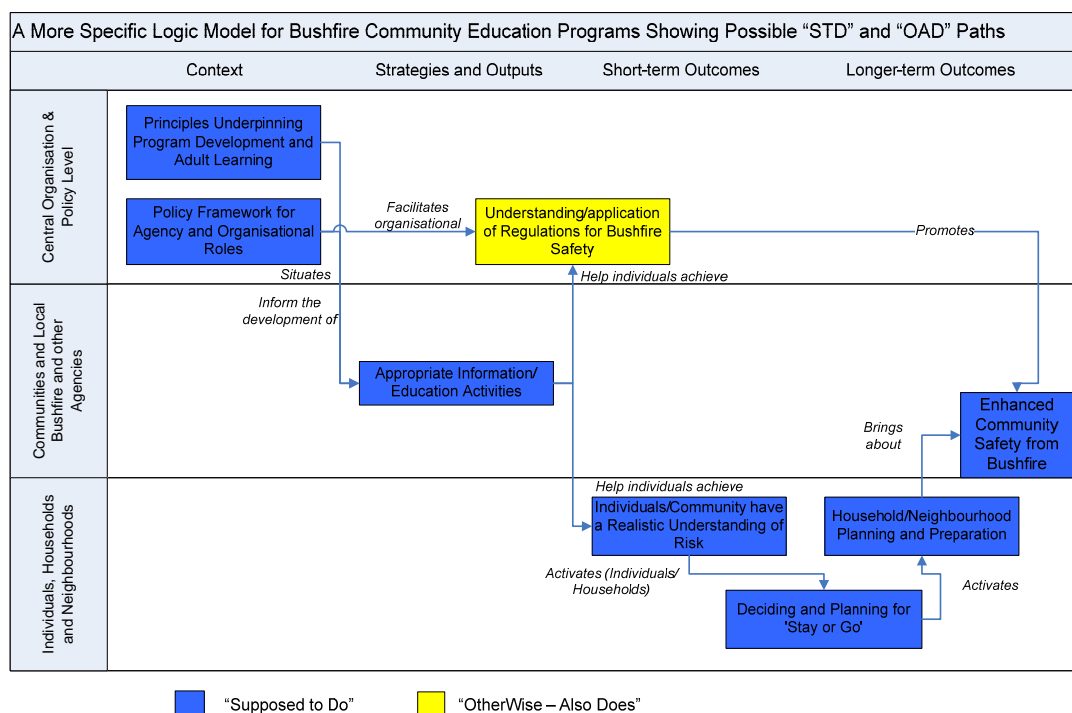
Concept name	Concept description
Neighbourhood and community networks and partnerships	Most people are in some way part of community networks. These networks will influence the capacity of communities to self-organise and to work effectively with fire agencies and other authorities. The networks will also influence community resilience and the sustainability of community safety efforts
Agency/inter-agency responsibilities and co-ordination	In this cluster two related yet distinct concepts were identified. The first relates to agency responsibilities for the community. The second relates to the intra-agency relationship between the operational branches of an agency and those concerned with community safety initiatives
Appropriate information/education activities	The provision of education to a range of groups using a number of different methods.
Community and agency responsibilities to address specific needs	Statements in this cluster are related to very specific local issues, offering practical solutions to the problems identified
Agency/community interaction	This section deals with the flow of information between agencies and the public before an incident occurs, with the aim of increasing resident awareness of the risks posed by a bushfire as well as encouraging preparation to mitigate those risks.

Effective communication of information during bushfire	Most statements in this cluster are concerned with the way in which fire agencies deliver information to community members during a bushfire. Another element expressed in the 'Individuals/community have a realistic understanding of risk' cluster is that to improve community safety from bushfire systems need to be implemented that enable community members to communicate information to fire agencies, making use of their own local knowledge.
Greater community ownership and responsibility for bushfire safety	The statements in this cluster are about community members taking increased responsibility for their own safety and planning for themselves and the communities they belong to.

Table 3: Individual households and neighbourhoods

Concept name	Concept description
Individuals/community have a realistic understanding of risk	The focus of the statements in this cluster is on the importance of community members' <b>understanding</b> the range of factors that influence risk.
Deciding and planning to 'stay or go'	Understanding the issues surrounding the 'stay or go' message as well as making decisions about what individuals or households will do when threatened by a bushfire, based on accurate information.
Household/neighbourhood planning and preparation	The formulation of a plan that outlines an appropriate response to a bushfire and preparation that enables the chosen plan to be implemented.

The fourteen generic community safety clusters that spread across the three levels of desired change provided the basis for the development of a general logic model for bushfire community safety programs. This in turn enabled the project team to develop more specific logic models for bushfire community education programs based on this. Figure 1 is an example of this.



**Figure 1: An example of a logic model for bushfire community education programs**

Figure 1 is an example of the way the generic model might work. It uses the language developed by Tilley (2004)<sup>2</sup> to distinguish the intended (STD – supposed to do) from the alternative, possibly unintended (OAD – otherwise/also does) causal chains activated. In this case there are two OAD pathways, one working through individuals and the other through organisations. It therefore demonstrates how policy can work and outcomes be achieved at various levels.

Another outcome of the concept mapping project was an average rating of participants’ ranking of the importance of the concepts for achieving safer households and neighbourhoods. The results particularly highlighted the perceived importance of greater community ownership and responsibility for bushfire safety. Thus, both groups emphasised the importance of a central idea of the community safety approach.

With an enhanced understanding of the community safety approach and what it set out to achieve the next important step was developing an understanding of what programs were currently in existence across Australia and how they worked to achieve these outcomes, if indeed they did.

#### Related documents

Elsworth, G., Anthony-Harvey-Beavis, K. and Rhodes, A. 2008. What should community safety initiatives for bushfires achieve? Pp. 139-150 in J. Handmer and K Haynes, eds. Melbourne: Community Bushfire Safety CSIRO.

<sup>2</sup> Tilley, N. 2004. Applying theory-driven evaluation to the British Crime Reduction Programme: the theories of the programme and of its evaluations. *Criminal Justice* 4, 3, 255-276.

## CLASSIFYING COMMUNITY SAFETY PROGRAMS FOR BUSHFIRE

The development of a database of existing community safety programs was the first step in creating a classification of program types. This was achieved through an extensive web search and contact with relevant personnel in fire agencies.<sup>3</sup> One of the initial challenges was setting the boundaries of what constituted a community safety program. It was decided that as the major focus of C7 was on community education, information would be collected that related to community education, awareness and engagement programs and activities (EAE initiatives) delivered by fire agencies. The inventory included about ninety distinct programs with details of program names, organisations involved, the general type of approach, a brief description of the resources involved and the aim of the program. An iterative approach was taken to the analysis and subsequent synthesis to develop a classification scheme. It was usefully organised along a continuum of top-down information dissemination approaches through to bottom-up community engagement strategies (see Table 4). Whilst the research team did find a considerable overlap between programs run by different agencies, there were also differences reflecting the variation in localities and the bushfire threat around Australia.

Table 4: Classification of bushfire EAE initiatives

Warnings and associated community education activities	Including Bureau of Meteorology fire weather warnings, total fire bans, radio and television, roadside signs and opt-in electronic warnings
Public information provision	Including media campaigns, publications, multimedia, information telephone lines and programs for children
Localised information provision	Including tailored publications, brigade activities, locally targeted telephone information and warnings
Localised community engagement/education activities and programs	Including hazard focussed community groups, community meetings and one-on-one consultations
Community consultation, collaboration and development approaches	Including integrated risk management planning and localised activities that utilise existing community strengths

<sup>3</sup> Development of the data base and subsequent classification of programs was also supported by a project grant from the National Community Safety Working Group.



## Related documents

Gilbert, J. 2007. Community education, awareness and engagement programs for bushfire: an initial assessment of practices across Australia. Bushfire CRC (unpublished).

## A THEORY-BASED APPROACH TO EVALUATION

In modelling the community safety approach to bushfire the research drew heavily on a program logic and theory-based approach to evaluation. This is an approach that argues that developing, testing and refining a logic model or more elaborate theory of how a program achieves its outcomes (as well as simply researching whether a program results in desired outcomes) is central to sound and useful evaluation. A particular version of the broad theory-based approach called realist evaluation was used. Realist evaluation places emphasis on the way in which program activities activate changes in the reasoning, choices and actions of individuals and families in particular settings through the provision of resources by programs and the capacities provided by communities and organisations. In Figure 1 an example of a program logic model derived from the results of the concept mapping exercise illustrates one of the applications of the approach. Program theory was implicit in all aspects of the project as part of the evaluation framework. The approach emphasises the importance of context and causal processes that help link the intended outcomes of a program to the program activities and the underlying assumptions about how a program works. It also draws attention to unintended outcomes that might come about as a result of an intervention. As detailed in Section 3 this has been particularly useful in the case studies of programs that C7 have undertaken, as well as in the review and subsequent synthesis of existing evaluation studies. It has also been a major component of the work outlined in Part B of this report.

Program logic/theory addresses questions such as:

- what problem is being addressed or what need is being met by the program?
- what is the program intended to achieve?
- how does the program work?
- where, when and for whom does the program work most effectively?
- how do we monitor the implementation and outcomes of the program?
- how do we know whether the program will work in different situations?

In other words, it addresses quite specifically the limitations that the research team saw in the existing knowledge of the effectiveness of bushfire community safety programs. As such it was seen as a way to provide a deeper understanding of what can be expected from a program and more reliable information for agencies to base their decisions on how best to allocate community safety resources for bushfire.

At a micro level the development of a program theory workshop was an important step in the evaluation of specific bushfire community safety programs. The research team modified Sue

Funnell's program logic matrix<sup>4</sup> to develop an evaluation tool for bushfire community safety programs. The matrix included a hierarchy of intended outcomes along with a series of other columns that help to explicate how the program resources and activities might lead to the intended outcomes. The workshop approach was trialled with a number of programs and found to be very helpful in two major ways: firstly, in understanding more about what can realistically be expected of a program and secondly, as a planning tool for future program development and program monitoring. The workshops are designed to be conducted with key stakeholders in the initiative who participate in a facilitated discussion to develop a comprehensive program theory matrix. A modified version was also developed to be utilised as an interview approach. Key components of the program examined in the matrix are listed in Table 5.

**Table 5: Key features of the modified program logic matrix**

Problem specification	Identify what problem the program is trying to address, the key themes or components of the problem and the specific relationships involved.
Intended program outcomes	Participants develop a hierarchy of intended outcomes for the program, starting with the ultimate outcome and working backwards to identify and logically order the outcomes for each stage of the program.
Activities and resources	In small groups, participants identify relevant program activities and resources that are mobilised to achieve particular outcomes.
Causal process	In small groups, possible mechanisms are identified by asking participants to consider how each activity or resource might affect people's thinking or actions.
Program context	The contexts in which the activities or resources are likely to lead to the intended outcomes are explored by asking participant to consider for whom, when and where the program works. Consideration is also given to the contexts in which the program is not leading to the intended outcomes and the possible explanation for this.

At a macro level program theory was also applied to the development of a program theory model for the community safety approach. This was intended to bring together many aspects of the modelling of the community safety approach to bushfire. It provides an overview of the causal relationships between community safety policy, the activities and programs designed to implement or support the policy and the potential short-term and long-term outcomes

<sup>4</sup> Funnell S. 2000. Developing and using a program theory matrix for program evaluation and performance monitoring. In Rogers, P., Hacsí, T., Petrosino A. and Huebner, T. eds *Program Theory in Evaluation: Challenges and Opportunities, New Directions for Evaluation*, pp. 87: 91-101. Oxford: Wiley.

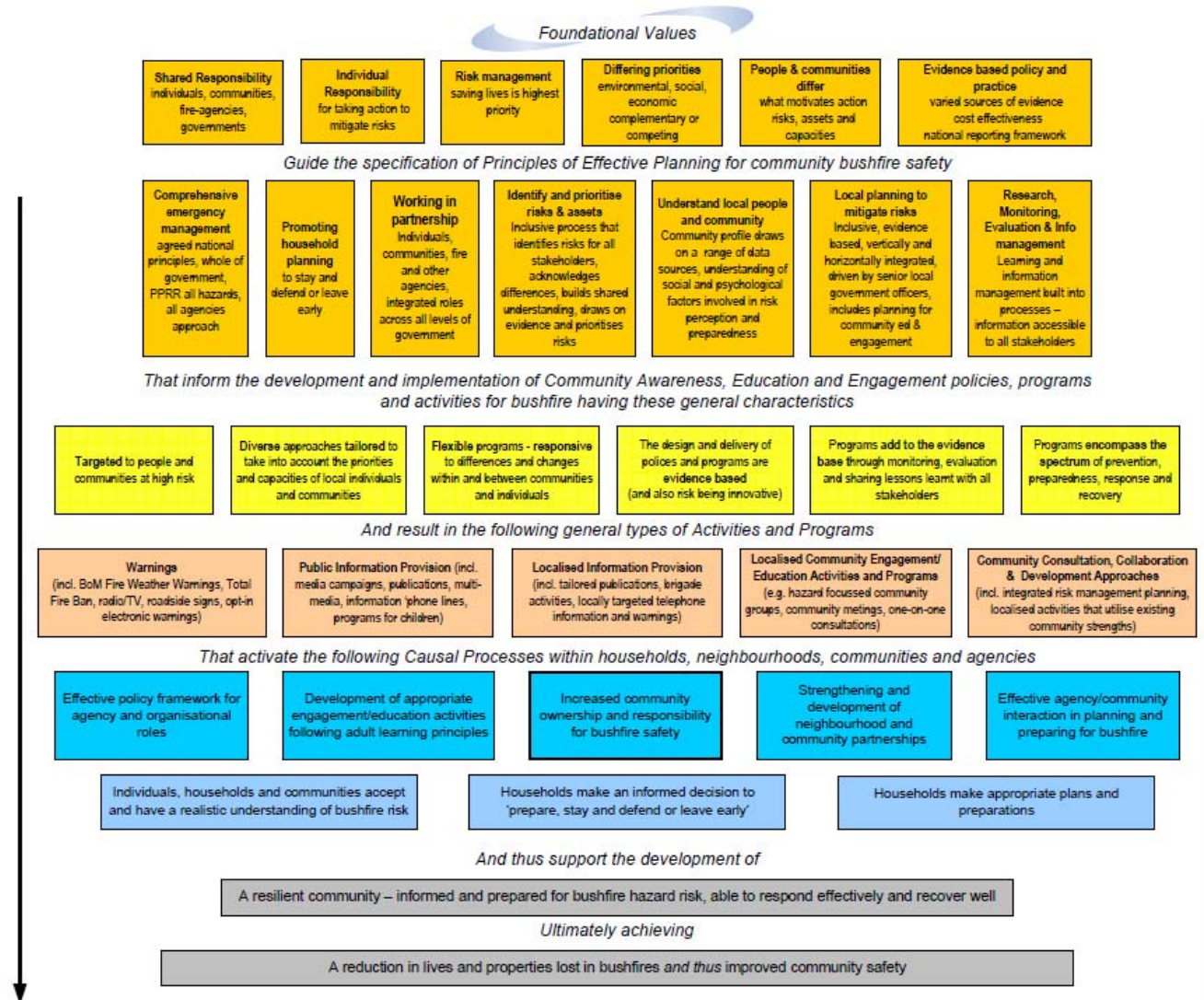


Figure 2: A program theory model for the community safety approach to bushfire

**Related documents**

Elsworth, G., Anthony-Harvey-Beavis, K. and Rhodes, A. 2008. What should community safety initiatives for bushfires achieve? Pp. 139-150 in J. Handmer and K Haynes, eds. Melbourne: Community Bushfire Safety CSIRO.

Elsworth, G., Stevens, K., Gilbert, J., Goodman, H., and Rhodes, A. 2008. Evaluating the community safety approach to bushfire in Australia: towards an assessment of what works and how. Paper delivered at the Biennial Conference of the European Evaluation Society in Lisbon 1 October.

Rhodes, A. and Gilbert, J. 2008. Using program theory in evaluating bushfire community safety programs. Pp. 129-137 in J. Handmer and K Haynes, eds. Melbourne: Community Bushfire Safety CSIRO.

# WHAT WORKS IN BUSHFIRE COMMUNITY SAFETY: HOW, FOR WHOM AND IN WHAT SETTINGS?

## KEY FINDINGS FROM BUSHFIRE EVALUATION STUDIES

Through the duration of the project the research team have undertaken a series of case studies in collaboration with a range of fire agencies around Australia. While the specific methodologies and scope of the evaluations have varied, all have a realist influence in terms of how the evaluation has been conducted and the results analysed. The case studies are listed in Table 6.

**Table 6: Summary of key findings**

Street FireWise, Blue Mountains Rural Fire Service, NSW: A localised community engagement/education program based around a street meeting format.	<p>The role played by a combination of geographical and socio-demographic characteristics of a neighbourhood (such as small townships with a pattern of side streets and parks) in facilitating the specific street meeting format and providing a clientele that is potentially receptive to the content of the meeting.</p> <p>Residents who attended the meetings increased their awareness and understanding of bushfire risk. These increases were mediated by processes such as building on existing resident knowledge, changing misconceptions, introducing new ideas, contextualising issues to the local situation, generating resident understanding of how they can contribute to mitigation and generating a clear understanding of the role of the local fire brigade.</p>
Bushfire Ready Action Groups (BRAG), FESA, WA: A localised ongoing community engagement/education program.	<p>Diverse contexts are important in determining the appropriateness and success of the program. Flexibility is important but requires skilled facilitators with the necessary resources and support. The facilitator is the major driver of BRAG in each location, which raises questions of succession planning.</p> <p>The level of group activity has diminished from the original model based on Community Fireguard. However, meetings in people's homes have proved a useful forum for the dissemination of information and resources in a locally relevant context. Individual preparedness outcomes are more likely to be achieved than community level outcomes (e.g., residents considering their own plans but not in consultation with neighbours). In an isolated number of cases groups have become extremely motivated and proactive at addressing the bushfire risk in their locality.</p>
Community educator role, Lower Eyre Peninsula, SA: community consultation, collaboration and development.	<p>The Community Education Officer was given support by the CFS to develop the program as she saw fit. Through her diligence, industriousness and enterprise the CE officer managed to implement a successful approach to community education in the Wangary region.</p>

	<p>Flexibility was essential to allow local initiatives to be pursued.</p> <p>Appointing the CE officer from within the local community was beneficial in terms of the local knowledge she brought and the existing links with the community. She was able to maximise community contributions to the CFS by supporting self organising groups, taking up offers from key community people to contribute, exploring ways to integrate operational volunteers in EAE initiatives and demonstrating the value of including a community voice in the formal structures of emergency management.</p>
Community programs around the Mt Bold area, South Australia: a multi-pronged intervention-impact on thinking and behaviour during an event.	<p>The evaluation showed that flexible approaches to preparedness were needed, with a multiplicity of media used to repeat key messages, making use of community infrastructure, examining and encouraging the role of the community as a whole while recognising the fluidity of its composition, needs and appropriate strategies. Fire preparedness needs to have a temporal dimension with different plans for when the fire is days, hours or minutes away.</p> <p>Increasing critical awareness is an incremental process, suggesting a need for both a dynamic and multilayered approach to community awareness and engagement. Such an approach would offer a diverse range of activities in the content and location of presentations.</p>
Prepare to Survive DVD, Tasmania Fire Service: an example of public information provision through a media campaign utilising multimedia format.	<p>It was difficult to disentangle the influence of the DVD on the attitudes towards bushfire from the impact of a bushfire event on people's views about this issue. Reported awareness of the extent to which people know that they are at risk of bushfire was high at the time of the survey but these high levels of awareness also appeared to have been present in the previous 12 months. Positive responsibility for bushfire safety was more apparent in the fire affected area and it appears likely that responsibility acts as an enabler of the suite of bushfire preparedness activities.</p> <p>When people think about the community and community-related preparation activities they are not necessarily considering how they personally could contribute, but seem to be thinking of providers of services to the community who are responsible for coordinating community efforts.</p> <p>Low levels of perceived self-reliance indicate that any thinking by people in the community about bushfire plans and preparation takes into account a belief that support will be available from bushfire agencies if or when required. Respondents appear to feel as though they could be self-reliant up until the point where they need professional outside assistance.</p>
'Special needs' study, Grampians, Victoria: planning for	Households with a member with special needs should be helped with a variety of ways to educate themselves and educative materials need to

people with special needs.

be modified to meet their needs, bearing in mind the impact their special needs may have on their ability to take up and act on such messages. Issues with socially isolated households need to be addressed, as do community expectations and what shared responsibility actually means. Local knowledge and informal networks need to be explored.

Most of the resources, expertise and power in relation to fire safety are located at the agency level. If communities are to accept greater responsibility for their own safety, agencies need to ensure that these communities have the opportunities to become informed and active participants in decision-making. Increased coordination is possible where agency services conduct an activity with similar goals to household preparedness for fire. A major barrier to agency coordination is that both agencies and communities lack an understanding of the roles and responsibilities of emergency services. There is a need to locate and develop opportunities for community members with special needs to participate in discussions about how a fire event may threaten them.

#### Related documents

Gilbert, J. 2005. An evaluation of the Street Firewise Community Education Program in the Blue Mountains, New South Wales. Bushfire CRC Project (unpublished).

Gilbert, J. and Marsh, G. 2009. Final report: BRAG (Bushfire Ready Action Groups) in Western Australia: three evaluative case studies. Country Fire Authority. Bushfire CRC(unpublished).

Goodman, H. 2009. The emerging role of the community educator. A case study on the Lower Eyre Peninsula. Internal report to Country Fire Service Community Education Unit (unpublished).

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## A REALIST SYNTHESIS

Building on the program theory approach, the research team carried out a synthesis of a number of publicly available evaluations of bushfire community safety programs. The realist synthesis followed a series of principles derived from the viewpoint that programs designed to bring about social change are, themselves, theories that actively engage with individuals (families and households) and involve long and complex causal chains. Evaluation reports on the seven programs were searched for information on

- the context of the initiative
- outcomes and impacts at the level of the individual and household



- outcomes and impacts at the level of the community, local (implementing) organisation and policy institution
- causal processes at the individual and household level - both enabling and constraining
- causal processes at the community and/or agency levels - enabling and constraining
- any evidence that these causal processes may have operated successfully in some contexts rather than others, or constrained successful implementation in some context rather than others.

The programs reviewed covered the spectrum of program types, from warnings and public information provision through to community engagement and development approaches. Summaries of the findings were produced for each of the programs that formed brief case studies. They yielded extensive information that enabled the development of an overall program theory model (see Figure 3). This model highlights the richness and diversity of contexts that range across geographical and community characteristics through to the range of agencies involved in programs and the relationship between these agencies and the community. The model also highlights the key causal processes: engagement, trust and self-confidence, confirmation and reassessment, and community involvement and collaboration. These causal processes interact to generate a wide range of outcomes for planning, preparation and safe response.

#### Context

Diverse contexts are important in determining the appropriateness and success of specific community education, awareness and engagement (EAE) initiatives for bushfire. These include

- locality (urban fringe, rural township, rural)
- livelihood/lifestyle (e.g., commuter, small landholder, farmer)
- community (existing ties, local organisations, local advocates, diversity - culturally and linguistically diverse communities, disabled, older residents)
- the nature of past and present events (recency, duration, phase (mitigation, preparedness, response, recovery))
- prior level of engagement/interest in issue (resistant, motivated, active)
- inter-organisational relationships during planning/implementation (e.g., partnerships between response agency, land management agency, local government)
- intra-organisational relationships (e.g., response/community engagement officers)
- agency/community relationships (e.g., with local brigade or community fire unit)

#### Engagement

Individuals, households and families in bushfire prone localities in Australia are not necessarily strongly engaged with the risks of a bushfire and suitable safety responses. Programs actively engage their interest and motivation to enable participants, individually and collectively, to think through and discuss issues, plan and make appropriate choices. Strategies that encourage engagement include well-presented visual materials, firsthand accounts, well-organised authoritative presenters, personal contact and localising the content to the participants' context.



#### Trust and self-confidence



A consistent message from fire agencies is that they may not be able to defend every property during an event. Programs generate trust in agencies to give credible advice, listen to and respect local knowledge, make sound decisions that respect local concerns and do their best in challenging circumstances. Residents also develop confidence and trust in their own capacity to plan, prepare and defend their property and, where appropriate, assist their community.

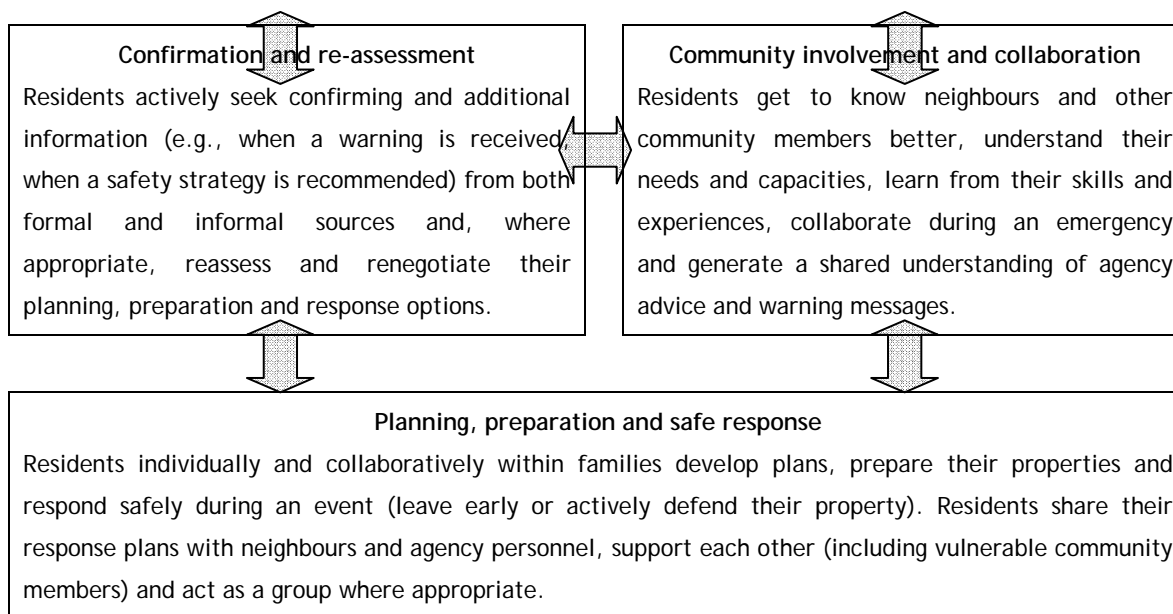


Figure 3: Program theory model of community education, awareness and engagement (EAE) initiatives

#### Related documents

Elsworth, G., Stevens, K., Gilbert, J., Goodman, H., and Rhodes, A. 2008. Evaluating the community safety approach to bushfire in Australia: towards an assessment of what works and how. Paper delivered at the Biennial Conference of the European Evaluation Society in Lisbon 1 October.

## CONCLUSION

Contrary to the sceptical view that community education, awareness and engagement programs do not work, this project found that they have the potential to achieve positive outcomes at both the individual (resident, household, family) and community levels, provided they are planned, well implemented and resourced appropriately.

Three particular challenges in implementing the community safety approach are, however, apparent. Firstly, context is of critical importance in successful program implementation. A specific aspect of context that has only recently been consciously addressed is community diversity, which means that community safety programs cannot use a 'one size fits all' approach. But the increasing trend towards technology-based communication solutions suggests that the diversity of the Australian community is still an important challenge for Australian emergency management agencies.

Secondly, from an agency perspective, it is important that a consistent and coherent message of planning and preparation for bushfire is disseminated to householders and communities and, where community members are engaged in response activities, that a shared understanding of necessary command and control structures is generated and accepted.

Thirdly, single stand-alone activities are unlikely to achieve all the desired results. A careful selection and integration of a small suite of activities that are, for example, focussed sequentially on generating engagement, trust and self-confidence, confirmation and reassessment, and community involvement and collaboration may be more successful.

### Related documents

Elsworth, G., Stevens, K., Gilbert, J., Goodman, H., and Rhodes, A. 2008. Evaluating the community safety approach to bushfire in Australia: towards an assessment of what works and how. Paper delivered at the Biennial Conference of the European Evaluation Society in Lisbon 1 October.

Elsworth, G., Gilbert, J., Rhodes, A. and Goodman, H. 2009. Community safety programs for Bushfire: what do they achieve and how - conference presentation. *Australian Journal of Emergency Management*, 24, 2, 17-25.

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- Stevens, K. 2007. Improving the bushfire safety of communities through community awareness, education and engagement: a review of policy directions in six recent Australian reports.
- Whiteley, S. 2009. Community safety interventions and bushfire preparedness: findings from research on the Tasmania Fire Service 'Bushfire – prepare to survive' DVD.

## PART B: EVALUATING BUSHFIRE COMMUNITY EDUCATION PROGRAMS: PROFESSIONAL DEVELOPMENT RESOURCES

### INTRODUCTION

The inquiries into the major bushfire events of recent years have addressed a common set of themes relating to improved community safety. Increasingly, they have focused on the importance of community education and preparation. The shift in thinking from response to preparedness has been named the 'community safety approach'. A central component is active engagement with, and empowerment of, the community to investigate its own risks and develop its own solutions, supported by policies and professional expertise from relevant organisations and agencies. The notion of community self-reliance is often used to sum up these ideas.

Some of the initiatives that have been undertaken in order to promote community self-reliance include

- a wide range of communication products and media-based campaigns intended to raise awareness and provide advice;
- community education programs to build skills in householder and community self-reliance;
- community development approaches that capitalise on and enhance existing community strengths and provide learning opportunities for hard-to-reach and other vulnerable groups and
- state-wide and local multi-agency planning initiatives that involve community consultation and collaboration.

Many of these activities and programs are designed to influence the sense of responsibility and the choices that are made at the household and community levels in response to the risk of bushfire. A particular challenge is to uncover strategies for planning and delivering community safety programs that work – and to gather the evidence of these through rigorous evaluation to ensure continuous program improvement.

### OVERVIEW

The research on community safety programs reported in Part A sought to address this challenge. These findings have been disseminated in a wide range of journals and book chapters and as presentations in seminars and conferences, both in Australia and overseas. The analysis of major bushfire enquiries and of case studies of Australian community safety programs of various types resulted in the range of conclusions reported in the section of Part A titled 'What works in bushfire community safety: how, for whom and in what settings?' A significant outcomes of this research was a recognition that community safety programs can be very effective if they are planned and conducted in ways that not only include the most relevant messages and approaches to community safety but also the most relevant and effective strategies for community-based learning and capacity development. Project C7 research reported in Part A in the section titled 'A program theory approach to evaluation' contains advice on how successful community safety programs may best be planned and evaluated. This advice was developed through several workshops in which fire agency staff and others engaged in activities designed to develop expertise in the use of the program theory approach. Table 5 summarised the key elements of these workshops. The results of these workshops are presented in Part B of this report.

## PROFESSIONAL DEVELOPMENT MATERIALS

Part B provides the professional development resources needed for organisations to build the capacities of their staff to plan effective community safety programs and to evaluate them for continuous quality improvement. Three sets of resources are provided for this goal:

1. *A Workshop Facilitator's Guide* to an executive-training style short course that introduces basic concepts and skills in using logical models and program theory in order to plan and evaluate a community safety initiative.
2. *Post-graduate Course Materials* for a semester-long module that includes the introductory concepts and skills in the short course as well as advanced analytical studies in the program theory approach.
3. *An Evaluation Handbook* of resources to support the *Workshop Facilitator's Guide* and the *Post-graduate Course Materials*.

These resources are presented on the Part B CD-Rom and contain all the materials workshop facilitators or university lecturers need to review, develop and deliver a short course or a post-graduate semester module on planning and evaluating community safety programs.

## OUTCOMES

These materials have been prepared to build the capacity of those involved in community safety programs to

- understand the key findings from case studies of major bushfire events in recent years
- apply the program logic model to plan a hierarchy of clear and explicit objectives for community education programs
- develop strategies for using program logic and program theory in the planning and evaluation of community education programs
- provide training in their own organisation on these concepts and skills.

## 1. WORKSHOP FACILITATOR'S GUIDE

This Guide contains the materials needed to support a one-day workshop. It contains detailed instructions for facilitators, as well as all the PowerPoint slides, background readings and handouts needed.

The workshop involves eight thematic sections, each of which lasts for 45–90 minutes, and comprises a mix of mini-lectures, small and large group discussions, and practical activities. The eight sections are:

1. Introduction and overview
2. Clarifying key concepts
3. Program Logic and Program Theory
4. Developing a Logic Model 1: Youth and Community Safety
5. Developing a Logic Model 2: 'Firestop'
6. Logic models in evaluation
7. Issues and implications
8. Workshop review

However, not all sections have to be done in a workshop, nor does a facilitator need to use all the materials and ideas in any one section. The materials should be used flexibly. Thus, workshop facilitators and agencies are encouraged to select just those sections that suit the training needs of their organisations and to arrange and sequence these in the order that best satisfies these needs.

## 2. POST-GRADUATE COURSE MATERIALS

This semester-long module has been prepared to facilitate the introduction of community safety themes and skills into university post-graduate qualifications, for example, as a module or subject in a graduate certificate, graduate diploma or masters degree. These could be in fields directly related to emergency management or in more general fields such as community services and development, public policy, planning or environmental management.

With the same broad outcomes as the executive training style workshop, but at an advanced analytical level, this module includes:

- *A Generic Module Outline* that universities may adapt for accreditation purposes for inclusion as a semester module in the relevant postgraduate degree programs that they conduct
- *A Facilitator's Guide* that lecturers may adapt and utilise, as appropriate, to assist in their teaching of the module.
- *A Student Study Guide* that universities may adapt and provide to students to facilitate their study of the materials in the module

A key point to note is that all the materials are generic and that universities are encouraged to adapt all aspects to suit local degree program requirements and the needs and interests of their students.

## 3. EVALUATION HANDBOOK

This is the course reader for the post-graduate course and contains the following readings:

Key definitions	<p>1.1 United Nations International Strategy for Disaster Reduction (2009) <i>Terminology of Disaster Risk Reduction</i>. [On-line at URL <a href="http://www.unisdr.org/eng/library/lib-terminology-eng%20home.htm">http://www.unisdr.org/eng/library/lib-terminology-eng%20home.htm</a>]</p> <p>1.2 Emergency Management Australia (1998) <i>Australian Emergency Management Glossary</i>, Australian Emergency Manuals Series, No. 3. [On-line at URL <a href="http://www.ema.gov.au/www/emaweb/rwpattach.nsf/VAP/(3273BD3F76A7A5DEDAE36942A54D7D90)-Manual03-AEMGlossary.PDF/\$file/Manual03-AEMGlossary.PDF">www.ema.gov.au/www/emaweb/rwpattach.nsf/VAP/(3273BD3F76A7A5DEDAE36942A54D7D90)-Manual03-AEMGlossary.PDF/\$file/Manual03-AEMGlossary.PDF</a>]</p>
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Theories of Risk Management and Community Safety	<p>2.1 Lupton, D. (1999) <i>Risk</i>. Routledge, London, pp. 1-17.</p> <p>2.2 Gabriel, P. (2003) The development of municipal emergency management planning in Victoria, Australia, <i>The Australian Journal of Emergency Management</i>, Vol. 18 No 2, pp. 74-80.</p> <p>2.3 Gilbert, J. (2007) <i>Community Education, Awareness and Engagement Programs for Bushfire: An Initial Assessment of Practices across Australia</i>, Bushfire CRC technical report No C0701.</p> <p>2.4 Buckle, P., Marsh, G., &amp; Smale, S. (2000) New approaches to assessing vulnerability and resilience, <i>The Australian Journal of Emergency Management</i>, Winter, pp. 8-14.</p>
Program logic and theory	<p>3.1 Rhodes, A., &amp; Gilbert, J. (2008). Using program theory in evaluating bushfire community safety programs. Pp. 129-138 in J. W. Handmer &amp; K. Haynes (eds), (2008) <i>Community Bushfire Safety</i>. Collingwood, Vic: CSIRO Publishing.</p> <p>3.2 W.H. Kellogg Foundation (2004) <i>Logic Model Development Guide: Using Logic Models to Bring Together Planning, Evaluation, and Action</i>. Chs 1-2. [On-line at URL <a href="http://www.wkkf.org/Pubs/Tools/Evaluation/Pub3669.pdf">http://www.wkkf.org/Pubs/Tools/Evaluation/Pub3669.pdf</a>]</p>
Program logic in practice	<p>3.2 W.H. Kellogg Foundation (2004) <i>Logic Model Development Guide: Using Logic Models to Bring Together Planning, Evaluation, and Action</i>. Chs 3. [On-line at URL <a href="http://www.wkkf.org/Pubs/Tools/Evaluation/Pub3669.pdf">http://www.wkkf.org/Pubs/Tools/Evaluation/Pub3669.pdf</a>]</p> <p>4.1 Elsworth. G, Anthony-Harvey-Beavis,K, and Rhodes, A (2006) Conceptualising the Outcomes of Community Safety Programs for Natural Hazards in Australia. Paper presented at the European Evaluation Society - UK Evaluation Society Joint International Conference, London, October.</p>
Evaluation techniques	<p>3.2 W.H. Kellogg Foundation (2004) <i>Logic Model Development Guide: Using Logic Models to Bring Together Planning, Evaluation, and Action</i>. Ch 4. [On-line at URL <a href="http://www.wkkf.org/Pubs/Tools/Evaluation/Pub3669.pdf">http://www.wkkf.org/Pubs/Tools/Evaluation/Pub3669.pdf</a>]</p> <p>5.1 World Bank (2004) <i>Monitoring and Evaluation: Some Tools, Methods and Approaches</i>, World Bank, Washington DC.</p> <p>5.2 Benson C, and Twigg J (2004) <i>Evaluating Disaster Risk Reduction Initiatives Guidance Note 13</i>, ProventionConsortium, Geneva.</p>
Analysis of National Reviews	<p>6.1 Elsworth, G., Stevens, K., Gilbert, J., Goodman, H., &amp; Rhodes, A. (2008) Evaluating the community safety approach to bushfire in Australia: Towards an assessment of what works and how. Paper delivered at the Biennial Conference of the European Evaluation Society, Lisbon, October.</p>



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## LIST OF SUPPORTING COURSE MATERIAL (REPRODUCED ON CD-ROM 2)

1. An Introduction
2. A *Workshop Facilitator's Guide* to an executive-training style short course that introduces basic concepts and skills in using logical models and program theory in order to plan and evaluate a community safety initiative. This includes Handouts and a Powerpoint Slideshow.
3. *Post-graduate Course Materials* for a semester-long module that covers the introductory concepts and skills in the workshop as well as advanced analytical studies in the program theory approach. This includes Handouts and a Powerpoint Slideshow for each lecture in the course
4. An *Evaluation Handbook* of resources to support the *Workshop Facilitator's Guide* and the *Post-graduate Course Materials*.