

Opinion: ready or not? Can community education increase householder preparedness for bushfire?

Alan Rhodes argues that we need to incorporate research findings on community capacity into our education and preparedness programs.

ABSTRACT

The Black Saturday bushfires and the subsequent Victorian Bushfires Royal Commission identified many issues in relation to people's capacity to prepare for and respond to bushfires. Much of the advice to communities has changed, placing increased emphasis on the importance of education of the community. However, an evaluation of recent education programs has identified that little has changed in people's capacity to deal with the bushfire risk, and raised critical questions about the current approach. The paper argues that unless the lessons of research are incorporated into our approach it will be difficult to achieve the changes that are needed.

Introduction

The 7 February 2009 bushfires and the subsequent Victorian Bushfires Royal Commission (VBRC 2010) raised many questions about existing policies and practices in relation to the safety of the community from bushfire. Many changes have occurred since in the advice to people about how to deal with the bushfire risk. These are reflected in the new Bushfire Safety Policy Framework (Fire Services Commissioner, 2010).

Both the VBRC reports and the new policy framework continue to emphasise the role of community education in promoting understanding and appropriate action by the community at risk from bushfire. The new policy framework notes that engaging the community is a key strategy to increase people's understanding and that such engagement is critical to ensure people can make informed and appropriate choices.

Despite widespread agreement on the importance of community education and the Commission recommendation for the need to evaluate community

education, there is little assessment of the effectiveness of current approaches in achieving the goals of understanding of the risk, preparation and adoption of appropriate protective actions.

A recent evaluation was undertaken (CFA 2010) as a preliminary review of both the general approach and several of the key initiatives implemented following the Black Saturday fires. The findings challenge many of the assumptions that underpin the current approach and question whether many of the current programs can actually achieve their intended outcomes.

Influencing behaviour

As a policy instrument, education relies on persuasion to influence people's decisions in dealing with the risk. There are many theories and models of behaviour change across various fields that identify predictors or factors that influence people's behaviour. Few of these theories have been developed to address people's response to natural hazards or more specifically, bushfire. Different theoretical perspectives and research approaches result in considerable divergence in such models both in the factors included in the models and their relative influence. Researchers in natural hazards including fire, have similarly identified multiple factors – individual, social and situational – in different configurations further complicating the picture for those seeking to understand how to influence people's response to the bushfire risk (Martin, Bender and Raish, 2007; Rohrmann, 2000; Duval and Mulilis, 1999; Weinstein et al, 1998, Lindell and Perry, 1992;).

Paton (Paton, 2003; Paton, Smith and Johnston, 2005; Paton, Bürgelt and Prior, 2008) has developed a tested social cognitive model of disaster preparedness that has the advantage of being developed in relation to several different natural hazards and has been modelled with data in the context of people's response to bushfires in Australia. A key strength of Paton's model is that it identifies factors that are precursors or motivating factors such as critical awareness and anxiety that predispose people to act or not. As in many similar models in other fields, Paton also identifies the

critical role of intention formation and in particular the importance of outcome expectancy and self efficacy in this respect. Finally the model crucially recognises the importance of both individual (e.g. perceived responsibility), social (sense of community, trust) and situational (timing) factors that link the formation of intention with the adoption of new behaviours. Even this brief summary highlights the variety and complexity of the factors involved and their interaction.

Paton et al (2005) also observed the existence of different processes that lead to preparedness for some people, whilst others follow a different reasoning path resulting in not preparing. This highlights what is also evident from reviewing the various models; that behaviour change is a *process* involving active decision making by individuals influenced by both personal and external factors triggering psychological processes that result in them making choices about how they will use their personal and social resources. People will follow different decision making pathways and their journey will be shaped by the interaction between their personal characteristics and the context of their particular social setting and the broader society. Such a perspective has great significance for how we understand the nature and role of community education programs (Paton and Wright, 2008) and how we go about evaluation of such programs (Pawson and Tilley, 1997)

The nature of community education and engagement activity

Mileti, Nathe, Gori, Greene and Lemersal (2004) have identified characteristics and techniques of effective public hazard education based on a review of research and practice in the natural hazards field. The review also highlights that effective education creates 'uncertainty in the minds of people'. Risk communication needs to challenge people's thinking about the risk and their relation to it so that they re-evaluate their existing beliefs, attitudes and choices. Rohrmann (2000) also notes that the impact of risk communication is determined by a complex process of appraisal by individuals influenced by a wide array of personal and social factors. To be effective it has to facilitate people's evaluation of the risk communication content such that they not only comprehend it but integrate it into their existing perspective and accept it as valid and worthwhile. To translate it into action involves further processes of recalling it accurately and then having the capacity to implement it while overcoming any external barriers.

Elsworth, Gilbert, Rhodes and Goodman (2009) discussed community safety programs for bushfire that were analysed as part of an extensive review of community education, awareness and engagement programs for natural hazards (Elsworth, Gilbert, Stevens, Robinson and Rowe, 2010). The authors identified that current practices could be described along a continuum from 'top down' information dissemination approaches to 'bottom up' community engagement and development strategies. By synthesising a broad range of initiatives they developed

a program theory model of such activities identifying typical outcomes, the key role of contextual factors and causal processes including engagement, to enable people to think through and discuss issues, form intentions, and make choices. The model also highlights that action also depends on more collaborative and collective processes to produce shared understanding. Both individual and collective processes are underpinned by generating credibility and respect in the relationship between authorities and the community that builds trust and confidence in people's own capacity, that is empowerment.

While the content and information communicated in programs is important, it is evident that for programs to be effective in influencing behaviour they must lead to the re-assessment of a person's existing perspective by using varied strategies that target particular factors influencing decisions. This perspective suggests that receiving information is not the primary mechanism in influencing behaviour change.

The notion that information dissemination can lead to change reflects a belief that people's choices are always rational and based on objective information or 'facts', often defined and provided by experts and authorities. However the role of biases and heuristics in people's decision making about risk is well known (Kahneman Slovic and Tversky 1982). Such influences on decision making frequently lead to choices based on subjective judgement, feelings and emotion. Slovic, Finnuccane, Peters & MacGregor, (2004) discuss dual process theories of thinking noting that while conscious appraisal of events leading to logical and evidenced decisions is important in some situations, an experiential mode of thought reliant on affect, experience and emotion is easier and more likely in dealing with complex and uncertain circumstances. The authors suggest that to be effective risk communication must account for 'risk as feeling'.

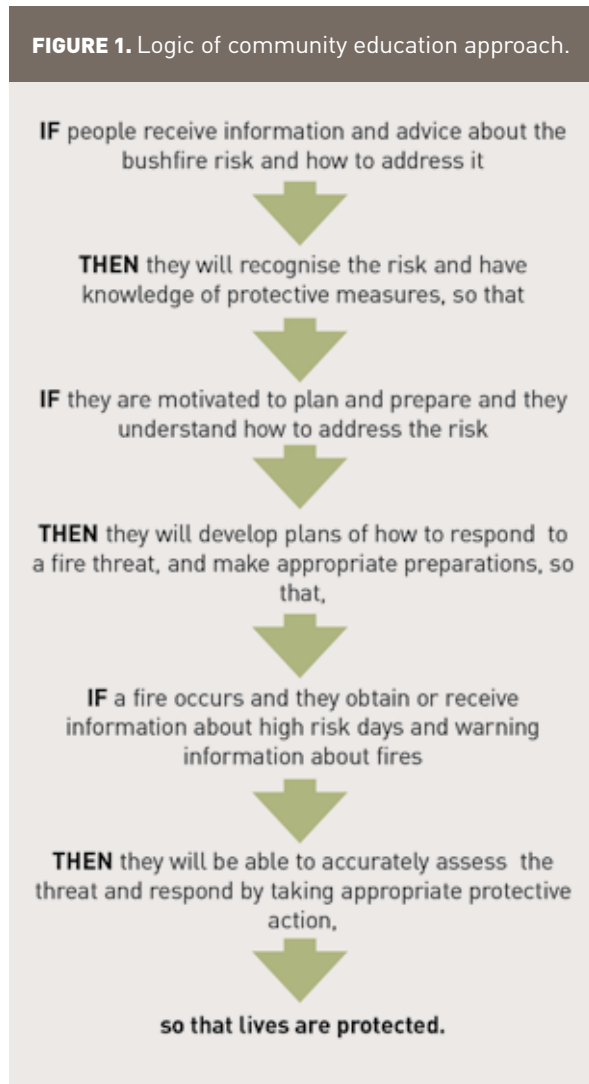
Evaluation of the approach to community education

Following the Interim Report of the VBRC the Victorian government and agencies implemented a major program of initiatives to address the recommendations, including a number of community education programs. The evaluation study (CFA, 2010) focussed on the overarching approach to community education and several key initiatives intended to increase community understanding and action.

The study used a 'theory based approach' to articulate the implicit logic or 'theory' and assumptions which guide the approach and underpin the initiatives (Chen, 1990). The evaluation sought to test the implicit logic of the approach and assess the extent to which particular initiatives contributed to enhancing community householder preparedness (Pawson and Tilley 1997). The study employed a mixed methods approach using analysis of program documentation, several surveys of households in high fire risk areas, surveys of participants and users of particular initiatives,

community discussion groups, and interviews with program managers and practitioners.

The implicit logic of the approach is shown in figure 1 as a series of 'if...then' statements, typical of theory based, logic approaches to evaluation (Rhodes & Gilbert, 2008)



The initiatives were intended to address different parts of this logic by raising awareness of the risk, providing information on how to prepare, assisting people develop survival plans, informing people about changes to warnings and shelter options, and advising on protective action during a fire. The full program logic depicted a more complex model of the approach than is shown in figure 1, which included a detailed hierarchy of outcomes and a range of general and program specific assumptions. Several of the key assumptions inherent in the logic of the approach relate to the key role of information as a trigger to action, the role of awareness in motivating action and people's ability to understand and interpret information reliably.

Key findings of the evaluation

The evaluation identified that people report high levels of awareness of the bushfire risk and that a significant majority of people feel both well informed and prepared, and indicate they have considered how they will respond if a fire occurs. However the study also identified that this awareness does not translate to realistic understanding of the risk or how to respond, and that self assessments of preparation do not necessarily match people's levels of preparation and planning.

Although the study was conducted in high risk locations, most people described the risk as moderate. Further, despite a belief by many people that they have a plan, more detailed investigation and analysis revealed that only 24% actually had a plan that could be considered even moderately comprehensive. Further, the level of preparation action varied greatly with most people reporting they had undertaken only a number of relatively 'easy to do' actions. Far fewer reported taking more significant measures such as covering gaps to prevent embers getting in, and even fewer had taken specific measures that would enable them to protect their property or themselves during a fire.

In terms of intended protective action, only 12% indicated they intended to either stay and defend their property while another 11% intend to leave early on high risk days. Nearly half (45%) intend to leave as soon as they are aware of fire that could threaten the area where they live and about one third intend to wait to see what happens during a fire but leave if threatened by the fire.

Although people indicated they were aware of the risk, were well informed and prepared, and had plans, the study revealed that in fact large proportions underestimated the risk and had only modest levels of preparation and planning, and in terms of intended action, the majority intended to rely on their judgements about the impending threat.

Nevertheless, the study revealed that a large majority (92%) of people received bushfire safety information in the previous 6 months. Nearly three quarters who received information indicated they read all or most of it. Nearly a third of surveyed households had attended a local bushfire meeting. Just over half indicated they felt they did not require any more information on bushfire safety. Further the evaluations of particular initiatives suggested that they were well received and seen as beneficial. Publications and meetings were assessed positively as were the on line tool to assess defensible space and the one-on-one property assessments. The majority of participants in these programs indicated they increased their understanding of the risk and how to deal with it.

On the positive side there were quite high levels of awareness and knowledge of new messages and initiatives such as the priority on leaving early, the importance of having a plan, Code Red fire danger ratings, and shelter options, even though all

these changes were only recently introduced and communicated over a common short time frame.

However most importantly, it should also be noted that despite high levels of awareness of the risk and the widespread access to, and approval of information, most people did not engage any further than receiving and reading in part, the information provided. Even amongst those who received information and participated in programs there was limited evidence that they made changes to their planning or preparation as a result.

Implications

Information is important and the study identifies that various programs were very successful in reaching a wide audience, were well received and achieved significant levels of understanding of new messages in a short period of time. These achievements ought not to be underestimated.

The study does however challenge several of the key assumptions that underpin the common approach to community education with its reliance on information dissemination as the primary means of triggering change in attitudes and behaviour. Awareness and recognition that they are at risk does not necessarily motivate people to take action. Nor does having access to information about the risk or how to deal with it automatically lead them to implement measures to prepare, or to plan for the event of a fire. Nor do people necessarily interpret information or use it as intended by authorities.

These limitations were particularly evident in relation to the Code Red fire danger ratings. Although a large proportion had heard of the term Code Red and knew the advice was to leave early on such days, when two such days were declared in January only a tiny minority complied with the advice. Awareness of the risk, knowledge of key messages and information about what to do did not translate to compliance with the advice. Rather, as revealed in the discussion groups, people's intentions and their actions reflected their appraisal of the risk and their circumstances, and the warnings were interpreted and applied differently by people in making their decisions. Not only was the Code Red information interpreted and used differently, other factors such as whether there was actually a fire, their circumstances or the person's perception of their preparation, were more important in determining their response.

Rather than a trigger for action to prepare or respond appropriately to a threat, information from authorities is commonly treated as another input to people's judgements about the risk and their circumstances. People are not 'empty vessels' with no existing understanding of their circumstances or priorities, passively waiting the input of information from expert authorities. While such information is important at times in increasing knowledge and understanding, it does not necessarily trigger changes in attitudes or

behaviour. Rather people choose whether to receive and pay attention to such information, they choose how much of it to accept and how to interpret it, and they choose how to apply it. They do so as active processors of information and ideas from various sources of which authorities are but one. People make choices about how to act, guided by their values, beliefs, priorities, experiences and capacities and influenced by those around them in their household, neighbourhoods and the wider community context.

Further, people do not progress, step by step, guided by expert information from awareness, to understanding, to having a plan, then preparing, so that finally they can respond if a fire occurs. Rather they live in their particular circumstances with an existing orientation to the risk that reflects the relationship between themselves and the risk, and how they understand it and intend to respond to it. This orientation is influenced by many factors – individual, social and situational, and guides their decision making with all its bias and use of fallible heuristics in interpreting information, assessing the risk and deciding what to do.

Enhancing the approach to education and engagement

It is contended that the logic of the approach considered in this study is typical of much, but certainly not all, of the community education activity in relation to bushfire and other natural hazards. A number of such activities were reviewed by Elsworth et al., 2010 and depicted in the 'top down versus bottom up' model as predominately 'top down' approaches focussed on achieving fidelity of implementation of centrally designed and managed programs. Inherent in this approach is a reliance on core information and messages to be delivered through media campaigns, publications or other programs.

There are limits to what community education can achieve in terms of community preparedness, given that ultimately people choose whether they will engage, accept and adopt the information and advice. However, to the extent community education reflects only the 'top down' approach, it is a narrow conceptualisation of activities that can influence people's behaviour in relation to a risk. Such an approach is characterised by a didactic style reliant on dissemination of information generated by experts and authorities. Whilst appropriate for achieving some objectives, as previous research and this study highlight, it is unlikely to bring about the desired change in attitudes and behaviour.

A broader notion such as Education and Engagement Activities is required that not only involves communication of information where necessary, but also includes processes that actively engage people in *reassessing their existing orientation to the risk*. The approach needs to acknowledge 'risk as feeling' by accounting for experiential modes of thinking, while sensitively challenging people's beliefs and choices that

underpin their existing orientation to the risk. It needs to use multiple strategies that lead them to question and re-assess their response to the risk by addressing the factors influencing people's decisions and actions. Finally, it should incorporate notions of empowerment to enhance individual and collective capacity to act through 'bottom up' community driven initiatives supported by authorities if required. While examples of such education and engagement activities already exist, the challenge is to enhance and extend them and move beyond the dominance of narrow notions of information dissemination. If we want the community to share responsibility for dealing with the risk, then we should not judge their willingness to do so, or the efficacy of our efforts, based on an approach that insufficiently accounts for the findings of research and the needs of the people we wish to engage.

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