# Improving the bushfire safety of communities through community awareness, education and engagement: a review of policy directions in six recent Australian reports

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# Executive Summary

## 1 Introduction

Over the last 20 years approaches to managing bushfires have developed from focussing primarily on preventative land management and responsive fire suppression to a broader approach that includes community prevention and preparedness.

In 1995 Petris reviewed state and federal reports on major bushfires in Australia that occurred between 1939 and 1994. The review informed the development of a National Bushfire Preparedness Strategy (Petris and Potter 1995) and identified changes to how the hazards of bushfires were understood. The vulnerability of people, rather than the intensity of the fire hazard or disaster, was identified as defining the magnitude of the disaster.

The increased focus on preparedness as compared to fire suppression evident in the Strategy was informed by a growing body of evidence about how to minimise the dangers of bushfires to life and property. The resulting National Bushfire Awareness Strategy embraced three main areas: fire control capability, management of the natural and built environment and community preparedness. Since then a variety of strategies and programs with the aim of increasing the level of community preparedness for bushfires have emerged.

The intention of this report is to document how the principles and policy directions underpinning current approaches to community safety have been developed or refined since the Petris review. This paper reviews six recent reports to identify evolving policy directions in the area of community awareness, education and engagement. This review will inform the work of program C7 of the Bushfire Cooperative Research Centre that is concerned with the evaluation of programs to improve community safety through increased awareness, education and engagement of community members.

### Scope

The reports included in the review are:

- *Natural Disasters in Australia: Reforming mitigation, relief and recovery arrangements* – a 2004 report to COAG that included bushfires as one of several types of natural disasters
- *Fire Prevention and Preparedness 2003* - an audit undertaken by the Auditor General of Victoria
- *A Nation Charred: Report on the inquiry into bushfires* - an Australian Government House of Representatives inquiry following the 2002-2003 bushfires
- *Inquiry into the Operational Response to the January 2003 Bushfires in the ACT* - commissioned by the Australian Capital Territory Government
- *Report of the Inquiry into the 2002-2003 Victorian Bushfires* – commissioned by the Victorian Government

- *National Inquiry on Bushfire Mitigation and Management* – a 2005 report to COAG following the 2002-2003 bushfires

For the purposes of this paper 'policy directions' are conceptualised as expressions about beliefs, convictions, intentions, or the promotion of best practice. The evolution of approaches to community awareness, education and engagement has been identified by referring to discussions in the body of the reports as well as to the specific findings and recommendations of the six reports.

This paper does not assess the extent to which the policy directions are reflected in current practice, nor the extent to which specific recommendations have been adopted and implemented by governments, fire agencies and other organisations. It is recognised that during implementation recommendations made in the reports may have been further developed. Government responses to recommendations made in the reports have not been systematically investigated, nor does this paper attend to how other stakeholders have responded to the recommendations.

In line with the focus on community education, awareness and engagement, findings and recommendations concerned with the following matters have generally been excluded:

- Operational matters (except informing communities and utilising local knowledge during fires)
- Interagency cooperation and coordination (unless concerned with interactions with communities)
- Fuel management (unless related to community awareness and understanding)
- Building codes and local government land use planning and building approvals
- Funding arrangements including incentives between levels of Government.

## Methodology

The methodology for identifying values and principles was iterative and unfolded during the review process. Initially the recommendations from the reports were the focus of the analysis; the recommendations from each report were reviewed to identify those that related to community education, engagement and awareness and the consolidated list of relevant recommendations was then grouped into themes. The limitations of this approach soon became obvious; recommendations often didn't reflect the depth and substance of discussions nor the range of findings presented in the reports, and if current practices were not found to be problematic no recommendations for improvement were made.

The reports were re-analysed to expand and build on the themes identified in the initial analysis of the recommendations. The re-examination of the reports started with the sections that focussed on community education and engagement programs and was expanded to include factors in the context of national policy and planning that influenced community safety as well as relevant operational and recovery issues. At this stage the relevant concepts

were also sorted into whether they related to planning and activities that occurred before, during or after a fire.

The final step in the review was to identify the values and principles informing the development of policies to improve community safety. The principles were grouped into foundational principles - commonly accepted values shaping current approaches, and operational principles - those derived from the foundational principles that guide policy development and planning of community fire safety programs.

## Structure of the report

The first section introduces the review and details the scope, purpose and methods used to undertake the review. Section two provides an overview of the reports included in the review.

Section three discusses the policy context that influences the conceptualisation of approaches to improve community safety. The policy context articulates many of the values and principles informing policy and program development; national frameworks, risk management and planning, and research and ongoing learning to inform evidence based policy and program development.

Section four outlines the range of approaches to community awareness, education and engagement programs, discusses the monitoring and evaluation of programs and activities and the need for policy development in specific areas.

Section five discusses community awareness and engagement during a fire threat and the importance of effective communication with threatened communities as well as the value of local information provided by community members to fire agencies during a fire.

Section six covers community involvement during recovery from major fires summarising lessons learnt in Victoria, where fires affected a number of communities over a relatively long period and in the ACT where the fire event was of a shorter duration but had devastating consequences. There are a set of agreed national principles that inform approaches to supporting communities during recovery from a major fire.

Section seven discusses the values and principles identified as underpinning policy and program development in the area of community awareness, education and engagement.

Section eight considers implications of the evolving policy context for the evaluation of programs and activities that aim to increase community education, engagement and awareness of how to live safely with bushfires in Australia.

Concluding comments are made in section nine.

# 2 Overview of the six reports

The reports varied in terms of their purpose, geographic area covered, scope, methods used and the range of informants. One report was concerned with all natural disasters and had a national focus, one was an audit of prevention and preparedness measures in Victoria, and four were post fire reviews that focussed on different geographic areas; the ACT, Victoria and two with a national focus.

The timing of the completion and release of the reports has influenced the extent to which the reports have been able to draw on the findings of earlier inquiries. The last report to be published, the National Inquiry on Bushfire Mitigation and Management prepared for COAG, drew on all of the other reports and the recommendations made in the report have been accepted in principle by all Australian Governments. The report to COAG on reforming mitigation, relief and recovery arrangements for natural disasters was not available to inform any of the other reports with the exception of the COAG bushfires report.

# 3 Policy Context

The policy context influencing thinking about community awareness, education and engagement activities and programs are discussed under three headings:

- National frameworks,
- Risk management planning
- Research and continuous learning

## National frameworks

The national frameworks outlined in the COAG natural disasters and bushfire reports clearly articulate the view that reducing the impact of bushfires is a responsibility that needs to be shared between individuals, communities, fire agencies and governments. This view is also expressed by the other reports included in the review. The rationale for sharing responsibility is that individuals and communities can take action to reduce the impact of major fires and that fire agencies will never have the capacity needed to protect all property.

The national framework proposed in the COAG natural disasters report (and endorsed by the COAG bushfire report) outlines the roles and responsibilities of individuals and all levels of government. The COAG bushfire report also proposes a shift to a ‘5R’ framework: Research, information and analysis; Risk modification; Readiness; Response and Recovery. National principles and national indicators of good practice were advocated to provide a basis for a national reporting and review framework for state and territory governments.

## Risk management and planning

As bushfires are inevitable, the shared aim is to mitigate risks through applying risk management approaches. The need for risk based planning processes that recognise local differences and the need for integrated planning were accepted in the reports.

Risk management planning needs to be informed by a clear understanding of the relative importance of potential risks (the likelihood of the risk occurring and the impact if it did occur) and the effectiveness of different strategies (or treatments) that could potentially be adopted to reduce bushfire risks. Improved community awareness, education and engagement were recognised as essential elements of strategies to reduce the impact of bushfires.

Saving lives is clearly articulated as the highest priority however the ranking of other, sometimes competing, priorities is less clear cut. Differences between individuals, communities, natural, built and economic environments result in different priorities in different localities. As these factors change (perhaps as a result of demographic or land use changes) priorities also change. Therefore local planning processes that involve a range of stakeholders and include the community are advocated.

Local bushfire planning processes also need to be strategically integrated both horizontally and vertically; linking with local community networks, agencies and governments as well as with state-wide or national organisations and priorities. The Victorian audit of prevention and preparedness measures recommended that municipal planning inform the targeting of community awareness, education and engagement programs to high risk individuals and communities.

> *Given the crucial role of community preparedness in preventing loss of life and property, it is important that meaningful targets based on needs assessment and local risk profiling are established and met by each region*
>
> (Victorian Auditor General p 74)

## Research and continuous learning

A commitment to research and ongoing learning through monitoring, evaluation and non-blaming reviews of major incidents is clear in the reports. Information gathered from these types of activities enables the development of an increasingly sophisticated understanding of competing priorities and the effectiveness of strategies to mitigate potential risks.

Building knowledge about bushfire mitigation entails making improvements to current information systems in the areas of:

- comprehensive, consistent and collaborative reporting of activities, expenditure and outcomes,
- data collection, storage and analysis and
- evaluation and post incident reviews
- sharing of information between all stakeholders.

It is argued that by developing structures and processes that enable higher quality information to be shared between states and territories, fire agencies and communities that the current bushfire cycle that includes blame and complacency can be eliminated.

# 4 Community awareness, education and engagement programs

All of the reports share the view that individuals and communities can mitigate bushfire risks and have a responsibility to take action to reduce risks. Post fire inquiries and research into community safety have demonstrated the need to improve community perception of bushfire risks, and understanding of the steps that can be taken to reduce risks.

A variety of approaches to community awareness, education and engagement have been identified or proposed in the reports; national and state or territory based public education campaigns, school based programs and a range of community level programs.

The effectiveness of different approaches to improving community safety is not well understood in terms of outcomes achieved and the targeting of the programs to people living in high bushfire risk areas as well as those not aware of their level of risk. The mechanisms linking education and engagement programs to the desired outcome of safer communities also needs further research.

There is agreement that improved monitoring and evaluation of community awareness, education and engagement programs as well as further social and psychological research, including surveys of households to measure levels of fire awareness and preparedness is needed.

Better information is needed to help programs to target those who most need them and to find out which approaches or combinations of approaches are most successful, in which contexts with which types of individuals and communities.

Research that has been undertaken has identified the need to clarify and refine the ‘stay and defend or leave early’ message and policies regarding fire refuges. The need to develop clear and consistent terminology for use in community awareness, education and engagement programs was also acknowledged.

# 5 Warning, informing and being informed by communities during a fire

Accurate, consistent and timely information about fire threats and relevant operational matters such as resources available to assist residents can save lives and properties. The consequences of inadequate communication with the public were the subject of many of the submissions to the McLeod Inquiry following fires in the ACT.

Responsibility for implementing effective systems for warning and informing community members is accepted as a crucial role of incident management teams. Proposals for improving warnings and information provided during a fire included: integrating and formalising the role of community liaison staff within incident management teams, publicising the role of ABC radio in emergencies, developing better relationships with the media and improved media management; improving the accessibility of information for people who have hearing impairments or

do not speak English well; using local knowledge and key landscape reference points; and developing alternative methods of providing information to remote communities who may not be reached by television or radio.

Sharing responsibility and working in partnership requires a two way flow of information between fire agencies and communities. Risks associated with incident management teams not utilising local knowledge during a fire and the need for prior planning of systems to support the effective use of information from local sources were discussed.

# 6 Community involvement in recovering from a major bushfire

Lessons learnt about involving communities in the planning and implementation of recovery measures in the ACT where a community development approach was utilised, and in Victoria where many communities had been affected over an extended period are discussed. National approaches to recovery proposed in the COAG natural disasters and bushfire reports are outlined, including a set of agreed principles to guide bushfire recovery practices. The need for communities to be engaged in planning and prioritising recovery process was a common theme in the reports.

The value of supporting individuals and families using a case management approach as well as the need to attend to communities as a whole in order to increase community resilience are acknowledged and integrated whole of government approaches are advocated:

# 7 Values and principles underpinning approaches to community awareness, education and engagement

The review has identified a number of principles that underpin the development of policies to improve community safety. These principles have been grouped into ‘foundational’ and ‘operational’ principles. Foundational principles are commonly accepted values that underpin current approaches to community safety in Australia. Operational principles, derived from the foundational principles, guide the development of effective policy development and planning of community fire safety interventions.

Foundational principles related to community safety identified in the review of recent reports are that:

- bushfire safety is a **shared responsibility**
- **Individuals are responsible** for taking action to mitigate their bushfire risks

- **people and communities differ** in terms of their risks, assets, and capacities
- **priorities differ** between individuals and communities, they may be competing or interrelated and include environmental, social and economic factors
- increasing community safety requires a **risk management** approach
- bushfire policy and practice should be **evidence based**

The operational principles that therefore inform policy development and planning for community fire safety interventions are:

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

The links between foundational principles and operational principles are not direct, one to one linear relationships. The derived principles have been informed by two or more foundational principles. In some cases foundational principles inform not only what should be done, but the process for doing. For example, applying the principles of shared responsibility, evidence based policy and planning, and differences between people and communities informs how risk management planning is implemented. Identifying and prioritising risks becomes an inclusive process that involves a range of stakeholders, draws on available evidence and takes into account the fact that priorities differ between and within communities.

# 8 Evaluating community safety programs and activities: implications and issues

The issues discussed in the reports and the values and principles identified as underpinning policy and program development have implications for the evaluation of activities and programs that aim to improve community safety.

A framework for evaluating the impact of community safety programs will need to go beyond monitoring activities (such as the number of education sessions provided, the number of people attending and the content provided) and short term impacts (such as feedback from participants on the value of the information provided).

While this type of information is important, characteristics of approaches taken to educating and/or engaging residents (for example, strengths based, applying adult learning principles and/or community development based) as well as the short and longer term outcomes (improved understanding of risks and taking appropriate action) will need to be

considered to increase knowledge of what supports improved risk mitigation.

It is also important to further develop knowledge about what types of programs are effective for what types of communities and individuals and the factors (such as timing, approach, content, group size, gender) that make a difference. This will involve understanding more about the community context and the characteristics of people who are participating as well as those who aren't being reached by current programs and the barriers to their participation.

Potential unintended outcomes, whether positive or negative, of community education and engagement should be considered. Community development approaches to recovery that aim to build stronger and more resilient communities suggest opportunities for further research into the social impacts of community fire safety activities. Many rural communities are undergoing sometimes rapid economic and/or demographic changes, and there may be potential for increasing both social capital and fire awareness and preparedness. Evaluations could consider how social capital might be developed or utilised and how to prevent, monitor and respond to possible unintended outcomes, such as the lack of involvement or isolation of an individual or group with differing perspectives or values.

Evaluating the application of principles and values will involve developing methods for assessing factors such as the capacity of agencies, communities and other stakeholders to work in partnership, the effectiveness of local planning and the extent to which programs and activities are informed by, and add to the evidence base.

The task of developing useful national performance indicators that take account of differences and the need for flexibility and responsiveness and consider both short and longer term outcomes presents challenges for the monitoring and evaluation of community safety programs and activities.

Developing processes to measure the comparative costs and benefits of community education and engagement programs, and other activities that increase the involvement of communities in planning and responding to fires presents new challenges. Methods for measuring cost benefits would need to take into account qualitative measures difficult to quantify or convert to a dollar value. It would also be important to take into account the full range of stakeholders who could incur costs as well as reap benefits.

# 9 Conclusion

The discussion of the roles and responsibilities of individuals, communities, governments, fire agencies and other emergency and community service agencies in mitigating the impact of bushfires has evolved in the 20 years since the Petris review. Individuals and communities are viewed as essential partners in reducing the impact of major bushfires.

A variety of approaches are utilised by community education and engagement programs to increase the capacity of individuals and communities to reduce risks. Effective communication with communities during a fire is viewed as essential, and the value of local knowledge for informing responses during a fire is recognised. Effective community involvement during recovery planning, and a focus on the recovery of communities as a whole have developed.

The value of processes for communities to influence decisions during planning, responding and recovery from fires is acknowledged in the reports. Recommendations promoting local level risk assessments and mitigation planning recognise the importance of differences between individuals and communities.

In line with an increased emphasis on evidence based policy development the continued development of polices regarding community education, engagement and awareness will be informed by the perceived cost effectiveness of these approaches.

The reports reviewed in this paper, because prepared shortly after major fires have not assessed the longer term impact of a community development based approach to recovery, in terms of community resilience or ongoing levels of fire awareness and preparedness. Nor have the papers explored the link between preventative community development based approaches that aim to increase bushfire risk awareness and preparedness and the building of more resilient communities.

An evaluation approach that takes into account the values and principles underpinning the development of community safety policies, programs and related activities, considers the relationships between activities, contextual factors and the outcomes achieved (whether intended and unintended) will add to our understanding of how to decrease the risks posed by major bushfires.

# 1 Introduction

Over the last 20 years approaches to managing bushfires have developed from focussing primarily on preventative land management and responsive fire suppression to a broader approach that includes community prevention and preparedness.

Petris (1995) reviewed state and federal reports on major bushfires in Australia that occurred between 1939 and 1994. Changes were identified in how the hazards of bushfires are conceptualised - rather than the intensity of the fire defining the level of hazard or disaster, the vulnerability of people defines the magnitude of the disaster.

The influence of the findings of research following the Ash Wednesday fires in 1983 that improved understanding of how to reduce vulnerability in the event of a fire was discussed by Petris. Three studies that contributed to understanding the nature of vulnerability were identified:

1. CSIRO research that 'dramatically improved' knowledge of factors that increase the likelihood of homes surviving a bushfire[1]
2. A study by Wilson and Ferguson that examined whether it was safer to stay with a home or to leave[2], and
3. A study into the circumstances surrounding civilian deaths[3].

Petris concluded that:

> *The most appropriate mix of strategies for any particular community or region will vary enormously. Therefore, to develop the most effective and efficient capability for reducing the threat of bushfire, fire management agencies will need to: (a) understand the factors that contribute to the vulnerability of any particular community or region, and (b) the extent to which various fire management agency strategies are able to reduce this vulnerability.*
>
> *Traditionally, the options for reducing the bushfire threat have been confined by the notion that hazard is influenced only by features of the natural environment. Broadening our understanding of hazard to include* ***all*** *factors that make a particular community or region vulnerable to bushfire, including those less tangible factors such as the extent to which a community understands the bushfire threat and the resulting survival strategies developed by that community will dramatically increase the options of fire management agencies.*
>
> (p 28)

The intention of this report is to develop an understanding of how the principles and policy directions underpinning approaches to community

[1] Ramsey GC, McArthur NA, & Dowling VP (1986) Building survival in bushfires: paper presented at Fire Science '86: The Fourth Biennial Conference. Institution of Fire Engineers, Western Australian Branch, Perth.

[2] Wilson AAG & Ferguson IS (1984) Fight or Flee: A case study of the Mount Macedon bushfire. Australian Forestry. 47(4):230-6

[3] Krusel N & Petris S (1992) Staying alive: Lessons learnt from a study of civilian deaths in the 1983 Ash Wednesday Bushfires. Fire management Quarterly (2):1-17.

safety have been developed or refined since the Petris review by reviewing six recent reports. An understanding of policy directions arising from the reports will provide background for other work being undertaken by Program C7 of the Bushfire Cooperative Research Centre concerned with the evaluation of programs to improve community safety through increased awareness, education and engagement of community members.

For the purposes of this paper 'policy directions' are conceptualised as expressions about beliefs, convictions, intentions, or the promotion of best practice. The evolution of approaches to community awareness, education and engagement have been identified by referring to discussions in the reports as well as to the specific findings and recommendations of the six reports included in this review.

The reports included in this review are:

- **Natural Disasters in Australia: Reforming mitigation, relief and recovery arrangements**. A report to COAG by a high level officials' group 2004, Department of Transport and Regional Services. Commonwealth of Australia. Referred to as the **COAG natural disasters** report
- **Fire Prevention and Preparedness** 2003, Auditor General of Victoria. Referred to as the **Victorian Auditor General's** report
- **A Nation Charred: Report on the inquiry into bushfires**. Nairn , Parliament of the Commonwealth of Australia, 2003. Referred to as the **Nairn** report
- **Inquiry into the Operational Response to the January 2003 Bushfires in the ACT**. McLeod, R., 2003. ACT Government. Referred to as the **McLeod** report
- **Report of the Inquiry into the 2002-2003 Victorian Bushfires**. Esplin 2003, Victorian State Government. Referred to as the **Esplin** report
- **National Inquiry on Bushfire Mitigation and Management.** Ellis S., Kanowski P. & Whelan R. 2005, Council of Australian Governments. Referred to as the **COAG bushfire** report

This paper does not set out to assess the extent to which the policy directions are reflected in current practice, nor the extent to which specific recommendations have been adopted and implemented by governments, fire agencies and other organisations. It is recognised that during implementation recommendations made in the reports may have been further developed.

Government responses to the recommendations of the reviews have not been systematically investigated and this paper does not attend to the analysis of the reports by other stakeholders. While the implications of the findings of recent coronial inquiries for community awareness, education and engagement programs will need to be investigated the recently published coronial inquiry into the deaths during the ACT fires and the impending coronial inquiry in South Australia following the fires on the Eyre Peninsula in 2005 have been outside the scope of this review.

As this report sets out to identify policy implications for approaches to community safety with a focus on community education, awareness and engagement, findings and recommendations concerned with the following matters have generally been excluded:

- Operational matters
- Interagency cooperation and coordination (unless concerned with interactions with communities)
- Fuel management (unless related to community awareness and understanding)
- Building codes and local government land use planning and building approvals
- Funding arrangements including incentives between levels of Government.

While three of the reports have a national focus there is more information provided about policies and practices in Victoria and the ACT than the other states and territories

# 2 An overview of the six reports

The reports vary in terms of their purpose, geographic area covered, scope, methods used and the range of informants. The following table summarises these differences.

**Table 1 Summary description of the inquires**

| | COAG natural disasters report | Nairn | Vic Auditor General | Esplin | McLeod | COAG bushfire report |
|---|---|---|---|---|---|---|
| Date completed | August 2002 | 2003 | 2003 | 2003 | 2003 | April 2004 |
| Date Released | 2004 | 2003 | 2003 | 2003 | 2003 | January 2005 |
| Jurisdiction | National | National | Victoria | Victoria | ACT | National |
| Scope | Natural Disasters mitigation, relief and recovery | Bushfire prevention, mitigation and suppression | Bushfire prevention and preparedness | Bushfire preparedness, responses and recovery | Bushfire preparedness, responses and recovery | Bushfire research, risk modification, readiness, responses and recovery |
| Precipitating factors | Report on the economic costs of natural disasters in Australia (2001) International Decade for Natural Disaster Reduction (1990-1999) | 2003 fires | Addressing the strategic theme of 'sustainability of natural resources and the environment' | 2003 fires | 2003 fires | 2003 fires |

| | | | | | | |
|---|---|---|---|---|---|---|
| Purpose / focus | To review Australia's approach to disaster relief, recovery and mitigation | Identifying how to minimise the incidence and impact of bushfires | Performance audit of bushfire prevention and preparedness | Identify how to improve prevention, preparedness and responses to bushfires | Identify how to improve operational responses to bushfires | Identify how to improve national cooperation in the management of bushfires |
| Methodology | Prepared by Senior Officials of Commonwealth, State, Territory and Australian Local Government Association.<br>Met with specialists<br>24 submissions from stakeholders<br>Consultation with departments and agencies | Submissions invited (507 written)<br>55 exhibits or correspondence<br>Inspection of affected areas<br>12 public hearings.<br>State and territory=y departments and agencies did NOT contribute to this inquiry | Conducted household level research into community awareness and preparedness<br>Audited planning and delivery | Submissions invited (273 written)<br>Consultations (400 people as individuals or groups)<br>Inspection of affected areas | Submissions invited (130 written & verbal) | Advice from researchers & experts, jurisdictional representatives, departments, & agencies<br>Analysis of other reports<br>Contributions from State, Territory and Australian Govt departments<br>Submissions received from 13 government agencies and 83 non government agencies or individuals. |

## Cross referencing between inquires.

The timing of the publication of the reports has allowed some of the inquiries to draw on the findings of earlier reports while others have been undertaken without reference to the other reports included in this review.

Although completed in August 2002 the COAG natural disasters report was published in 2004 after COAG gave in-principle approval to the recommendations of the report in December 2003. There are therefore no references to any of the other inquires in the COAG natural disasters report and this report was not available to inform any of the other inquires with the exception of the 2004 COAG bushfires report.

The McLeod inquiry into the ACT fires and the Victorian Auditor General's Performance Audit did not draw on any of the other reports included in this analysis.

The Esplin inquiry reviewed the analysis and recommendations of the Victorian Auditor General's Report and also referred to the findings of the McLeod inquiry however there are no references to the Nairn, the COAG natural disasters or COAG bushfire reports.

The Nairn Report doesn't refer to an examination of other reports in the description of the methodology; however reference was made to the conclusions of the McLeod and Esplin inquiries and it was noted that they were consistent with the bulk of the evidence received by the Nairn inquiry. Some of the submissions to the Esplin and McLeod inquires were also submitted to the Nairn inquiry.

The methodology of the 2004 COAG bushfire report specifically included a review of other relevant reports. All of the other reports reviewed in this paper (as well as other significant reports) informed the COAG bushfire inquiry. The terms of reference for the COAG bushfire inquiry were issued in September 2003, prior to the publication of the Nairn report. The COAG bushfire report was completed in April 2004 and was publicly released in January 2005.

## Description of each report

The following section provides a snapshot of each report briefly describing the context, terms of reference, methodologies and a summary of the overall findings of each report. Findings that relate more specifically to policy directions for improving community safety are discussed in detail in later sections.

# COAG - Natural Disasters in Australia: Reforming mitigation, relief and recovery arrangements.

## Context

The commissioning of the COAG natural disasters review was preceded by the International Decade for Natural Disaster Reduction (1990 to 1999). A mid-term review of accomplishments occurred at a world conference held in Yokohama in 1994 that resulted in the adoption of the 'Yokahama Strategy' with principles covering: risk assessment; disaster prevention and preparedness; prevention, reduction and mitigation of disasters; early warning systems; participation of all levels of government; application of design and patterns of development; sharing necessary technology; environmental protection and the primary responsibility of each country for protecting people, infrastructure and other national assets from the impact of natural disasters.

In 2001 report the Bureau of Transport Economics reported on the high economic costs of natural disasters in Australia. The process of developing that report highlighted inadequacies in the data available to estimate the costs of natural disasters, significant disasters such as Cyclone Tracey and the Ash Wednesday bushfires had not previously been costed.

In June 2001 COAG commissioned a review of the nation's arrangements for dealing with natural disasters. A premise underlying the review was that "…any arrangements should facilitate maximum involvement of state, territory and local government in contributing to disaster relief and mitigation and continued Commonwealth cost-sharing arrangements". (p iii)

A High Level Group (HLG) of senior officials representing the Commonwealth and State and Territory Governments and a representative of the Australian Local Government Association (ALGA) undertook the review.

## Terms of reference

The terms of reference for the review were to:

- Identify the objectives of current disaster relief arrangements at all levels of government.
- Review the effectiveness, appropriateness and scope of disaster mitigation arrangements and programs with a focus on the role local government can play and responsibilities for disaster mitigation policy with Commonwealth, State and Territory governments.
- Review arrangements for providing disaster relief, assessing their appropriateness and effectiveness in meeting national objectives and the appropriateness of the allocation of roles and responsibilities amongst stakeholders.

- Review policy making processes at each level of government in relation to disaster relief, mitigation, contingency planning, emergency management and processes for governments to initially respond to a disaster.
- Develop options for improving existing arrangements where appropriate

## Methodology

The HLG received 24 submissions from a range of stakeholders that included the Commonwealth, State and Territory governments, the ALGA, academics and researchers, government agencies, community groups and industry organisations. Each member of the HLG also consulted with government departments, agencies and other stakeholders within their jurisdiction and reported on submissions received by each jurisdiction.

## Summary of findings

The strengths and weaknesses of current arrangements for responding to natural disasters were identified. The report made 66 recommendations to improve disaster mitigation and to reform often ad hoc and piecemeal relief and recovery arrangements.

A national framework for natural disaster management was proposed and a five year reform package that detailed roles and responsibilities for each level of government was outlined. The rationale and aims of reforming natural disaster relief and recovery arrangements were outlined in the executive summary of the report:

> *The High Level Group found that Australia's natural disaster relief measures providing immediate and urgent assistance to individuals and families, and rebuilding damaged infrastructure, is sound and effective. However, the current arrangements do not deal as well in helping communities as a whole recover from the effects of severe disasters.*
>
> *In the past, governments have set up one-off or ad hoc relief and recovery schemes, recognising the severity, potential consequences, and long-term effects of severe disasters and the need to assist communities in a holistic way with their recovery - social, economic, physical and emotional.*
>
> *The approach to disaster relief and recovery proposed by the High Level Group aims to:*
>
> - *build community resilience by constraining and, over time, reducing damage and costs to the community and all levels of government though cost-effective mitigation recognising of course that major unforeseeable disaster events will continue to occur*
> - *reduce the incidence of ad hoc and disparate relief measures by introducing a more disciplined, holistic and systematic needs-based approach to relief and recovery assistance to communities*

- *introduce new flexibility to enable damaged public infrastructure to be rebuilt to a more resilient standard where that is feasible and cost-effective*
- *ensure equitable assistance and support to individuals and communities affected by comparable natural disasters across Australia*
- *better integrate the relief and recovery arrangements of all levels of government, and*
- *address the special needs of remote Indigenous communities.*

(p viii)

### Comment

Completed in August 2002, the review resulted in 66 recommendations that were accepted in principle by COAG in December 2003. COAG agreed that the Australian Police Minister's Council would have overall responsibility for implementation of the recommendations with the support of the Australian Emergency Management Committee. The Local Government Committee and Planning Minister's Council were identified as playing a major role in implementing recommendations relating to land-use planning reforms to address natural hazards. The report was published in 2004.

## Nairn - A Nation Charred: Report on the inquiry into bushfires.

### Context

A House of Representatives Select Committee chaired by Mr Gary Nairn MP undertook this inquiry after the 2002/3 bushfires in the ACT, New South Wales, Victoria, Tasmania and Western Australia. The report was published in October 2003.

The decision to establish the inquiry was not negotiated with fire affected states and territories and it was noted in the introduction of the report that departments and agencies responsible for land management, fire prevention and fire suppression did not make submissions to the inquiry. The inquiry's conclusions and recommendations were described as "…*reflect very much the views of those people with the generations of experience and knowledge of managing our land*."

## Terms of reference

The inquiry was established to identify measures that can be implemented by governments, industry and the community to minimise the incidence of, and impact of bushfires on, life, property and the environment. The terms of reference identified ten matters that the Committee were to specifically address:

> *(a) the extent and impact of the bushfires on the environment, private and public assets and local communities;*
>
> *(b) the causes of and risk factors contributing to the impact and severity of the bushfires, including land management practices and policies in national parks, state forests, other Crown land and private property;*
>
> *(c) the adequacy and economic and environmental impact of hazard reduction and other strategies for bushfire prevention, suppression and control;*
>
> *(d) appropriate land management policies and practices to mitigate the damage caused by bushfires to the environment, property, community facilities and infrastructure and the potential environmental impact of such policies and practices;*
>
> *(e) any alternative or developmental bushfire mitigation and prevention approaches, and the appropriate direction of research into bushfire mitigation;*
>
> *(f) the appropriateness of existing planning and building codes, particularly with respect to urban design and land use planning, in protecting life and property from bushfires;*
>
> *(g) the adequacy of current response arrangements for firefighting;*
>
> *(h) the adequacy of deployment of firefighting resources, including an examination of the efficiency and effectiveness of resource sharing between agencies and jurisdictions;*
>
> *(i) liability, insurance coverage and related matters; and*
>
> *(j) the roles and contributions of volunteers, including current management practices and future trends, taking into account changing social and economic factors.*
>
> (p xiv, xv )

## Methodology

The terms of reference for the inquiry were publicly advertised and submissions invited. The Committee received 507 written submissions and an additional 55 exhibits or other correspondence. The committee toured fire affected areas in New South Wales, the Australian Capital Territory, Victoria, Western Australia and Tasmania and 12 public hearings were conducted (4 in NSW, 4 in the ACT, 5 in Vic, 2 in WA, and 1 in Tas).

An independent consultancy was also commissioned to provide advice to the Committee on fire ecology and bushfire suppression, planning and management. EcoGIS provided a report titled “Ecosystem

management in the Alpine and Montane Regions of Victoria and SE NSW".

The terms of reference for this report included:

- Reviewing the evidence that the Committee received on the effectiveness and impact of prescribed hazard reduction
- Providing advice on the extent to which more extensive prescribed burning programs could be undertaken and the effect of expanding current programs
- Providing an assessment of the Australian Interagency Incident Management System and alternative approaches to the command and control of suppression activities.

The committee also commissioned an independent consultant to provide advice in relation to communication matters raised in evidence to the committee. The 'Report on Communication Issues' prepared by Brian Parry and Associates provided advice primarily in relation to rural fire brigade communication and interagency communications.

## Summary of findings

In the introduction to the report the Committee summarised themes consistently raised in evidence:

- There has been grossly inadequate hazard reduction burning on public lands for far too long;
- Local knowledge and experience is being ignored by an increasingly top heavy bureaucracy;
- When accessing the source of fires, volunteers are fed up with having their lives put at risk by fire trails that are blocked and left without maintenance;
- There is a reluctance by state agencies to aggressively attack bushfires when they first start, thus enabling the fires to build in intensity and making them harder to control; and
- Better communications between and within relevant agencies is long overdue.

The report made 54 recommendations grouped under the themes of:

- Land management factors contributing to the severity of recent bushfires
- Fuel Reduction and fire management
- The approach to the 2003 fires – delays and cautions
- Management and coordination of fire suppression
- Fire fighting resources and technology
- Fire protection
- Future directions for the Commonwealth: toward a national bushfire policy

## Dissenting report

One member of the committee, Michael Organ MP, dissented from the findings of the inquiry for two reasons:

- the lack of participation by a number of significant state government agencies, and
- statements by some members of the government to bushfire prevention that dismissed valid environmental considerations.

The dissenting report included eight recommendations for the committee to consider, in summary they relate to:

- The extent to which global warming has contributed to the severity of the fires and recommendations to reduce greenhouse emissions.
- Evidence of the correlation between prescribed burning and major fires
- The impact of inappropriate and inadequate hazard reduction regimes on biodiversity
- The economic costs and benefits of prescribed burning
- The opportunity for the Commonwealth to influence States and territories to implement actions to reduce adverse impacts of changed fire regimes on biological biodiversity
- The lack of ecological knowledge of volunteer fire fighters and municipal staff and how to reverse this
- The opportunity for the Commonwealth in partnership with the Bushfire CRC to ensure the development of a major research program to investigate burning regimes and biodiversity
- The opportunity for the Commonwealth in partnership with the Bushfire CRC and the CRC for tropical Savannas Management to undertake further research into the role of fire in Australian ecosystems.

## Comment

The type of evidence presented to the inquiry has of course influenced its findings and recommendations. This inquiry, perhaps because of both its terms of reference and the lack of involvement of fire agencies and state and territory government departments has focussed on the experience of people ‘on the ground’.

The Nairn inquiry provided an opportunity for volunteer firefighters, farmers, environmental and conservation groups, local governments, timber industry representatives, tourism operators, scientists and other members of the community to express their views and relate their experiences of these major fires.

# McLEOD - Inquiry into the Operational Response to the January 2003 Bushfires in the ACT.

## Context

The ACT fires in 2003 resulted in the loss of four lives and over 500 properties as well as severe damage to over 70% of the ACT's pasture, forests and nature parks. The inquiry preceded a Coronial Inquiry into the deaths that was completed in December 2006.

Ron McLeod, previously Commonwealth Ombudsman was assisted in undertaking the inquiry by a small team that included a former CEO of the Country Fire Service of South Australia.

## Terms of reference

The terms of reference for the inquiry were to review the preparation for, and operational response to, the January 2003 bushfires by the ACT emergency services in order to identify improvements that could enhance capacity to respond to large scale events. Particular issues to be addressed were:

- the preparation, planning and response to bushfires and strategies for the evaluation and management of bushfire threat and risk;
- Emergency Services Bureau's (ESB) management structure, command and control arrangements and public information strategy
- the ESB arrangements for coordination and cooperation with other ACT, interstate, Commonwealth and non-government agencies for managing emergencies
- the adequacy of ESB's equipment, communications systems, training and resources

## Methodology

The inquiry into the fires in January 2003 was completed in August 2003. All government agencies and other organisations involved in the firefighting response made verbal, and/or written submissions to the inquiry. The inquiry team made several inspections of fire affected areas and received more than 130 written submissions from the general public; a number of people spoke personally with the inquiry The Inquiry also consulted with all states, visiting a range of fire and parks authorities in New South Wales, Victoria and Tasmania. Consultations with experts at the Australasian Fire Authorities Council and the CSIRO Bushfire Behaviour and Management Group also informed the inquiry.

## Summary of findings

The inquiry found that all government agencies involved in emergency planning had been involved in coordinated interagency processes to develop, review, improve and test a comprehensive ACT emergency plan and that at the highest level there was a sound understanding of

each agency's role. The recovery section of the plan was found to have worked exceedingly well in responding to large numbers of people who needed assistance.

However a number of factors were identified as inhibiting the response to the crisis: Inadequacies in the physical features of the Emergency Services Bureau centre contributed to inefficient management of data and communications which affected operational manager's ability to control and direct assets on the ground. Organisational and institutional arrangements were described as working reasonably well but not optimally. Issues related to fuel management, access tracks, the responsibilities of land managers, arrangements with interstate agencies, resource levels and legislative frameworks were also identified.

Of particular relevance to this paper were deficiencies identified in the provision of information to the community, information about the progress of the fires, the seriousness of the threat and the preparations that members of the community should have been taking was described as seriously inadequate. A particular deficiency in the provision of information related to apparently contradictory advice from the Police and the Emergency Services Bureau about whether people should evacuate or stay and defend their properties.

The inquiry also found that the Canberra community "…*had not been sufficiently well prepared to understand the nature of the bushfire risk that exists as a consequence of the siting of the city in a bushland setting.*" (p v)

The inquiry resulted in 61 specific recommendations to improve the ACT's capacity to mitigate the impact of major bushfires in the future. The report emphasises that protecting the ACT community is a responsibility shared between the government and the community and states that:

> *A much stronger emphasis on working with the community in building together a much more robust set of prevention and mitigation strategies and practices is strongly recommended, whereas to date the priority has mainly been given to building up the ACT's suppression capacity.*
>
> (p ix)

## Comment

A distinctive feature of this inquiry was the steps taken to ensure that all people who wanted to voice their views would be heard. This fire resulted in several deaths and many people who contributed to the inquiry had been seriously affected by the fires. People who requested to speak personally with the inquiry did so. In addition those expressing critical views to the inquiry, either orally or written, were protected from the threat of legal action for defamation by the passage of specific legislation. As stated by McLeod in the introduction to the report:

> *I was pleased to see the passage of this legislation: it offered encouragement to people who might otherwise have been reluctant to come forward with critical comments.*
>
> (p 3)

# Victorian Auditor General - Fire Prevention and Preparedness

## Context

This report, although published after the 2003 fires was not concerned with the operations of Victoria's fire agencies in a fire situation. The audit focussed on wildfire prevention and preparedness and "the extent to which planning and preparedness processes were clearly understood". This report therefore differed from the other reports included in the analysis because it was not concerned with responses during a fire or recovery processes. The results of the audit informed the Esplin Inquiry into the 2002-2003 Victorian bushfires.

The audit complied with the Australian Auditing Standards for performance audits and included necessary tests and procedures. Individuals with specific expertise undertook specific research as part of the audit, provided advice during the audit and/or participated in the Audit Steering Committee.

## Terms of reference

*The objectives of the audit were to assess:*

- *The effectiveness, efficiency and economy of fire prevention and preparedness by the Department of Sustainability and Environment (DSE) and the Country Fire Authority (CFA). Specifically the audit assessed relevant issues at:*
  - *a strategic level, to cover areas such as research, policy development, planning and co-ordination between agencies;*
  - *an operational level, to cover prevention and operational activities such as training of staff and the co-ordination of fire preparedness activities across agencies; and*
  - *an infrastructure level, to cover the deployment and use of equipment and information technology;*
- *The effectiveness of fire prevention strategies by local councils under the CFA legislation; and*
- *The effectiveness of fire prevention arrangements by electricity distribution companies*

(p 145)

The audit focussed mainly on fire prevention and preparedness on private land, where the CFA is the principle agency and on public land where the DSE is the principle agency. However the audit also examined the adequacy of co-ordination and liaison arrangements with other key agencies such as the Office of the Emergency Services Commissioner. The audit also examined the adequacy of fire prevention activities by local governments, rail companies, electrical distribution companies and in private forests.

## Methodology

The audit investigated wildfire fire prevention and preparedness in the Victorian public sector and relevant private companies in two stages. The first stage was a pilot investigation of the DSE, the CFA and local government in West Gippsland, a high wildfire risk area of the State. The pilot study examined and prioritised 14 potential focus areas for an audit of wildfire prevention and preparedness.

In the second stage of the audit eight focus areas selected on the basis of the pilot findings from stage one, were examined in more detail.

The focus areas selected for detailed examination were:

- Community education and safety
- Hazard reduction
- Operational policy, planning and implementation
- Coordination with other agencies
- Recruitment, training and succession planning
- Equipment
- Fire access
- Resource deployment

Activities at a state level were examined in the central offices of the organisations concerned. In addition, fieldwork examining the implementation of fire prevention work was undertaken in regional offices in Gippsland and the Dandenong Ranges.

The audit of community preparedness also involved examination of the planning and delivery of community education programs and a survey of 800 households in high fire risk areas in Gippsland and the Dandenong Ranges to assess the level of community knowledge and preparedness.

## Summary of findings

The audit resulted in 47 recommendations. The findings and recommendations of the audit were grouped into the following areas:

- policy and planning,
- fire hazard management,
- community preparedness,
- key stakeholders and wildfire prevention,
- fire fighting personnel and
- infrastructure management.

The overall conclusions of the audit were that:

> *…the CFA and the DSE have made significant advances in the areas of:*
>
> - *co-ordinated strategic planning for joint operations between the CFA and the DSE;*
> - *implementation of common incident control systems, allowing clear understandings of fire suppression roles*

*between the CFA, the DSE and interstate and overseas firefighters;*

- *the DSE's risk-based approach to resource allocation under its model of fire cover;*
- *community education programs developed by the CFA;*
- *provision of minimum skills training to CFA volunteers; and*
- *the DSE and the CFA's co-operative approach to implementing nationally accredited competency standards within a joint training framework.*

*However, further work is needed in a number of critical areas:*

- *development of a State wildfire safety strategy by the Office of the Emergency Services Commissioner (OESC);*
- *increased focus on strategic management of hazard reduction on public land, to ensure that appropriate targets are set, resources are provided for their achievement and performance is monitored;*
- *improved fire prevention planning and hazard management on private land through the municipal fire prevention framework;*
- *implementation of whole-of-life cycle management for critical firefighting assets; and*
- *systematic identification of fire access needs on public land and planning to maintain*
- *the road and bridge network accordingly.*

(pp 3,4)

## Comment

The household level research conducted in bush-fire prone areas to assess the effectiveness of current approaches to prevention and preparedness through community education differentiates the audit from other inquires included in this paper.

Keeping in mind the bushfire cycle discussed in the COAG report, and that the fieldwork for the audit took place between May 2002 (prior to the fire season) and January 2003 (the height of a serious fire season) it would be interesting to see if the survey results reflected an increased level of awareness and preparedness as fire activity increased. It would also be interesting to explore the impact of participating in the survey on the household's level of preparedness.

# ESPLIN - Report of the Inquiry into the 2002-2003 Victorian Bushfires.

## Context

The Victorian Government established an inquiry into the 2002/3 bushfires that occurred after a severe drought and burnt approximately 1.1 million hectares of land. A range of issues were raised after the fires, including criticism of changes to Victoria's public land management regime and the way in which the fires were fought.

The inquiry was undertaken by a panel of three people, the Emergency Services Commissioner, who chaired the inquiry and two independent experts who brought expertise in the areas of bushfires and the environment and the fire ecology of plants.

## Terms of reference

The terms of reference for the inquiry were to:

1. *Examine the effectiveness of preparedness for the 2002/03 bushfire season, including hazard reduction and mobilisation of resources;*
2. *Assess the effectiveness of the response to the 2002/03 bushfires, including emergency management procedures, cross agency response and co–ordination and resource deployment; and*
3. *Provide recommendations for future bushfire management strategies, including any required improvements to existing emergency management arrangements including public communications, community advice systems, infrastructure, training and overall resourcing*.

(p 5)

## Methodology

In response to a public invitation the inquiry received 273 submissions from a range of individuals and groups that were used to frame the key issues to be considered by the inquiry. Inquiry members then toured fire affected areas talking to fire fighters, incident controllers and regional and local staff from the Department of Environment and Sustainability, the Department of Primary Industries, Parks Victoria, and the Country Fire Authority. A series of meetings were then conducted with community members, Local and State Government Departments and agencies and other organisations. The inquiry met with over 400 people, both individually and in small groups to ensure that a broad cross section of the community had opportunities to express their views. As part of the process of framing recommendations the inquiry members re-visited selected communities so emerging themes and recommendations could be tested or 'ground-truthed'.

In addition the two expert members of the inquiry undertook scientific research into relationships between prescribed burning bushfire intensity and examined climatic conditions and the history of fires.

Outcomes from an external review of the effectiveness of the management of aerial firefighting resources also informed the inquiry.

The findings and implementation of previous bushfire inquires and reviews, legislative arrangements and the adequacy of coordination between the Department of Sustainability and the Country Fire Authority were also considered by the inquiry panel.

## Summary of findings

An interim report was submitted to the Victorian Government in August 2003 prior to the completion of the inquiry so that pressing matters that needed immediate action could be addressed to assist in preparations for the next fire season. An additional reason for the interim report was to allow for the early resolution of some matters to assist members of the community to move forward in their recovery from the impact of the fires. The six recommendations in the interim report were concerned with prescribed burning, use of local knowledge, fencing policy, rehabilitation and protection of water catchments.

The inquiry report was structured in five parts:

- Setting the scene
- Term of Reference One: Fire and Public Land
- Term of Reference One: Community and agency preparedness
- Term of Reference Two: Response and Recovery
- Term of Reference Three: The Way Forward

The inquiry resulted in a comprehensive report with a total of 152 recommendations. In the context of a discussion of the fire safety policy directions of the Victorian Government the inquiry report made the following statements reflecting the findings of the inquiry.

> *The Inquiry acknowledges that traditional fire-management performance assessment approaches contribute to suppression activity. (These measure response times and containment as indicators of performance.)*
>
> *However, the adoption of risk management approaches by all fire agencies has highlighted the need to review the nature and scope of services delivered to the community.*
>
> *Improving fire safety relies on:*
>
> - *More robust measuring systems;*
> - *Sophisticated risk assessment processes*
> - *Prevention programs*
> - *Community Education*
> - *Engaging more directly with local communities to maximise the benefits of valuable local knowledge; and*
> - *Improved coordination across and between all agencies engaged in the delivery of fire services.*
>
> *To achieve this, a more effective balance must be struck between suppression and prevention to treat identified risks. This balance will*

*also ensure that decision making is based on accurate and reliable data.*

(p 232)

### Comment

In the forward to the Victorian Government response to the report several key messages were identified:

> *We have to be better at supporting our prevention and response efforts with sound research and knowledge sharing. Good response is not enough for our uniquely fire prone State – and we can and will learn from this experience.*
>
> *Sharing resources and more coordination of planning, training and response actions will further strengthen our capability;*
>
> *We need to work across all tiers of government to ensure the highest protection of our community and natural assets – no single arm of government or agency can hope to combat fires of the magnitude of the past season on their own;*
>
> *Our significant effort to educate communities and individuals to assist in the protection against bush fires is crucial and needs to remain high on our priorities. Without the significant preparedness of individuals the toll of last season's fires might have been akin to the horrors of Ash Wednesday and Black Friday. We are thankful it did not and are totally committed to building on this level of community preparedness.*

## COAG - Report of the National Inquiry on Bushfire Mitigation and Management

### Context

The COAG bushfire inquiry was a response to the 2002-2003 bushfires and focussed on areas where a strategic national approach could add value. The inquiry considered how to improve national cooperation in the management of bushfires and included consideration of inter-jurisdictional arrangements, management and coordination. As a consequence of being completed after all of the other reports the COAG bushfire inquiry was able to draw on and synthesise the knowledge generated by other inquires. Although taking account of other inquiries it was not intended to duplicate their work.

The inquiry is described as taking an evidentiary approach, building on existing knowledge about bushfires in Australia and as complementing the proposed reform of mitigation, relief and recovery arrangements advanced in the COAG natural disasters report, *Natural Disasters in Australia*.

The inquiry was conducted by a three person panel chaired by Stuart Ellis, an independent consultant. The other members of the panel were Professor Peter Kanowski, Professor of Forestry and Head of the School of resources, Environment and Society at the ANU and

Professor Rob Whelan, Dean of Science, University of Wollongong. The panel was supported by a secretariat that included a representative of the Department of Prime Minister and Cabinet and the Department of the Environment and Heritage as well as people with expertise in fire and rescue services, research into forestry and forest products and rural fire fighting.

## Terms of reference

The terms of reference for the inquiry outlined objectives, the scope of the inquiry and specific issues to be taken into account.

The objectives of the inquiry were to:

> *…commission an independent inquiry into bushfire mitigation and management in Australia. Acknowledging that bushfire management and mitigation is constitutionally an area of State and Territory responsibility, this inquiry will add value by considering issues and identifying situations where there may be opportunities to enhance national cooperation and achieve best practice. The inquiry will outline the facts on this season's major bushfires (including where the fires started and what was affected). Having established the facts, the inquiry will examine the efficiency with which major bushfire fighting resources are managed on a national basis and the effectiveness of current management practices particularly in crown lands, state forests national parks, other open space areas adjacent to urban development and private property. The inquiry will also explore measures such as local government planning and best use of technology to minimise the impacts of bushfires.*
>
> (p 243)

## Methodology

A variety of reports of inquiries that included Coroners Inquests, Royal Commissions and Parliamentary inquiries relating to bushfire management and mitigation over the past 60 years were considered by the inquiry. Relevant researches reports and advice from specialists, researchers and recognised experts informed the inquiry.

The inquiry did not hold public hearings, partly because other reports that had included extensive consultation processes into the 2002-2003 fires were available when the inquiry started. Ninety six submissions were received by the inquiry panel.

The inquiry had the support of all levels of government and government departments and agencies. The inquiry met several times with jurisdictional representatives, departments and agencies all of who were described as providing assistance, advice and encouragement.

## Summary of findings

The COAG bushfire report identified 46 findings and made 29 recommendations. Perhaps the findings of the inquiry are best summarised by the vision for 2020 presented in the introduction of the report.

> *Bushfire in Australia: a vision for 2020*
>
> *All Australians understand, accept and respect bushfires and know that they will continue to occur. We have drawn on Indigenous, local and scientific knowledge in learning to live with bushfires. Communities understand that the risk, and the responsibility for bushfire mitigation and management, is shared by individuals, landholders, communities, fire and land management agencies, researchers, and governments.*
>
> *Australians recognise that bushfire can be damaging but that planned fire can also be beneficial, by sustaining ecological processes or by reducing fuels—thus reducing the risk of uncontrollable bushfires. Decisions about bushfire mitigation and management are made within a risk-management framework, known as the 5Rs—Research, information and analysis; Risk modification; Readiness; Response; and Recovery.*
>
> *Research, information and analysis. All schoolchildren learn about bushfire survival and the role of fire in our environment. Governments, agencies and community groups guide good practice in preparing for bushfire. Coordinated bushfire research redresses gaps in our understanding of bushfires and their effects, is at the international forefront of knowledge, and informs management and policy. A 'Centre for Lessons Learnt' distils and disseminates lessons from major fire events.*
>
> *Risk modification. There is a cooperative approach to risk reduction. Arson is a rare source of ignition. Fuel reduction and ecological burning are based on fuel management zones that link landscape management to the protection of community, environmental and economic assets. There is greater knowledge, awareness and trust between rural landholders, public land managers, communities and fire agencies. Systematic planning, development constraints and building codes in bushfire-prone areas reduce risk to life and property.*
>
> *Readiness. As individuals and as a community, Australians know how to defend themselves and their property effectively against fire. The previous culture of complacency, blame and risk avoidance has been replaced by shared understanding and valuing of all assets, cooperative assessment of the most suitable risk-reduction measures, and shared responsibility for action.*
>
> *Response. Bushfire response is planned, coordinated and managed by the states and territories, and cooperative arrangements facilitate cross-border assistance. Aerial firefighting resources are coordinated nationally. State and territory bushfire services operate within integrated emergency services, structured for a range of hazards. Volunteers are integral to rural firefighting. The states and territories deliver training to national standards,*

> *and there are many examples of interagency and interstate deployments of personnel affording greater experience. Volunteers are valued, encouraged and recognised.*
>
> *Recovery. Recovery occurs concurrently with the response effort and focuses on individual support, community and economic renewal, and environmental restoration. Part of recovery is learning from the experiences of each fire event, and from other emergencies, to maintain our awareness and improve our knowledge, planning and responses.*
>
> (P ix)

## Comment

The recommendations of the COAG bushfire inquiry were often not as detailed or prescriptive in terms of how they should be implemented as those in the COAG natural disasters report, as stated in the COAG bushfire report:" …*the Inquiry focussed on the outcomes of the process rather than the detailed procedures that are followed*". (p 91).

The report of the COAG bushfire inquiry is comprehensive and well supported by research and evidence presented in submissions. However, some of the substance of the report is not contained within the findings or recommendations. Some of the themes described as important in the report are not reflected in either the findings or recommendations; sometimes they are noted as findings without corresponding recommendations.

The rationale for framing conclusions as a finding or recommendation is unclear. Even in sections where there is one finding and one recommendation the finding and recommendation are not necessarily connected, for example the finding and recommendation made under the heading Community education, information and action.

Whether or not a conclusion is presented as a finding or recommendation doesn't seem to depend on who would be responsible for implementing the recommendation. In many cases recommendations are directed towards COAG or the Australian Government working in partnership with state and territory governments, in other cases the recommendations are directed towards either the Australian Government or state and territory governments. Some recommendations are directed towards government or non government agencies, for example, fire agencies, the Insurance Council of Australia, the Australian National Training Authority, and the Australian Building Codes Board.

While in other sections the inquiry is clear about the importance of community education and engagement, the section on 'risk modification for community assets' only discussed fuel reduction burning. This seems inconsistent with the section on risk modification in the vision for 2020 presented in the report.

> Improvements in bushfire mitigation and management will be significant only if the community is better educated and engaged. More effective education about bushfires is central to the realisation of the Inquiry's vision for bushfire mitigation and management in Australia.
>
> COAG bushfire inquiry p 42

# 3 Policy Context

This section discusses the context for developments in approaches to community awareness, education and engagement activities. Broader policy directions and principles influence the development of thinking about community awareness, education and engagement programs. Three broader policy development areas evident in the reports are outlined to provide contextual background information for the discussion of policy directions related to community awareness, education and engagement programs and activities in following sections.

- national frameworks,
- risk based planning processes that recognise local differences and the need for integrated planning
- a commitment to research and ongoing learning through monitoring, evaluation and reviews of major incidents

## National Frameworks

The COAG natural disasters and bushfire reports each proposed national frameworks for conceptualising and operationalising disaster management strategies. The Nairn inquiry also had a national focus but focussed specifically on one bushfire season and did not discuss or recommend frameworks for mitigating risks associated with bushfires. Given that the COAG natural disasters report had already been completed, and that the COAG report was planned it is not surprising that the Nairn inquiry did not cover this ground.

The COAG natural disasters report which considered how disaster management for all types of natural disasters should be reformed understandably focuses on planning issues. The report refers to 9 elements of disaster management, proposes objectives for a national framework (recommendation 3), details 12 commitments for all levels of government along with a comprehensive five year reform package (recommendation 4) and also details the roles and responsibilities of each level of government (recommendation 5).

**Table 2: Elements of disaster management**

| | |
|---|---|
| Disaster Risk Assessment | Determine hazards and vulnerability of community |
| Policy Development | Disaster-related policy formulation |
| General disaster research | |
| Mitigation | Measures to reduce risk and the impact of an event, eg land use planning; building standards; design and materials; levees; disaster-resilient infrastructure; self-help; insurance |
| Preparedness | Ready for disasters, eg trained personnel; equipment; community awareness; counter-disaster plans |
| Response | Measures to combat the disaster and reduce its impact, eg sandbagging; fire-fighting; back-burning; evaluations |
| Short-term Relief | Short-term relief measures that are concurrent with the response, eg emergency shelter; food; funds |
| Relief and Recovery | Longer-term relief, recovery and rehabilitation measures |
| Post-Disaster Assessment and Mitigation | Addressing risks revealed by the disaster |

## Objectives of the proposed national framework.

The objectives of the new approach to disaster management are stated in recommendation three:

> *To establish a unified national approach to natural disasters under which governments, households, businesses, volunteer organisations, insurers and others with a part to play operate in concert to:*
>
> - *create safer, more sustainable communities and regions in social, economic and environmental terms*
> - *reduce risks, damage and losses from natural disasters*
> - *find the right balance among mitigation, preparedness, response, relief and recovery activities, and*
> - *recognise the investment and savings opportunities provided by mitigation.*
>
> (p 10)

## Desirable attributes of a national framework for natural disaster management

*The HLG has identified the following desirable attributes of a new framework to drive future action jointly by all levels of government.*

1. *The framework for dealing with natural disasters should fit within the 'all hazards' approach of Australia's emergency management agencies. This acknowledges the fact that State and Territory arrangements are designed to deal with all hazards and do not deal separately with natural disasters. Specific arrangements proposed for natural disasters could be applied more broadly to other emergencies where governments so chose.*
2. *Natural disaster management activities should be driven by an active and coordinated national approach to research and development, data collection and analysis, and systematic, widespread risk assessments. The intention is to shift national management arrangements further towards proactivity, from the more reactive approach of the past.*
3. *Guided by such research and risk assessments, there should be a stronger focus on anticipation, mitigation, and recovery and resilience in order to achieve safer, more sustainable communities, and a better balance compared with the effort and resources traditionally applied to disaster relief.*
4. *Sound and effective land use planning, and development and building approval regimes by Local, State and Territory Governments, should take into account disaster risk reduction and mitigation as essential foundations for safer, more sustainable communities.*
5. *Mitigation measures should be the subject of rational, cost/benefit and social investment decisions, with special provision for remote, Indigenous and other communities that may otherwise be disadvantaged by a strict cost/benefit approach.*
6. *Disaster management measures should promote household and business self-reliance through risk assessment and mitigation, encourage private sector involvement, and specifically should maximise commercial insurance cover.*
7. *Volunteers should be supported in tangible ways and obstacles to their involvement removed given that they are a fundamental part of Australia's natural disaster management arrangements.*
8. *Commonwealth, State, Territory and Local Government financial arrangements should provide incentives for good practice, particularly to encourage disaster mitigation and preparedness activities.*
9. *Local Governments must have a critically important role in disaster risk reduction and mitigation strategies and measures as they are best placed to determine local risks and needs.*

10. *All levels of government need to mainstream disaster mitigation across their departments and agencies, and take an 'all-governments/ whole-of-government' approach to mitigation to achieve successful natural disaster management.* (p 11)

## Five year reform package

The fourth recommendation provides some detail on how all levels of government should work towards these objectives.

> *The HLG recommends that all Australian levels of government commit to, and announce, the following comprehensive five-year reform package. Heads of Government of the Commonwealth, States and Territories, and the President of the Australian Local Government Association (ALGA) agree to endorse and jointly implement the following commitments to reform the way Australia manages natural disasters and achieve safer, more sustainable communities and regions in economic, social and environmental terms:*
>
> 1. *develop and implement a five-year national programme of systematic and rigorous disaster risk assessments*
> 2. *establish a nationally consistent system of data collection, research and analysis to ensure a sound knowledge base on natural disasters and disaster mitigation*
> 3. *develop, for each level of government, a natural disaster mitigation strategy to be implemented by the Commonwealth and each State and Territory commencing in year 2, and by Local Governments commencing in year 3*
> 4. *take action to ensure more effective statutory State, Territory and Local Government land use planning, development and building control regimes that systematically identify natural hazards and include measures to reduce the risk of damage from these natural hazards*
> 5. *support cost-effective natural disaster mitigation measures through a Disaster Mitigation Australia Package, consisting of a new Disaster Mitigation Programme and continuation of the Regional Flood Mitigation Programme, to address the risks identified in no. 1 above*
> 6. *reduce the problem of public infrastructure repeatedly damaged by natural disasters through cost-effective mitigation measures, to make infrastructure more resilient where feasible by proactive measures under the Disaster Mitigation Australia Package, and post-disaster measures under the Commonwealth Natural Disaster Relief Arrangements*
> 7. *develop jointly improved national practices in community awareness, education, and warnings which can be tailored to suit State, Territory and local circumstances*
> 8. *enhance the Commonwealth Natural Disaster Relief Arrangements to better support community recovery from*

*natural disasters and agree to nine complementary model State and Territory arrangements providing more equitable natural disaster relief and recovery assistance nationwide*

9. *endorse a set of national cost-sharing principles for natural disaster management that includes a focus on the responsibilities of individuals, businesses and insurers, as well as those of governments*
10. *support emergency management volunteers in tangible ways and remove obstacles to their involvement in community safety by addressing key priorities, namely legal protection, financial incentives, recognition and training needs*
11. *establish a new national machinery consisting of a Ministerial Council or Ministerial Implementation Forum, and a National Emergency management High Level Group, to ensure effective collaboration and coordination of Commonwealth, State, Territory and Local Government action to implement the reform commitments, and*
12. *endorse a statement of contemporary roles and responsibilities of each level of government in natural disaster management.*

(p 14)

Recommendation five further details the proposed roles and responsibilities for each level of government.

*The HLG recommends that all levels of government endorse the following statements.*

### *1 State and Territory Governments*

*State and Territory Governments have primary responsibility within their own jurisdictions for natural disaster management in the interests of community safety and well-being. This involves responsibility for:*

- *developing, implementing and ensuring compliance with comprehensive disaster mitigation policies and strategies in all relevant areas of government activity, including land use planning, infrastructure provision, and building standards compliance*
- *strengthening partnerships with and encouraging and supporting Local Governments, and remote and Indigenous communities, to undertake disaster risk assessments and mitigation measures*
- *ensuring provision of appropriate disaster awareness and education programmes and warning systems*
- *ensuring that the community and emergency management agencies are prepared for and able to respond to natural disasters and other emergencies*
- *maintaining adequate levels of well equipped and trained career and volunteer disaster response personnel*

- *ensuring appropriate disaster relief and recovery measures are available, and*
- *ensuring that post-disaster assessment and analysis is undertaken.*

### *2 Local Governments*

*Where Local Government powers exist, Local Governments also have responsibilities, in partnership with States and Territories, to contribute to the safety and well being of their communities which means they have an important role participating in local natural disaster management.*

*In most circumstances, the principal roles and responsibilities of Local Governments are:*

- *ensuring all requisite local disaster planning and preparedness measures are undertaken*
- *ensuring an adequate local disaster response capability is in place, including local volunteer resources*
- *undertaking cost-effective measures to mitigate the effects of natural disasters on local communities, including routinely conducting disaster risk assessments*
- *systematically taking proper account of risk assessments in land use planning to reduce hazard risk*
- *undertaking public education and awareness, and ensuring appropriate local disaster warnings are provided*
- *ensuring appropriate local resources and arrangements are in place to provide disaster relief and recovery services to communities*
- *representing community interests in disaster management to other levels of government and contributing to decision-making processes, and*
- *participating in post-disaster assessment and analysis.*

(p 20)

### *3 Commonwealth Government*

*The role of the Commonwealth Government in natural disaster management is to provide national leadership in collaborative action across all levels of government in disaster research, information management and mitigation policy and practice:, to reduce the risks and costs of disasters to the nation; to mobilise resources when State and Territory disaster response resources are insufficient; and to provide national support for disaster relief and community recovery. In particular, the Commonwealth Government has a major role in:*

- *coordinating national strategic emergency management policy, in collaboration with the State and Territory Governments and Local Government*
- *undertaking natural disaster research of national significance*

- *identifying national priorities for natural disaster mitigation, in collaboration with other levels of government*
- *providing support for disaster risk assessment and mitigation measures, in conjunction with the States, Territories and Local Government*
- *providing a national disaster relief and recovery framework and resources on a cost-sharing basis with the other levels of government, and*

*The Commonwealth also has a continuing role in:*

- *national leadership on mitigation strategies and assessment*
- *providing financial assistance to States, Territories and Local Government for cost-effective, priority disaster risk management*
- *providing financial assistance to States, Territories and local Government to assist them in meeting their disaster mitigation responsibilities leading to an overall reduction in damage and costs, thereby benefiting all Australians and all levels of government.*

(p 21)

The COAG bushfire report was specifically concerned with bushfire management and mitigation and was informed by the COAG natural disasters report. The COAG bushfire report proposed a '5 R' framework, a set of national principles and the adoption of national indicators of good practice to provide a reporting and review framework for state and territory governments. This report also discussed a bushfire cycle that currently limits good practice in bushfire management and mitigation.

## Proposed "5R" framework

The inquiry argued for a shift from the PPRR (Prevention, Preparedness, Response and Recovery) framework commonly used by fire agencies and provided the following rationale:

> *The 5R framework is consistent with AS/NZS 4360:1999.11 The Inquiry acknowledges the emergency management sector's investment in introducing PPRR and using that framework in education and awareness raising. The 5R framework is, however, consistent with PPRR and has the following advantages.*
>
> *First, the fundamentally necessary research, information gathering and analysis element becomes an integral and explicit part of the risk-management process.*
>
> *Second, the Inquiry was concerned about the continued use of the word 'prevention' and the perception that fires can and should always be prevented. Continuing use of this term simply reinforces an unachievable expectation in the community. Instead, the Inquiry considers that 'risk modification' and 'readiness' are much more useful concepts, especially in relation to the community. The potential of the 5R framework for adoption in bushfire mitigation and management might be worth exploring*

*further in an all-hazards context, especially if it results in better engagement with the community.*

(p 52-53)

### Table 3: Proposed 5R framework

| | |
|---|---|
| **R**esearch, information and analysis | Risk management cannot be applied effectively without some prior knowledge and relevant data and information. Planning and management cannot be improved without analysis of past events. Research provides valuable insights into critical factors and causal relationships. |
| **R**isk modification | Modifying the risk (likelihood and consequence) posed by fire can have several components. The Inquiry classes these as risk avoidance, which covers land use planning for fire-prone areas; risk limitation, which includes limiting the number of ignitions by reducing the incidence of arson; and risk reduction, which relates to both reducing the hazard (for example, fuels) and reducing the vulnerability of assets through building design and construction regulations. |
| **R**eadiness | No matter how effective risk modification is, there is inevitably a residual risk of impact by bushfire. All residents and property owners therefore need information on which to base effective preparation and make informed decisions in the event of a bushfire. Fire services and recovery agencies also engage in readiness actions, independently and in association with other public and private sector organisations and residents. |
| **R**esponse | Response is the firefighting part of the overall fire management process. This component receives the greatest media coverage and attention from the community. It is generally the role of the fire and land management agencies, although well-prepared residential and rural property owners can deploy effective measures to defend their properties. |
| **R**ecovery. | Recovery is complex, dealing with social, economic, physical and environmental rehabilitation. It must be an integral part of the whole process and a conscious consideration at each other stage of the process. It calls for a recovery strategy and an operational plan. |

## National Bushfire Principles

The inquiry recommended that a statement of national principles articulating a common understanding of bushfire mitigation and management be adopted by COAG. The primary reasons for national principals as outlined in the report were to:

- establish and communicate shared goals,
- provide a framework for future directions in bushfire mitigation and management,
- facilitate cooperative approaches and responses across borders, and

- provide a basis for a common framework for performance assessment and community accountability.

Indicative national principles are:

***Bushfires are understood, accepted and respected***

*Like other natural hazards, bushfires cannot be prevented. In many instances, bushfires are an important tool to assist in achieving land management objectives. The impact of unplanned fires needs to be minimised through effective action based on learning and understanding. This also requires strong self-reliance.*

***Shared responsibility***

*A philosophy of responsibility shared between communities and fire agencies underlies our approach to bushfire mitigation and management. Well-informed individuals and communities, with suitable levels of preparedness, complement the roles of fire agencies and offer the best way of minimising bushfire risks to lives, property and environmental assets.*

***Decisions within a risk management framework***

*No single action will lead to the elimination of bushfire risk. The best approach to minimising risk is to make decisions about bushfire mitigation and management within an integrated risk management framework.*

***Integration of learning and knowledge***

*Analysis of fire events is based on operational and scientific evidence and research. This should be informed by extensive and consistent national data, including fire regime mapping. The best results will be achieved by integrating all forms of knowledge, and good information about fire history, with analysis at the local and regional levels.*

***Manage fire according to the landscape objectives***

*Australia has a great diversity of climates, environments, land uses and built assets. Fire management objectives and outcomes will vary across landscapes and over time. Clear agreed objectives and an adaptive management approach are required for implementation.*

***Consistency of purpose and unity of command***

*There needs to be consistency of purpose during bushfire mitigation and unity of command for all fire response, irrespective of organisational structures.*

***Protection of lives as the highest consideration***

*Firefighter and community safety must be at the forefront of bushfire mitigation and management deliberations. Although there should always be a balance between safety, effective response and environmental considerations, it is personal safety that must be the greatest concern.*

> ***Monitoring performance***
>
> *The states, territories and local governments need to regularly review their performance against these principles and other appropriate indicators. Performance review should not be allowed to wait until after a major bushfire event. If the principles are to improve performance and bring about change, they must be monitored on a regular basis.*
>
> (p 240)

## National Indicators of Good Practice

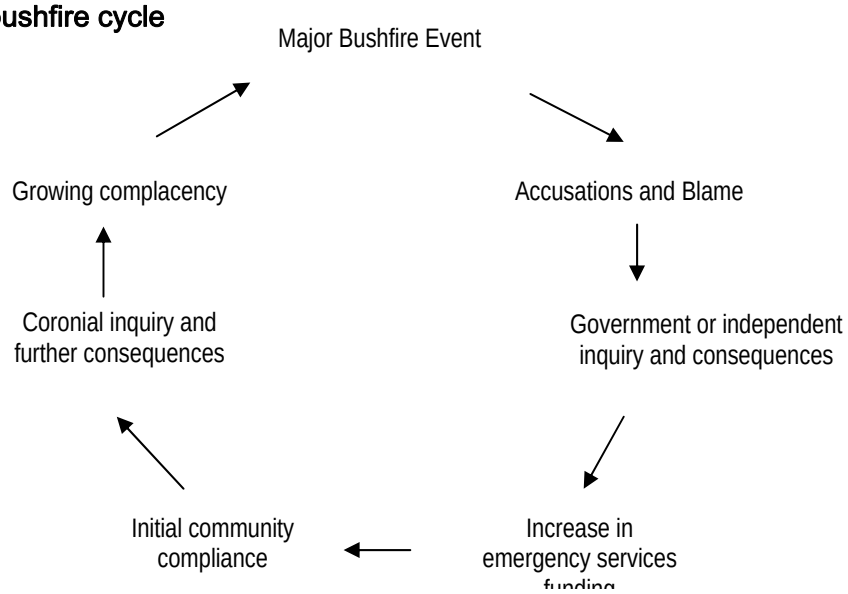
To support the implementation of the last of the suggested principles, monitoring performance, a common set of performance indicators were proposed:

> *The Inquiry recommends that the states and territories agree to a common set of national bushfire indicators of good practice, based on the five mitigation and management factors it has identified—the 5Rs. These indicators, together with an assessment against the proposed national bushfire principles, would provide a consistent framework for review and reporting in each state and territory.*
>
> (p 233)

## Bushfire Cycle

The report described a bushfire cycle that can extend over 20 to 50 years, a series of cycles can also occur concurrently but with different starting times.

**Figure 1: The bushfire cycle**




(p 231)

The inquiry questioned whether this cycle is inevitable and concluded that government and community action can reduce the impact of or even eliminate some elements of the cycle.

> *Adoption of a common set of national indicators of good practice and subsequent state and territory auditing against them will not stop bushfires happening. Regular review and effective post incident operational inquiries will, however, provide—for state and territory and local governments, fire authorities and communities—transparent, consistent measures across a broad range of areas relating to bushfire mitigation and management. National indicators of good practice should not be used to compare the performance of the various states and territories: the focus should be on regularly reviewing overall performance, thereby reducing the impact of, or eliminating altogether, elements of the bushfire cycle. Were this achieved, major bushfire events' effects on communities, the environment and individuals would be considerably reduced.*
>
> (p 234)

In contrast, the Nairn inquiry expressed the view that performance between states and territories should be compared as an accountability measure.

The recommendations made by the COAG bushfire inquiry were generally consistent with and supported the framework for reform proposed in the COAG natural disasters report. The COAG bushfire inquiry acknowledged the roles of Commonwealth, State and Territory and local governments as identified in the COAG natural disasters report. The proposed 5R framework modifies the nine elements of disaster management presented in the natural disasters report; mitigation becomes risk modification, there is no differentiation between short term and longer term recovery processes and risk assessment, post disaster assessment and policy development as described in the COAG natural disasters are covered by the first 'R', research, information and analysis. The schedule for implementation detailed in the 5 year reform package that was outlined in the COAG natural disasters report was not reflected in the later COAG report which did not set timelines for the implementation of recommendations.

## Risk management planning

The national frameworks recommended in the COAG natural disasters and COAG bushfire reports both included risk based planning to mitigate the impact of bushfires and inform the planning of preparedness measures.

The COAG natural disasters report discussed the need to mainstream disaster mitigation and proposed a disaster mitigation program that would fund a range of measures:

- *natural disaster risk management studies*
- *disaster mitigation strategies*
- *disaster resilient infrastructure investments*
- *mitigation measures for all natural hazards*
- *disaster warning systems*
- *community awareness and readiness measures*

- *more rapid development of standards for buildings and materials*
- *disaster and mitigation related research of public benefit*
- *nationally consistent data collection and analysis*
- *nationally consistent post-disaster evaluations, and*
- *land and building purchase schemes in high-risk areas.*

(p 27)

COAG natural disasters report also specifically recommends the inclusion of Aboriginal and Torres Strait Islander communities in planning processes and activities. The COAG bushfire report defined the risk management process as:

> …*the systematic application of management polices, procedures and practices to the task of establishing the context, identifying, analysing, evaluating, treating, monitoring and communicating risk*.
>
> (p 46)

The COAG bushfire inquiry discussed the application of risk management to bushfires drawing on the Australian Standard for Risk Management, Emergency Management Australia's Emergency Risk Management Applications Guide and the Victorian CFA's Municipal Fire Prevention Planning Guidelines. The inquiry recommended that:

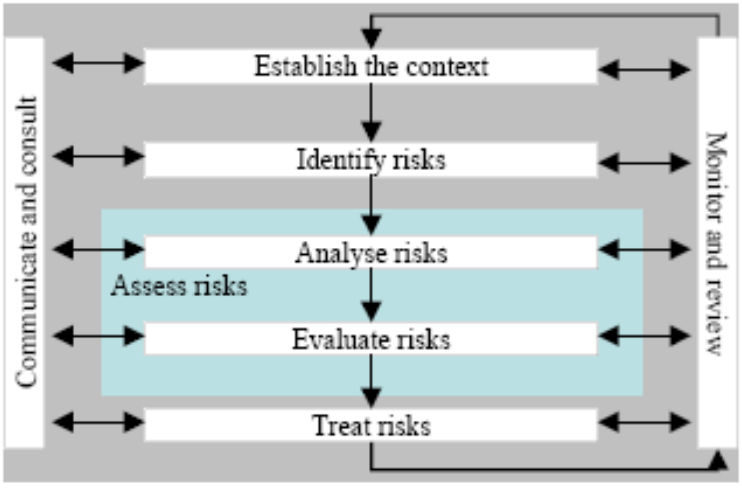
> *…a structured risk-management process based on the Australian Standard for Risk management be further developed and applied in all aspects of bushfire mitigation and management, informed by a thorough understanding of the full range of assets.*
>
> (p 53)

As shown in the following diagram of the risk management process, which was presented in the COAG bushfire report, applying risk management to bushfires involves:

- Establishing the context,
- Identifying risks,
- Assessing risks through analysis and evaluation, and
- Treating risks.

The processes of monitoring and review, as well as communication and consultation apply to each stage of the risk management process and should involve all who are affected by bushfires.

Figure 2: The Risk Management Process




Source: Standards Association of Australia 1999, AS/NZS 4360:1999 Risk Management.

(p 46)

A range of treatment options for managing and mitigating bushfire risk were presented under the following headings:

- Risk avoidance – limiting the likelihood or consequences of bushfire
- Likelihood reduction – reducing the likelihood of fire ignitions and fire spread
- Consequence reduction – reducing the economic, social and environmental impacts of bushfire
- Risk Transference –sharing the responsibility for reducing the likelihood and consequences of bushfire

Risk transference treatments included:

- community awareness raising—mass campaigns
- targeted education programs—preparedness
- targeted education programs—prevention
- targeted education programs—response (stay or go) and recovery
- public warnings—Standard Emergency Warning Signal
- mutual agreements and arrangements between agencies within a jurisdiction and between jurisdictions
- fire refuges, evacuation and recovery centres identified

The shift to a risk management paradigm, demonstrated by the Australian Government's funding of a Disaster Mitigation Australia Package as recommended in the COAG natural disasters report, is described in the COAG bushfire report as:

> "…*a fundamental structural reform in disaster management that will move the focus beyond recovery and relief towards a cost-effective, evidence-based disaster mitigation*".

(p 51)

The Victorian Auditor General and Esplin reports each discussed planning processes in some detail. A number of limiting factors were identified and strategies to refine and improve risk based planning in Victoria were recommended.

In Victoria, local governments under CFA jurisdiction (those in rural or interface areas) are required to undertake joint fire prevention planning with the CFA through fire prevention committees and the CFA is required to audit the plans. The functions of fire prevention committees were described as identifying hazards, submitting recommendations to reduce fire risks and acting as consultative forums.

The Auditor General found that fire prevention planning through regional or municipal fire prevention committees did not work well. Factors identified as limiting the success of municipal planning were:

- *the heavy focus on works level plans without strategic emphasis, which limits the interest of stakeholders;*
- *the low priority given by some councils to regional and municipal fire prevention committees; and*
- *the CFA's lack of powers to audit the implementation of municipal fire prevention plans.*

The report went on to state that:

> *Until stronger arrangements are made between municipal councils and the CFA that encourage and, where necessary, enforce better prevention and preparedness activities, private landowners may not be sufficiently apprised of:*
>
> - *their responsibilities for fire management on their own land; and*
> - *the benefits of improved prevention and preparedness over reliance on fire suppression after a fire occurs.*

(p 40)

The Auditor General referred to 'Municipal Fire Prevention - Best Practice Review', a report commissioned by the CFA in 2002 that found significant variations in council performance on fire prevention. The Auditor General supported the following recommendations made as a result of the best practice review:

*revising the CFA Municipal Fire Prevention Planning Guidelines (1997) to:*

*incorporate practical examples of better practice;*

- *clarify outcomes that reflect legislative responsibilities; and*
- *develop integration with other community safety processes;*
- *improving the status given to fire prevention activities within municipalities;*
- *improving the integration of planning and implementation to bring public, private, voluntary and stakeholder groups together;*
- *reviewing the current regional and municipal fire prevention committee structure to reduce duplication and better focus available resources; and*

- *introducing auditing powers under the Country Fire Authority Act 1958 so that the CFA can assess the implementation of municipal plans*

(p 64)

In addition the following areas for further improvement were identified:

- the need for management level involvement for effective fire prevention planning within local government range as the range of skills needed include strategic planning, risk assessment, negotiation, communication and relationship building,
- forming smaller executive committees within existing committees to assist them to become more effective and raise their status as large committees (over 40 in some cases) act more as community consultative committees than advisory bodies.
- align CFA group and brigade boundaries with municipal boundaries (that changed as a result of the amalgamation of local governments) to improve fire prevention coordination and management. The need for these changes to be carefully negotiated and driven by the CFA was acknowledged.

The Auditor General also recommended that:

- fire agencies ensure that local governments give high priority to meeting the requirements of the State Planning Policy Framework and that they continue to improve the quality of local fire prevention planning.
- there be greater cooperation between fire agencies, local governments and the Office of the Emergency Services Commissioner and that municipal and regional fire prevention committees be reorganised to focus more clearly on planning and managing fire prevention activities.

Of particular relevance to community awareness, education and engagement are recommendations that propose a structured and systematic risk based approach to planning community education programs. The Auditor General also recommended that the DSE and CFA develop a coordinated, agreed position on responsibilities and actions for community education.

> *Key stakeholders in fire prevention including the DSE, the CFA, local government and the OESC work to develop mechanisms that support broader co-operation in fire prevention and preparedness;*

(p 42)

The Esplin inquiry considered both municipal and State-wide planning policies and processes and the links between them. Most of the findings and recommendations in the Esplin report were consistent with those of the Auditor General however Esplin did not agree that the legislative framework was adequate.

Esplin identified the following weaknesses in current planning arrangements:

- a significant level of resources is required from participating agencies and there is duplication of effort and information,
- the legislative framework is fragmented, diverse, incomplete and doesn't require the cooperation of all responsible agencies
- a lack of integration between the separate planning processes for private and public land and an inadequate focus on planning for the interface between public and private land.
- inadequate consultation and input from a range stakeholders, including a lack of consultation with the community about the protection of community assets prior to a fire, and
- the lack of effective audit arrangements covering both planning and implementation.

Esplin concluded that:

> *Broad policy direction for the development of planning at all levels of fire prevention and mitigation currently rests with the response agencies. There is no formal structure to ensure consistency across agencies or to gain endorsement from Government.*
>
> *…the State would benefit from establishing a group operating as a subcommittee of the Victoria Emergency Management Council tasked with ensuring there is a policy framework, developed by the responsible agencies, within which the necessary planning can take place effectively and efficiently at all levels.*
>
> (p 149)

Esplin made a number of recommendations for improving planning processes, and identified the following key outcomes to be achieved by improved planning:

- Determining appropriate mitigation strategies
- Establishing an agreed inventory of community assets
- Determining response priorities based on the agreed mitigation strategies and asset hierarchy
- Identifying common information and processes for use in both response and recovery activities

To consolidate fire management planning arrangements Esplin proposed the development of Municipal Fire Management Plans based on planning input from: utility providers; relevant government departments; a Municipal Fire Prevention Committee that includes the CFA; DSE strategic fire planning; and industries including tourism, timber, plantations, and large manufacturers. The Municipal Fire Management Planning document would consolidate fire prevention and mitigation planning for all agencies for both private and public land. This

plan would then inform response strategies developed by fire agencies and would also inform local government land use and industry planning schemes.

To enable consolidated planning Esplin recommended that the *Country Fire Authority Act 1958* be amended to:

- *Replace the current Municipal Fire Prevention Plan and the requirement for a Fire Prevention Committee with a Municipal Fire Management Plan, and Municipal Fire Management Committee; and*
- *Bring together all stakeholders with an involvement in fire management for both private and public land within the municipality.*

(p 149)

The Auditor General's report and the Esplin inquiry both discussed work underway to develop a Statewide fire safety strategy. The Model of Fire Cover - Fire Safety Victoria Strategy being developed by the Office of the Emergency Services Commissioner in consultation with partner organisations will provide an enhanced strategic planning framework for fire prevention and suppression. Two major components of the strategy are:

1. a fire agency performance measurement framework, and
2. a series of profiling tools that will identify and quantify structure, non-structure and bushfire risk across a variety of environments.

Issues relevant to bushfires to be addressed by the strategy include:

- *The development and application of a methodology for identifying and valuing (in economic or non-economic terms) assets at risk from bushfire;*
- *How damage and losses resulting from bushfires should be quantified; and*
- *The application of performance indicators for assessing the success of fire agencies in bushfire prevention and suppression.*

(WHICH REPORT p 232)

The strategy is designed to ensure that similar areas of risk have the same standard of fire service regardless of the fire agency providing the service and is described as a critical tool for developing and implementing the proposed Municipal Fire Management Plans. The provision of valid and consistent quantitative measures of bushfire risk and the identification of the drivers of risk will allow mitigation strategies to be appropriately targeted. Esplin envisages that Municipal Fire Management Committees and fire agencies can build on the model using detailed local knowledge, including knowledge of which assets are important to the community.

The Auditor General examined the approach to developing the model concluding that it was robust and that the close involvement of the CFA has supported the CFA to adopt a more risk based approach. The

Auditor General made the following recommendations regarding the model:

> *The OESC expedite a wildfire component of the State fire safety strategy, continue CFA involvement, and involve the DSE more actively in the preparation of the strategy, particularly in the development of the wildfire component of the project.*
>
> *The CFA commence allocating resources according to risk as soon as the OESC model is available. Such an approach will need to take into account volunteer availability and brigade-owned resources. However, once this analysis is completed, a more focused application of training and firefighting resources can be made.*
>
> (p 6)

Fire agencies were criticised after the 2003 fires for not consulting with the community about the protection of community assets while developing fire suppression plans. The Esplin? inquiry expressed the view that assets should be identified and prioritised through consultative processes during Municipal Fire Management Planning Processes, not during a fire.

The Esplin Inquiry and the Auditor General recognised that improving municipal fire management planning would require Local Governments to appoint appropriately senior staff working at a strategic level within Council to oversee the process.

Municipal Fire Management Plans need to be consistent with and informed by State-wide fire control priorities. Esplin recommended that these priorities be:

- *developed annually by CFA and DSE;*
- *endorsed by the Victoria Emergency Management Council;*
- *incorporated into the co-operative agreement between DSE and CFA; and Inform the Fire Control Priorities in the Municipal Fire Management Plans.*

(p 155)

The Esplin Inquiry also identified the need for improved planning and consultation in relation to the availability of water for firefighting, road and track access on public land, the special needs of small, remote communities, and the collation of accurate and up to date information about people who may be at risk in the event of a fire.

To ensure adequate water supplies for firefighting Esplin recommended that:

> *… communities, public land managers, Water Authorities and Catchment Management Authorities jointly identify and implement local and environmentally sound solutions to improve the availability of water for firefighting through the Municipal Fire Management Planning process.*
>
> (p 152)

Many community members expressed concerns about reduced access to public land and the implications for fire suppression, the inquiry therefore recommended that:

> *… DSE undertake community consultation on policies relating to roads and access tracks on public land, particularly in respect to fire management.*
>
> (p 161)

The inquiry found that some small and isolated communities were advised that they would be unlikely to be assisted by fire agencies if fires reached them. While understanding what led to these situations the inquiry noted the anxiety caused to community members and the need to do more to empower these communities by adopting a more flexible approach to planning for their specific needs. The following recommendations were made regarding small and isolated communities:

- *That CFA, in conjunction with isolated small communities, develop and promote a suite of appropriate fire readiness and fire management strategies to meet their needs.*
- *That CFA reports to the Minister for Police and Emergency Services on recommended solutions and implementation strategies for isolated small communities by June 2004*

(p 135)

Rather than expecting Local Governments to collect information about people in the municipality who may be at risk the Inquiry found that Councils should work with local networks to develop information that is as accurate as possible about people who may be at risk in an emergency situation. While privacy principles should guide this process the provision of information should be '*without fear of action under the privacy legislation'* (p 147).

The Auditor General's research identified the need for policy development on fire refuges to inform municipal fire safety planning processes; this issue is discussed in the next section in the context of policy development needed to inform community education and engagement programs.

The Esplin Inquiry views audit arrangements as a fundamental component of effective planning and recommended that the CFA, DSE, OESC and Local Government develop an appropriate audit model for endorsement by Government. The proposed expansion of the audit process to include public lands, roads and utilities as well as private land resulted in the Esplin Inquiry not recommending that responsibility for auditing plans be solely the responsibility of the CFA as was recommended by the Auditor General. Esplin recommended that amendments to the legislation covering Municipal Fire Management Plans include provisions for auditing to include:

- *Content;*
- *Process of development and implementation; and*
- *Compliance reporting to the Victoria Emergency Management Council.*

(p 149)

Nairn also referred to risk based planning but focussed exclusively on land use planning recommending the need to identify bushfire prone areas and to restrict or prohibit building in those areas.

McLeod found that planning undertaken by fire and emergency service agencies in the ACT had generally been of a high standard and did not make any recommendations about how to improve planning processes. However, as was the case in Victoria the need to improve planning for the specific needs of smaller rural communities in the event that fire agencies cannot provide assistance was identified:

> *A sub-plan of the ACT Emergency Plan should be developed to assist with the design of special arrangements to cater for the needs of ACT residents who live beyond the city bounds.*
>
> (p 202)

Lessons Learnt from a case study : Tallangatta Valley, Victoria

Strategy developed in isolation from the community and without input from any key stakeholder is likely to be compromised. The likely strategic response to a fire must be established between the agencies and the community before the fire starts. Strategies should be based on an agreed understanding of the values placed on private and community assets and how they will be protected during fire suppression activity. This is best achieved through an holistic planning process that identifies those values well before the fire starts. On this occasion, any possibility of developing a co-operative partnership was lost due to the failure to communicate with and give consideration to the views of the community.

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## Research and continuous learning

In addition to further research and evaluation of community education and engagement programs the need for research in other areas and further development of approaches to support continuous learning and improvement were identified in some reports.

The COAG natural disasters report emphasised the role of research and learning in moving towards a more proactive approach to disaster management:

> *Natural disaster management activities should be driven by an active and coordinated national approach to research and development, data collection and analysis, and systematic, widespread risk assessments. The intention is to shift national management arrangements further towards proactivity, from the more reactive approach of the past.*
>
> *Guided by such research and risk assessments, there should be a stronger focus on anticipation, mitigation, and recovery and resilience in order to achieve safer, more sustainable communities, and a better balance compared with the effort and resources traditionally applied to disaster relief.*
>
> (p 11)

Of the 12 reform commitments recommended by the High Level Group the first two commitments related to research:

1. *develop and implement a five-year national programme of systematic and rigorous disaster risk assessments.*
2. *establish a nationally consistent system of data collection, research and analysis to ensure a sound knowledge base on natural disasters and disaster mitigation.*

*(p XX)*

This report also specified the role of the research community:

> *The research community has a key role in advancing knowledge of natural disasters, their costs and consequences, and cost-effective mitigation measures, so that disaster management decision-makers can take the most effective action in planning, mitigation, preparedness, response and recovery. In particular, the research community should:*
>
> - *play a leading role in systematic data collection and analysis*
> - *play a leading role in a systematic national programme of disaster risk assessments, and*
> - *develop innovative ideas about better measures to mitigate and respond to natural disasters.*
>
> (p 18)

The Commonwealth was seen as having a major role in undertaking natural disaster research of national significance and, in collaboration with other levels of Government, identifying national priorities for disaster research.

The COAG bushfire inquiry further developed the focus on research, data development and learning recommended in the COAG natural disasters report. Research, information and analysis made up the first 'R' in the proposed '5R' framework. The executive summary of the report succinctly argued the importance of research.

> *Information and data, and their analysis and synthesis, are the basis for knowledge and learning from which we can continuously improve the effectiveness and efficiency of bushfire mitigation and management. Consistent data gathering and collation about bushfires across Australia have been limited, handicapping informed decision making.*
>
> (p xiii)

The chapter on research, information and analysis is comprehensive and takes into account knowledge management issues and the need to build relevant capacity among stakeholders, including communities.

> *The Inquiry strongly supports further capacity building relevant to bushfire data and information among communities and the public and private sectors*
>
> (p 72)

While acknowledging the significantly increased investment in bushfire research through the Natural Heritage Trust and the Bushfire Cooperative Research Centre the report identified an urgent need for further investment in research.

> *… there remain gaps and urgent priorities. For example, more research is needed on building design and materials, climate and climate change, fire behaviour and ecological responses, individual and community psychology and social processes, and Indigenous Australians' knowledge and use of fire.*
>
> *Strategic research planning, and sustaining research capacity beyond the lives of the cooperative research centres are critical*

> *concerns and need to be addressed now if current research is to continue to inform bushfire mitigation and management.*
>
> (p xiv)

The history of attempts to improve coordination into bushfire research, the value of links between bushfire Cooperative Research Centres and industry partners, the roles of other research centres and fire and land management agencies, and shortcomings in currently processes for coordinating research priorities and funding were discussed.

Achieving and maintaining a critical mass of innovative researchers was identified as necessary for achieving the vision for bushfire management and mitigation essential articulated in the report. Challenges associated with developing and sustaining research capacity were discussed and the inquiry recommended that:

> *The Australian Government, in partnership with the states and territories and relevant research organisations, develop a strategy for sustaining bushfire research and capacity building, in the context of a risk management approach to bushfire mitigation and management.*
>
> (p 87)

## Continuous learning and improvement

Policy developments are also informed by knowledge generated by identifying and reflecting on lessons learnt.

The COAG natural disasters report recommended that:

> *… post-disaster assessments be undertaken routinely after every event of significance and the findings incorporated into improved disaster management processes to deal with future events.*
>
> (p 33)

The COAG bushfire inquiry noted that many agencies have worked to promote learning cultures however specific barriers to the development of a 'learning organisation' culture in bushfire mitigation and management that were identified in the United States by Garvin are discussed. Barriers to ongoing learning were both cultural and technical and administrative.

Cultural factors were:

- High penalties for mistakes results in errors being hidden or not discussed
- A strong hierarchical culture that discourages dissent from below and valuing minority views
- Critical time constraints that devalue reflection after the event
- Communities and media that value decisiveness at the cost of time spent learning

Technical and administrative barriers that make if difficult to identify practical and generally applicable lessons learned through an analysis of incidents (such as prescribed burns that get out of control) were:

- A focus on the particulars of the specific incident rather than general principles
- A focus on technical aspects rather than group dynamics and social, communication, decision making or administrative processes
- A focus on analysing and reporting on what has 'gone wrong' without also analysing what has 'gone right'.

Continued development of organisational learning within and between agencies responsible for bushfire mitigation and management was strongly supported by the COAG bushfire inquiry. Elements described as being vital for fostering a culture of organisational learning relevant to bushfire mitigation and management in Australia were:

- *institutional commitment to the adoption of a learning organisation culture*
- *a continuing strong role for existing groups, such as the Australasian Fire Authorities Council and the Forest Fire Management Group, in facilitating the exchange of information and staff, between states and territories and internationally*
- *a continuation of regular meetings of people involved in particular aspects of bushfire mitigation and*

*management, such as the Forest Fire Management Group, the Northern Australia Fire Managers Group and the Australasian Fire Authorities Council Strategy Group*

- *a continuation of both interstate and international deployments of response Personnel*
- *wider adoption of various forms of benchmarking across the states and territories*
- *a process of cultural change, in fire agencies in particular, to increase the representation and contribution of women and of Indigenous Australians, who are generally under-represented in organisations responsible for bushfire mitigation and management*
- *establishment of a national Centre for Bushfire Lessons Learnt.*

(p 209)

The COAG bushfire inquiry recommended that:

> *… the Council of Australian Governments support and fund the establishment of an Australian Centre for Bushfire Lessons Learnt, for an initial period of five years.*

(p 211)

Such a centre would facilitate processes within organisations to identify lessons learnt and importantly, also facilitate the sharing of information between agencies to increase the value of these lessons. As well as judging that current conditions supported the establishment and operation of a centre for lessons learnt the COAG bushfire inquiry reported that all state and territory fire and land management agencies, as well as national agencies supported the proposal. The centre was viewed as being of substantial strategic benefit to the mitigation and management of bushfires in Australia and internationally.

## Refer Esplin p 230 and 231 and 232

### Summary

The national frameworks outlined in the COAG natural disasters and bushfire reports clearly articulate the principle that reducing the impact of bushfires is a responsibility that needs to be shared between individuals, communities, fire agencies and governments.

Another key principle evident in these reports is that as bushfires are inevitable the shared aim is to mitigate risks through applying risk management approaches. Improved community awareness, education and engagement are essential elements of strategies to reduce the impact of bushfires.

A risk management approach needs to be informed by a clear understanding of the relative importance of potential risks (the likelihood of the risk occurring and the impact if it did occur) and the effectiveness

of different strategies (or treatments) that could potentially be adopted to reduce bushfire risks.

Saving lives is clearly articulated as the highest priority however the ranking of other, sometimes competing, priorities is less clear cut. Differences between individuals, communities, natural, built and economic environments result in different priorities in different localities. As these factors change (perhaps as a result of demographic or land use changes) priorities also change. Therefore local planning processes that involve a range of stakeholders and include the community are advocated.

Local bushfire planning processes need to be strategically integrated horizontally and vertically – they need to link with local communities, agencies and governments as well as with state-wide or national organisations and priorities.

Local planning also has the capacity to inform better targeting of community awareness, education and engagement programs to individuals and communities with high risk levels.

A commitment to research and ongoing learning through monitoring, evaluation and non-blaming reviews of major incidents is clear in the reports. Information gathered from these types of activities enables the development of an increasingly sophisticated understanding of competing priorities and the effectiveness of strategies to mitigate potential risks.

It is argued that by developing structures and processes (a national reporting framework, agreed national principles and improved data collection and information management) that enable higher quality information to be shared between states and territories, fire agencies and communities that the current bushfire cycle that includes blame and complacency can be eliminated.

# 4 Community awareness, education and engagement programs

A common finding across the inquiries was that many individuals and communities lack awareness of bushfire risks and the measures they can take to reduce these risks. For example, the Nairn Inquiry found that:

> *…the recent Australian bushfires demonstrated a general lack of community awareness about the active role that it can play in reducing the severity of bushfires.*
>
> (p 274)

> *…It also appears that the community as a whole is not aware of the ways in which it can contribute to minimising the loss of lives and properties in the event of a bushfire.*
>
> (p 273)

The McLeod Inquiry found that Canberra residents had an attitude of denial about both the threat of bushfires in general and the threat to residences once the initial fires in 2003 were not contained:

> *"…at a general level, the Canberra community has not been sufficiently well prepared to understand the nature of the bushfire risk that is present as a consequence of siting the city in a bushland setting."*
>
> (p 173)

## Responsibilities of individuals and communities

All of the reports acknowledge the importance of the role of individuals and communities in mitigating the risk of bushfires as well as limits to the capacity of fire agencies to respond during a major fire.

The COAG natural disasters report discusses in detail the need for families, individuals and communities to take responsibility for being aware of and take steps to reduce their vulnerability to the impacts of natural disasters.

> *Households have principal responsibility for safeguarding their property and assets against risks from natural disasters through risk identification, mitigation measures and adequate property and contents insurance where insurance for the risks they face is available and reasonably affordable.*
>
> *The collective actions, or inaction, of individuals and families can have a major influence on the severity of a disaster's impact. In significant disasters, disaster management career personnel and volunteers do not, and never will have, the capacity to simply 'solve' the disaster threat for every individual at risk. Nor do governments and charitable agencies have the ability or responsibility to fully offset the financial losses incurred by families and individuals in the course of a natural disaster.*
>
> *It is the role and responsibility of families and individuals to attain the highest degree of physical and financial self-reliance, before, during and after a disaster. In particular they should:*
>
> - *be fully aware of the risk of natural hazards to the home and regular activities*
> - *arrange where available for adequate home and contents insurance to cover likely risks in their area*
> - *make plans and preparations for dealing with a disaster situation*
> - *minimise hazard risk factors in and around the home environs, and*
> - *find out what local plans are in place in the event of a disaster.*
>
> (p 16)

> *Local communities can take a wide range of actions to become more resilient and, in particular, should:*
>
> - *promote high levels of awareness of natural hazard risks in the community and the collective preparations and actions that should be taken in the event of a disaster*
> - *provide active support for government and community efforts to minimise the possible consequences of disasters, such as natural hazard risk reduction measures, and*
> - *provide a culture of support and recognition for volunteers.*
>
> (p 16)

Although not emphasised in the terms of reference the findings and recommendations of the COAG bushfire inquiry clearly recognise the important roles of communities and individuals. This is reflected in the proposed National Bushfire Principles; the second of the eight principles concerns shared responsibility:

> *A philosophy of responsibility shared between communities and fire agencies underlies our approach to bushfire mitigation and management. Well-informed individuals and communities, with suitable levels of preparedness, complement the roles of fire agencies and offer the best way of minimising bushfire risks to lives, property and environmental assets*
>
> (p 240)

(It is noted that in areas of new development the COAG bushfire inquiry concluded that the single most important mitigation measure for reducing loss is land use planning that takes into account natural hazard risks (finding 6.1)).

The McLeod report stated that a theme running through submissions was:

> *"…the need for a greater involvement of the ACT community in helping itself with personal and property protection. This involves the authorities working in a closer partnership with the community, helping citizens to better understand the nature of the fire risks they face, what they can do about improving their personal and property protection, and what kind of assistance they can expect from government agencies".*
>
> (p 171)

The report suggests that there needs to be a change of focus from relying solely on the government for fire protection to a shared arrangement where people have a greater awareness of fire risks and take on a greater level of self protection with government providing encouragement and protective back-up through professional services.

The Nairn inquiry drew the following conclusions:

> *…individuals can use a combination of the available preparedness measures appropriate to their physical and financial capacity, value and level of risk.*
>
> (p 259)

The Auditor General's introduction to the discussion on community preparedness is clear about the responsibilities of community members:

> *In the event of a large wildfire, the community cannot rely solely on emergency services to protect their property. They need to understand wildfire behaviour, be able to carefully plan their response and prepare their household accordingly. These actions can make the difference between loss and preservation of buildings, and between life and death of occupants.*
>
> (p 69)

The principle underpinning the discussion and analysis of public awareness and preparedness in the Esplin report was that:

> *The community need not be a passive recipient of services; it can and should be an active participant in developing safety strategies.*
>
> (p 128)

## Approaches to improving community awareness

In response to the identified need to improve community awareness about bushfire risks and mitigation measures public education programs (national approaches and state and territory campaigns) and community based programs are discussed and/or recommended in the reports. Some reports have also identified the need to adopt a risk based approach to the planning and targeting of community education and engagement programs.

## National education programs

The reports with a national focus, the COAG natural disasters, COAG bushfire and Nairn reports, recommended national approaches to the development of programs for educating the community about bushfires.

The COAG natural disasters report recommended the development of jointly improved national practices in community awareness, education, and warnings about all natural disasters which can be tailored to suit State, Territory and local circumstances.

The COAG bushfire inquiry discussed both school based and community based education programs and recommended a national approach to school based education:

> *The Inquiry recommends that state and territory governments and the Australian Government jointly develop and implement national and regionally relevant education programs about bushfire, to be delivered to all Australian children as a basic life skill. These programs should emphasise individual and household preparedness and survival as well as the role of fire in the Australian landscape. Program effectiveness should be audited by each state and territory after five years, with a national report to be provided to the Council of Australian Governments*.
>
> (p 39)

Nairn recommended that the relevant programs of the Bushfire Cooperative Research Centre consider a range of suggestions made in submissions to the inquiry as part of a national education program. The approaches suggested were:

- *Introducing bushfire skills training to schools and libraries.*

- *Training various categories of emergency services personnel on their specific role in the event of a bushfire.*
- *Ensuring that those in the fields of building, engineering, urban planning, forestry and science have a clear understanding of bushfire risk management including current related regulatory codes and legislation.*
- *Counselling prospective land developers in bushfire prone areas on the risks and necessary protective planning.*
- *Running adult education courses on protective planning (including insurance, building design and maintenance and defence techniques) in the context of bushfires.*
- *Broadcasting protective planning issues through the media, television, Internet, radio and publications.*
- *Structuring the community into groups and providing them with guidelines for launching an initial attack on a bushfire.*
- *Enclosing brochures about bushfire protection with rates notices.*
- *Having a Bushfire Awareness and Preparedness Day (similar to Clean Up Australia Day) where the community is encouraged to undertake risk reduction with local governments coordinating the disposal of hazardous material.*

(p 275)

## State and territory education programs

The COAG bushfire report refers to material and documents made available by states and territories on the internet and describes the ACT campaign developed after the fires in 2003 that involved delivering a comprehensive Bushfire Information Booklet to all ACT residents supported by an extensive print and television campaign. The point is made that the challenge is to maintain this level of activity when public interest in bushfires (and perhaps funding) is not high as a result of a recent disaster.

The Esplin report describes a summer publicity campaign operating every summer in Victoria that includes television and radio advertising and the distribution of printed information in Melbourne and regional centres.

State and territory wide public education programs are discussed as an adjunct to national education and community based approaches.

## Community based programs

The COAG bushfire inquiry described community education programs as having a vital role that complements school based education in developing knowledge about bushfires and increasing individual and community readiness. Community education and public information is identified as “central to several of the fundamental elements of bushfire mitigation and management” discussed in the report. The elements referred to are: understanding of and attitude to bushfires, risk modification, stay or go, operational response and recovery. In terms of risk modification the report states:

> *Greater community understanding of and involvement in aspects of bushfire mitigation and management, such as risk awareness, prevention activity, capacity building and arson detection, increase community preparedness and decrease the impacts of bushfires.*
>
> (p 131)

The COAG bushfire inquiry supports the integration of bushfire community education and engagement with education about all natural hazards as advocated by the COAG natural disasters report however the need for additional bushfire specific advice, particularly in areas at high risk of bushfires is acknowledged.

The reasons why it is important to tailor community based approaches to the unique circumstances of each community are articulated:

> *Individual attitudes and perceptions can have a strong influence on how people respond to bushfire risks. Variations in attitudes and perceptions can be particularly strong in areas experiencing considerable demographic change—such as the rural–urban interface. Individuals' attitudes to fires can be shaped by many factors, among them education, age, income, personal experience and knowledge of bushfires, peer group influences, emotions, beliefs and residential location. Economic and social circumstances can influence residents' attitudes and behaviour to bushfires and their mitigation and management; for example, a stressed community is likely to have less capacity to respond to challenges than a more vibrant community.*
>
> (p 41)

The inquiry found that community information and engagement programs conducted by the states and territories were generally comprehensive. Four types of programs were identified: State or territory wide community information programs, community education programs provided by fire agencies that usually involve street or community meetings, volunteer fire brigades and community based fire units.

Membership of voluntary rural fire brigades is described as a major way in which community members contribute to the mitigation and management of bushfires. The COAG bushfire inquiry specifically discussed the potential for volunteer rural fire brigades to take on a greater role in community education and engagement.

> *The potential contribution of volunteer brigades to community learning can be realised only if community engagement and education needs are seen as one of their major roles. The Inquiry considers that community engagement and education are a key role of local volunteer bushfire brigades but notes that past attraction and recruitment has probably focused on the response aspect of the role: adjustment is needed, to include volunteers who are able and willing to provide community education. This important paradigm shift is necessary if greater effort is to be directed towards risk reduction. Brigades will require significant agency assistance to bring about this change.*
>
> (p 41)

This approach is supported by the wider influences that volunteer firefighters have in their communities and by research into learning preferences.

> *Volunteer rural fire brigades have a very important role in facilitating community learning —largely because 'people principally prefer interactive and personal communication approaches to passive reception of fire information'. In addition to their participation in formal community education programs, volunteers have direct and indirect influence through personal interactions with members of the public—family, friends, neighbours, work colleagues, clients, and so on.*
>
> (p 41)

Community based fire units that operate in New South Wales and since the 2003 fires in the ACT are described in the COAG bushfire report. Groups of local residents are trained by fire services and provided with protective clothing and basic fire fighting equipment. Their purpose, with the support of and under the direction of fire agencies, is to suppress ember attacks and to be involved in local community education and bushfire mitigation activities.

The McLeod, Esplin and Victorian Auditor General's reports emphasised local approaches for improving community safety through community based education and engagement programs, in conjunction with state or territory wide public information campaigns.

As discussed in the previous section on planning, the Victorian Auditor General's report recommended that planning for community education and engagement programs be informed by evidence based risk assessments.

The McLeod inquiry recommended that the ACT's Emergency Services Bureau be allocated additional resources to upgrade its public education capability and that a continuing campaign should be aimed at:

> *…improving the Canberra community's bushfire awareness, its understanding of the nature of the threat, and its knowledge of how people can better protect themselves and their properties*.
>
> (p 176)

McLeod recommended that Canberra learn from interstate experience, in particular the Victorian CFA's public education programs, and also recommended the adoption of community engagement programs such as fire guard to encourage self-help arrangements in the community.

Specific measures that might be included in a broader public education campaign were suggested by McLeod:

- *community television announcements about bushfire prevention and preparedness,*
- *school programs focusing not only on fire safety in the home but also on safety during bushfires,*
- *visits by emergency services to aged care, childcare and other facilities for vulnerable groups, advising what action to take when there is a bushfire threat,*
- *roadside signage showing the daily bushfire risk - along major corridors in Canberra, not just along the approaches to forests and parks,*
- *advice about local fire prevention measures, perhaps issued with rates notices, and*
- *a concerted effort to convince the community that smoke haze associated with fuel-reduction burning is an unavoidable consequence of limiting the risk of damage to the city.*

(p 173)

## Content of community education

The aim of community education and engagement programs is develop an awareness of the risk of bushfires and of the action that individuals and communities can take to mitigate risks.

The COAG bushfire inquiry found that education and information programs should encompass:

- awareness of the nature and risk of bushfires,
- measures for preparing and protecting lives, property and the environment,
- the timely provision of operational and safety information to the public in the event of a bushfire (discussed in more detail in the section on responding to a fire threat), and
- the inclusion of a structured public information strategy in bushfire response and recovery plans.

The McLeod inquiry recommended that public education messages should inform the public that during major fires:

- *authorities are unable to guarantee that firefighters will always be available to assist*
- *householders generally need to take sensible precautions and be prepared, if that is their choice, to protect their own lives and properties*
- *authorities are committed to doing all they can to help, including advising the community on how best to go about achieving a higher degree of personal and household self-reliance.*

(p 176)

The need to promote adequate levels of insurance through community education and engagement campaigns was a common theme in the

reports. This applies to both households and businesses. The Esplin inquiry for example recommended that:

> *That CFA, in their education and information packages, encourage appropriate insurance cover, and ensure that insurance becomes a part of the householder's annual checklist.*
>
> (p 138)

Esplin concluded the chapter on public awareness and preparedness by stating that:

> *While many effective programs are in place, we conclude that there is scope for improved communication and education. Among other things, we have suggested increasing positive survival stories through the summer publicity campaign; re-focussing efforts to educate people that staying can make a difference, and clarifying the language used in the Bushfire Blitz program.*
>
> (p 138)

This inquiry also recommended that communities be informed of Fire Control Priorities established during state-wide planning processes and that community education messages encourage householders to review their fire safety plan annually

Prescribed burns are accepted as good practice for mitigating the impact of bushfires; however they have been limited because of community concerns about the impact of smoke on health and tourism. Several reports recommended either further research into the impact of smoke on communities or that communities be educated about prescribed burning.

The McLeod and Victorian Auditor General reports recommended that more information be provided to the public about the trade-offs between the value of fuel reduction burning in reducing bushfire risks and the impact of smoke on communities:

> *A public information strategy should be prepared to educate the ACT community about the beneficial and protective aspects of fuel-reduction burning and about the degree of inconvenience that will inevitably result for ACT residents during such burning. This should accompany the public launch of the revised Bushfire Fuel Management Plan.*
>
> (p 92)

> *The DSE provides increased public information regarding the fuel reduction burning program and the measures taken to protect the environment.*
>
> (p 62)

The Nairn report recommended further research into the impact of smoke from prescribed burns.

> *The Committee acknowledges community concerns about smoke pollution as a result of prescribed burning and recommends that the Bushfire Cooperative Research Centre pursue its proposed study into smoke modelling.*
>
> (p 90)

In summary the range of information that could potentially be conveyed through community education and engagement programs includes:

- Understanding bushfire risks – causes of fires, fire behaviour, terrain, weather conditions, ember attacks, what may be experienced as the fire front passes.
- Understanding the role of fire agencies – community expectations and the capacity of fire agencies, community education and engagement, planning processes, providing information about fires, fire access, prescribed burning, safety and asset protection priorities.
- Understanding how to get information about fires – observing signs of fire, emergency warning signals, ABC radio, websites, community meetings and community networks.
- Mitigation measures – household fire planning, the siting, design and maintenance of buildings, vegetation, water supply, fire suppression equipment, personal safety, household and business insurance and annual reviews of household safety plans.
- New research - dispelling myths, the impact of different types of fires on different ecosystems.

## Roles of different levels of government

The COAG natural disasters report described the role of state and territory governments as taking primary responsibility for natural disaster management in the interests of community safety and well being. This responsibility specifically includes "*ensuring the provision of appropriate disaster awareness and education programs and warning systems*". (p 20)

In partnership with state and territory governments, local governments are responsible for contributing to the safety and well being of their communities. In most circumstances this includes "*undertaking public education and awareness, and ensuring appropriate local disaster warnings are provided*". (p 20)

The COAG bushfire inquiry identified the need for the Commonwealth government to play a stronger leadership role in supporting the development of school based education programs with state and territory governments responsible for the delivery of school based programs.

The Nairn inquiry recommended research into possible components of a national education program but did not discuss the roles of different levels of government in the implementation of programs to improve community awareness.

The three state or territory based reports do not discuss the role of the Commonwealth government in community education or engagement programs. As discussed in the previous section on planning, the Victorian reports discuss the role of local governments, as well as fire agencies, in the planning and delivery of community education and engagement programs through municipal fire management committees; however the role of fire agencies is emphasised in the recommendations that relate to community education and engagement programs.

## Role of fire agencies

The COAG bushfire report acknowledged the role of fire agencies in the delivery of community education and engagement programs as well as the direct and indirect impact on the wider community of rural fire brigade volunteers.

The Auditor General and Esplin reports made recommendations about the role of fire agencies in the delivery of community education and engagement programs in Victoria.

The Auditor General recommended that:

- *the CFA develop and implement comprehensive and consistent local needs analysis tools and undertake local planning based on risk profiling to determine the number and location of community education sessions; and*
- *the DSE work with the CFA to develop a co-ordinated and agreed position on responsibilities and actions for community education.*

(p 74)

Esplin recommended that:

- *three fire agencies (CFA, DSE and MFESB) develop and implement a joint Statewide fire awareness education and information program aimed at encouraging a higher degree of personal and household self-reliance.*
- *CFA should remain the lead agency in delivering the community education and information program to rural Victoria.*

(p 133)

The Tasmanian Fire Service advice to the COAG bushfire inquiry and the findings of the Esplin inquiry were that care needs to be taken to ensure that community based fire units do not participate in fire suppression activities that are beyond their capability. The Esplin inquiry identified concerns about liability issues if a member of a community based fire unit was injured during fire suppression activities and recommended that:

- *CFA needs to review and further develop the CFG model. CFG has a valuable place in the suite of programs available to assist and educate Victorians. However, CFG is not an option for communities required to engage in fire suppression because assistance is unavailable or delayed.*
- *CFA clarifies and restates the roles and function of existing Community Fireguard Groups (including their relationship to*

*the Municipal Fire Prevention Plan) to members, co-ordinators, Incident Controllers and Municipal Emergency Resource Officers, prior to the 2003-2004 fire season.*

- *CFA provides technical advice to Community Fireguard Groups in the selection and purchase of appropriate equipment and protective clothing for use on their own land.*
- *CFA, recognising the value of the Community Fireguard group program, undertake a review by June 2004 to identify opportunities to further develop the program to ensure its continuing appropriateness in preparing communities for fire into the future.*

(p 134-135)

## Role of the Insurance Industry

Many of the reports made suggestions about how to increase the level (in terms of both the number of households insured and the adequacy of cover for each household) of insurance cover. These included:

- the insurance industry taking responsibility for making affordable insurance available for all natural disasters as part of normal household insurance,
- making insurance more affordable through the removal of State and Territory charges such as fire levies,
- offering reduced premiums for property owners who have taken bushfire preparedness measures, which was also discussed as a mechanism for increasing bushfire awareness,
- the provision of improved and more consistent advice by the insurance industry to ensure that insurance covers full replacement costs,
- promoting the role of insurance in bushfire mitigation through public education campaigns and/or including insurance information in bushfire planning education and information programs, and
- the insurance industry playing a role in, or contributing financially to, data collection and research to improve hazard identification, risk assessment and mitigation action.

## The effectiveness of community education and engagement programs

The COAG bushfire inquiry stated that the effectiveness of community information and engagement programs depends on community uptake and commitment. Challenges in the development and delivery of community based approaches are identified:

> *Attempts at engaging with communities are not always successful because a group of people in a locality does not necessarily constitute 'a community', with common interests and a will to work together. Divergent values between individuals challenge the very existence of a community, let alone views about bushfire mitigation and management. This tests the development and delivery of community-based strategies. Education programs need to be sufficiently inclusive and flexible to engage with the diversity of individuals who may not consider themselves part of a community but live in a particular locality.*
>
> (p 40)

Responding to these challenges involves adopting a flexible approach to developing community engagement in each community:

> *Successful programs are based on the specific community's needs and style, and they work in with other important community objectives. This means engaging with each community and understanding what is unique about it. What needs to be avoided is lecturing the community. Programs for increasing interaction, improving preparedness and raising awareness must be flexible, adapting to suit the characteristics of the community and to empower them to act on their own behalf and share responsibility.*
> (p 132)

The Victorian Auditor General conducted a survey to assess the extent to which householders living in high-risk areas:

- are aware of the potential risk of wildfire;
- are implementing appropriate household preparedness measures for wildfire; and
- understand appropriate options for ensuring the safety of household members in the event of fire.

Research conducted as part of the audit also explored whether education strategies maximise the potential to change community attitudes and behaviours.

The survey identified that some residents in high risk areas did not perceive themselves to be at risk of bushfires and that some held inaccurate beliefs that could result in behaviour that increases risks during a fire.

The research found that around 80 per cent of respondents living in fire-prone areas believed it was likely or very likely that a fire would occur in their area in the next 5 years. When probed further about whether it was likely that a bushfire would cause damage to their house or property 51 per cent overall felt it was “very likely” or “likely”. Respondents who had attended a CFA Community Fireguard or other community meeting were significantly more likely to believe that a fire was likely than those who had not attended any meetings.

While the survey found that people generally understand that they should consider their options and plan well in advance almost 40 percent of respondents did not have a wildfire action plan. Of those who did have a plan few were formalised. The survey found that:

- 15 per cent of all respondents said they written their plan down;
- 55 per cent said they had discussed the plan with all members of the household;
- 23 per cent said they had let their neighbours know their plan; and
- 24 per cent said they had practised their plan.

Residents who had attended a community meeting were more likely to have developed a plan, the plan was more likely to be written down and more likely to account for the needs of every household member.

The comprehensiveness of household preparations for fire was explored. While a large number had undertaken tasks such as clearing gutters and cutting back vegetation near buildings many people had not undertaken fire specific preparations considered essential to surviving a fire such as obtaining and assembling firefighting equipment (hoses, pumps, ladders, buckets) or ensuring that they had effective communication systems such as a neighbourhood telephone tree.

The research found that residents who had not attended meetings had made fewer preparations and in one area surveyed people who had not attended meetings were less likely to have undertaken even simple activities such as clearing vegetation. Those who had attended meetings were more likely to have attempted to prepare their property and their preparations were more likely to be significant wildfire specific preparations.

Relatively common and significant misconceptions were identified. About half of the respondents believed that houses ‘explode’ into flames as the fire front passes, and a majority believed that emergency services will let people know if they need to evacuate their property during a fire. Both of these mistaken beliefs could result in behaviour that increases threats to life. Attending fire meetings reduced these misconceptions.

> *The community information and engagement programs conducted by the states and territories are generally comprehensive. Their effectiveness depends on community uptake and commitment. Community surveying needs to be done regularly to ensure that programs retain their relevance and are being delivered in ways that maximise community participation and understanding.*

(p 134)

The Esplin inquiry found that while appropriate community education material is available it is not known how much of this information reaches the target audience of over 2 million people who live in areas of high fire risk.

## Monitoring, evaluation and further research into community education and engagement programs

The COAG bushfire inquiry identified the need for monitoring and evaluation of community education and engagement programs and further research to inform improvements. The inquiry found that:

> *The Inquiry notes and supports the research by both CSIRO and the Bushfire Cooperative Research Centre into how community attitudes towards acceptance of bushfire and bushfire management strategies are formed and how community education and information programs might be further improved*.
>
> *Community surveying needs to be done regularly to ensure that programs retain their relevance and are being delivered in ways that maximise community participation and understanding.*
>
> (p134)

It was also recommended that State and Territory governments evaluate the effectiveness of school based bushfire education programs after 5 years and report the results of the evaluation to COAG.

The potential benefits of social and psychological research were noted in the COAG bushfire inquiry:

> *Programs focused on bushfire risk and preparedness are also benefiting from coordination and a greater degree of consistency with programs dealing with other natural hazards.*
>
> (p 41)
>
> *Social and psychological research can make a contribution, not only to improving communications programs but also in the development of programs to promote community resilience. This is of particular importance at times of prolonged high bushfire risk (as occurred during the campaign fires of 2002–03) and during the recovery from major natural disasters.*
>
> (p 134)

The Victorian Auditor General examined the community education sessions undertaken by the CFA over the previous five years and found “dramatic fluctuations” in numbers of sessions delivered over successive years. The reasons given for these differences included precedence being given to operational priorities; perceptions that the community is over-familiar with the program’s content; and challenges such as dispersed populations in more remote areas. The audit found that there appeared to be no consistent method for prioritising regional needs for community education sessions; however one region did employ a comprehensive risk-profiling tool in each brigade area to plan the location of sessions.

The audit concluded that without consistent risk assessment and target setting there were dangers that: education activities will be focussed on locations where communities are motivated and positive; difficult to reach communities with high risk levels may miss out; and that when extreme fire risk increases demand on operational resources there is a risk that community education activities will decline even though community preparedness activities are most needed at these times.

> *Given the crucial role of community preparedness in preventing loss of life and property, it is important that meaningful targets based on needs assessment and local risk profiling are established and met by each region*
>
> (p 74)

The evaluation of community education activities by the CFA was found to be in line with the Australasian Fire Authorities Council guidelines; the approach was community-centred, had clear program logic and a structured framework for research and evaluation. While central evaluation processes were strong at the local level processes for evaluating the delivery of individual programs were found to be less clearly defined. In addition to reporting on activity levels the audit proposed that standard quality control and presenter-evaluation tools be developed to identify whether key messages are understood and whether needed local information is provided.

The audit found that limited resources for community education within the Department of Sustainability and the Environment have resulted in a lack of strategic needs analysis, program development and evaluation. The was also a lack of formal liaison and coordination with other fire agencies, the need to develop a co-ordinated approach to community education between DSE and the CFA was described as being of paramount importance, particularly for residents whose properties adjoin public land.

The Victorian Auditor General also recommended that the CFA continue to work to identify common misconceptions and community information needs.

Esplin identified the need for further research to identify the link between community education and action to reduce risks:

> *'It also remains unclear to the Inquiry what is the actual 'trigger' for households, neighbours or communities to move from 'awareness' to a heightened level of involvement and active participation in community-wide fire prevention planning and suppression. Research on this would inform the further development and refinement [of[ information programs'.*
>
> (p 135)

Esplin recommended that the CFA and MFESB:

- *Conduct an annual survey of households to test the level of awareness and acceptance of fire knowledge amongst Victorians; and*
- *Regularly measure whether access to information leads to safe behaviours.*

(p 133)

The Nairn inquiry received submissions promoting property protection products that included programs to improve bushfire awareness. The Committee was not in a position to evaluate these products or make recommendations about their use and they recommended that program D of the Bushfire Cooperative Research Centre undertake research to inform recommendations about the use of these products.

DOES BELOW FIT HERE?

The COAG natural disasters report discussed the need for decisions about mitigation measures to be informed by social investment considerations and an analysis of costs and benefits. The need for special provisions for communities that might be disadvantaged by a strict cost benefit approach such as remote or Indigenous communities was acknowledged. In response to the need for better data to inform assessments of costs and benefits and it was recommended that:

> *… jurisdictions jointly and progressively develop processes and systems that capture costs for all areas of disaster management, so that the cost of natural disasters, government expenditures, and the costs and benefits of disaster mitigation are increasingly accurate and understood.*
>
> (p 30)

While not specifically referring to spending on mitigation the Nairn report commented that:

> *…an indication of expenditure on a natural disaster on which management practices have some bearing, such as bushfire, could provide a rough and ready indicator of comparable levels of the adequacy of appropriate management practices across jurisdictions.*
>
> (p 285)

## Policy development to inform the content of community education and engagement programs and municipal fire management planning

### *Stay and defend or leave early*

In Victoria the CFA have promoted the message that people intending to evacuate should leave their homes by 10.00 am on days of high fire danger, whether or not there is a fire in the area. The need to revise this message was identified by the findings of the Victorian Auditor General that most people planning to evacuate in the event of a fire do not routinely evacuate by 10.00 on days of high fire danger. As an alternative the Auditor General suggested that:

> *A more practical position may be that described by the 15 per cent of respondents who said that they plan to leave as soon as they are aware of fire in the area. …for households with good access to transport who live in areas with multiple escape routes, it probably presents a realistic and viable option. The meaning of "in the area" will vary from region to region. A community engagement framework like Community Fireguard is an ideal way for residents to define situations under which those who are not planning to stay should leave.*
>
> (p 79)

The Esplin inquiry supported the Auditor General's recommended that the advice in the 'stay or go' message be revised. Esplin also recommended that

> *…the CFA further develops the information supporting the decision to stay or go, to incorporate a better understanding of both the likely consequences of leaving home at inappropriate times, and the conditions and emotional impacts likely to be experienced during the passage of the fire front.*
>
> (p 130)

The McLeod Inquiry referred to a position paper developed by the Australasian Fire Authorities Council: 'Community Safety and Evacuation during Bushfires' that included the following points:

- Fire authorities do not advocate large-scale evacuation of people from threatened areas.
- Communities at risk from bushfires should be allowed and encouraged to take responsibility for their own safety.
- A national framework should allow and encourage members of the community to take responsibility for their own safety and that of their property.
- A decision to evacuate people should be made by the lead fire-combat authority.
- Time involved in dealing with residents who do not want to leave can seriously hamper the process of warning and evacuating other members of the community
- People should be able to choose the option that best suits them whether sheltering in their own home, moving to a neighbour's home, or relocating to a nearby point of refuge.

McLeod recommended that:

> *ACT Policing and the Emergency Services Bureau should develop as a matter of urgency—and before the start of the 2003–04 bushfire season— a joint protocol covering their policy on community safety and evacuation during bushfires, having regard to the framework adopted by the Australasian Fire Authorities Council and the evacuation provisions in the Victorian Country Fire Authority Act. The protocol should be promulgated widely as part of future community education and information programs, and it should be incorporated in the training and operational procedures of both services, so that it is followed consistently during future bushfire events.*
>
> (p 192)

The Nairn and COAG bushfire reports both recommended the development of a national approach to the stay and defend or leave early message. Nairn recommended that

> *the Australasian Fire Authorities Council's suggested evacuation protocol be adopted by all of the Australian States and Territories.*
>
> (p 275)

The COAG bushfire inquiry's recommendation took into account Queensland's response to the draft report of the Inquiry:

> *Queensland indicated that it found the debate about 'stay or go' unhelpful. It asserted that the critical concern is to have 'consistent approaches to creating, assessing and aiding an informed and prepared community, prior to bushfire'*
>
> (p 167)

The recommendation in the COAG bushfire inquiry therefore did not specifically include the adoption of the Australasian Fire Council's Framework. The Inquiry recommended that:

> - *the approach that gives residents the option of leaving when confronted by a major bushfire threat or making an informed decision to stay and defend their home or property be adopted as a common national policy*
> - *implementation of a 'go early or stay and defend' policy must be fully integrated, with effective community education programs to improve preparedness and support timely and informed decision making.*
>
> *Provision of training for fire, police and emergency services personnel in the application of the go early or stay and defend policy is essential if this approach is to be applied safely—with particular emphasis on minimising evacuations at the height of fire events. This should be supported by formal agreements between the relevant authorities.*
>
> (p 171)

### *Fire refuges*

The Victorian Auditor General's report found that a significant percentage of respondents planned to go to a local fire refuge if they evacuated during a fire. The Auditor General identified the following issues with fire refuges in Victoria:

> *…the Statewide position on fire refuges is unclear and inconsistent. Some municipalities have removed all signage and information from what were formerly fire refuges because of concerns about potential legal liability, a situation worsened by the lack of applicable standards. Where signage continues to advise the location of fire refuges, there is no guarantee that the location and access routes have been subject to a comprehensive risk assessment, no process for ensuring that the refuge will be open and defended by fire personnel in the event of a fire, and no guarantee that the refuge will be built or maintained to appropriate standards.*
>
> (p 83)

Because of these issues it was suggested that the use of fire refuges only be promoted in limited circumstances as part of a comprehensive municipal fire prevention plan. Policy development in regard to fire refuges was recommended.

> *The OESC, in consultation with the CFA, the DSE and local government, urgently progress work on a consistent Statewide position on fire refuges which incorporates a risk assessment process, standards for fire refuges and aligns with the policy position on evacuation.*
>
> (p 84)

As discussed in the Esplin report it is possible that respondents to the Auditor General's survey were unclear about the difference between fire refuges and evacuation centres, raising the issue of unclear terminology. A review of the survey instrument and clarifications provided to respondents would be needed to identify the likely interpretation of the term 'fire refuge'.

*Public awareness of natural hazard issues is arguably the least practised and most poorly funded mitigation measure in Australia. With very few exceptions, it is undertaken as a limited auxiliary activity to other disaster management initiatives, rather than as a sustained strategic measure to raise public consciousness and understanding of hazard risks, impacts and minimisation.*

*Genuine efforts in public awareness are certainly made from time to time. However public awareness programmes are generally limited by the following deficiencies:*

- *low levels of resources*
- *lack of professional design and delivery*
- *limited audiences being targeted*
- *few programmes being subject to evaluation to assess success or otherwise, and*
- *efforts being sporadic rather than sustained*

. COAG natural disasters p 124-125

### *Clarify terminology*

The Esplin report identified that many members of the public do not clearly understand the language used in community education and communication. An example given was that a resident thought that a 'household safety plan' was provided by the local council. The inquiry concluded that clarifying the terminology used in public education activities would enhance outcomes. Esplin recommended that:

(p 133**)**

> *…the Co-ordinator-in-Chief of Emergency Management directs that all emergency management agencies review, by June 2004, terminology and language in current communication and public education material to ensure it is clear, easily understood and consistent, particularly with regard to fire.*

# 5 Community awareness and engagement during a fire threat

This section discusses issues related to warning systems, the provision of information to communities and the utilisation of local knowledge provided by committees during a bushfire. Operational issues are generally not included unless they are concerned with improving communication with community members.

## Warning and informing the community

A lack of accurate, consistent and timely information about the intensity, position and direction of fires, as well as the level of assistance that can be expected from fire agencies, can have extremely serious consequences. All of the reports discussed the importance of providing clear, consistent and timely information to communities when there is a fire. As stated by the Victorian Auditor General:

> *The most detailed planning may be ineffective if residents do not have access to information to:*
>
> - *get the earliest possible warning of fire in their area; and*
> - *monitor the path and intensity of the fire. (p 79)*

As noted by McLeod information provided to the public can serve a variety of purposes:

- *provide an honest and realistic assessment of what has occurred and what more to expect*
- *give the community the best possible indication of precautions they should be taking if there is the possibility that the threat will be ongoing and may escalate*
- *inform the community of immediate relief activities*
- *warn the community of post-disaster hazards*
- *motivate a required public response to the emergency*
- *provide direct assistance to those adversely affected*

- *assist with evacuation and other recovery procedures*. (p 177)

The importance of early information about likely threats from fires is reinforced by the Auditor General's findings that people planning to leave if a fire approaches do not routinely evacuate their properties by 10.00 am on days of high fire danger. Research has clearly shown the danger of late evacuations and accurate early warnings are essential for informing local risk assessments so that residents can implement preparedness measures whether they are planning to evacuate or to stay and defend their properties.

There can be a range of reasons why warning systems can be ineffective, as summarised in the COAG natural disasters report:

> *….Post-hazard analysis of the performance of warning systems often shows substantial failure of various factors, including the performance of the technological components to detect and predict the hazard, the systems for disseminating information to affected areas, and the effectiveness of the response of the communities and agencies in those areas. This serves to underscore the reality that effective warning systems rely on the close cooperation and coordination of a range of agencies, organisations and the community throughout all stages of development*. (p 124)

### *Local Warning Systems*

The survey undertaken as part of the audit of fire prevention and preparedness measures in Victoria found that the way that people find out about a fire varies. In one rural area (Gippsland) 47% of survey respondents anticipated that seeing or smelling smoke at a distance would be their first warning of a fire.

In contrast, 47% of respondents in the other area surveyed (Dandenongs) believed that a fire siren would be the first sign that there was a fire. This latter finding may be related to a highly publicised trial of fire-alert sirens held in a local area a few years earlier. The evaluation of this trial was inconclusive about the effectiveness of the siren as an alert system for residents.

The three ways of finding out about a fire considered reliable by the CFA; radio announcements, warnings from neighbours or friends, or listening to a scanner or 2-way radio were not considered by the majority of survey respondents as likely ways that they would find out about a fire.

Fire sirens are not advocated by the CFA for the following reasons:

- they are used for other purposes – such as calling out CFA personnel after a road crash,
- they provide no information about the scale, location or direction of a fire
- they may not be audible in all areas in all weather conditions.

A component of some (all?) community engagement programs is the development of effective fire information networks which can act as both local early warning systems and as mechanisms for staying informed during a fire. For example the Community Fire Guard program

recommends that group members establish telephone trees with one member monitoring emergency service transmissions then ringing prearranged contacts who in turn call other people in the group. The Esplin inquiry found that many Community Fire Guard groups played an active role in disseminating information to the community during the 2003 fires. Telephone trees were activated and properties were checked where residents were absent or had additional needs because of age, disability, illness or lack of transport.

The need for further research into the effectiveness of local warning systems was identified in the COAG natural disasters report:

> *…a better understanding of management of warnings and community engagement is required, particularly in relation to the development of local area warning delivery methods. Research and guidance on these issues needs to be disseminated to all relevant authorities engaged in the provision of warning systems.*
>
> (p 124)

### *Standard Emergency Warning Signal*

The Standard Emergency Warning Signal (SEWS) is a national signal designed to alert the public via radio, television and public address systems that an official announcement about an emergency that has the potential to harm them is about to be made.

The Esplin inquiry found that during the 2003 fires the SEWS was used only twice. On some occasions when Victoria Police asked that the SEWS be played during emergencies media stations have not been able to locate their copy of the signal. McLeod found that there had been a delay in the use of the SEWS signal in the ACT because a fax sent from the Emergency Services Bureau was not received by ABC radio in Canberra for 45 minutes.

The following observation from the Esplin inquiry was consistent with messages in the McLeod report.

> *The accompanying instructions to SEWS need to be dated and a more contemporary message needs to be developed. Protocols for use need to be modernised and be more inclusive of those in the community with additional needs (eg hearing impaired, cultural and linguistic diversity). Further, an awareness program for the media needs to be re-established. Consideration should also be given to occasionally playing the signal as part of exercises to build understanding and awareness of its purpose in the broader community*.
>
> (p 136)

Several of the reports identified the increase in television and radio broadcasting networks providing centralised content as a key issue making the dissemination of local warnings more difficult. This increased reliance on other warning strategies that may not be as effective, particularly when warnings needed to cover large or remote areas.

The COAG natural disasters report stated that:

> *Disaster management authorities regard the lack of legislative requirements for broadcasters to disseminate natural disaster warnings to the public via radio and television as an increasingly critical issue, requiring urgent attention. Dependence on uncertain degrees of cooperation by broadcasters to provide warnings of impending disaster to the public is poor risk management when lives and property are seriously threatened.*
>
> (p 124)

The COAG bushfire inquiry discussed the importance of further research into warning systems:

> *The Inquiry notes the Communicating Risk to Communities and Others project of the Bushfire Cooperative Research Centre. It considers this project should be afforded the highest possible priority. The Natural Disasters in Australia report to the Council of Australian Governments considered the question of a national warning system and made a number of recommendations in that regard. These included:*
>
> - *obligations to media to broadcast warnings*
> - *development of best-practice guidelines for local area warnings*
> - *that warning systems be regularly reviewed.*
>
> *In addition to those recommendations, and while not limiting any future deliberations, the Inquiry considers that such a warning system should include the following:*
>
> - *a consistent warning signal at the beginning of the advice when lives are at risk or there is a major threat to property*
> - *the location, size and intensity of the bushfire threat*
> - *the expected movement of the fire front ----and identification of threatened communities or properties*
> - *advice on appropriate action by residents or community members under threat.*
>
> (p 151–152)

## Staying informed once aware of a fire threat

The Victorian audit of fire prevention and preparedness researched how people stay informed during a fire and found evidence of confusion about how to access reliable sources of information. 73% of respondents in Gippsland and 49% of respondents in the Dandenongs agreed with the incorrect statement that "…*if a bushfire occurs, ring the fire brigade to find out where it is in relation to your house*". If people did use this method of getting information during a fire there is a danger that they would block telephone lines preventing emergency calls from getting through to the brigade.

The fieldwork for the audit took place between May 2002 and January 2003. In light of the following findings from the Esplin report about how communities were informed during the 2002-2003 fires it would be interesting to know whether the survey was administered prior to outbreaks of fire in the areas covered by the survey and whether the experience of being informed during the fires would have changed responses to the survey.

The Esplin inquiry reported that:

> "*In general the efforts of the Department of Sustainability and the Country Fire Authority to keep the community informed of the 2002-2003 summer fires established a new standard in emergency response in Victoria*"
>
> (p 212).

Communities in Victoria were kept informed about the progress of the fires and about how to prepare for the passage of fire. A number of methods were used to communicate with the community; community meetings, community telephone trees, call centres, ABC radio and other media outlets. The resulting heightened level of preparedness was attributed as resulting in a lower level of losses than might otherwise have been expected.

This finding is supported by the preliminary results of a CFA commissioned survey reported by the Esplin inquiry that was undertaken in fire affected communities in 2003. Compared with 75.6% of residents who considered that they had been 'well prepared', or 'very well prepared' at the start of summer 96.3% of respondents felt that they were either 'well prepared' or 'very well prepared' when the fire became a threat to their property.

The provision of timely and accurate information to threatened communities during the fires was enhanced by establishing Community Information Units within Incident Management Teams. Communities were briefed by senior members of Incident Management Teams providing opportunities for community members to directly ask specific questions.

Internet websites were found to be effective ways of keeping the broader community informed during the fires and scope to further develop internet based services was identified.

Submissions to the Esplin inquiry identified the following areas where improvements can be made:

- providing more information about the location of the fire and fire agency plans
- addressing the additional information needs of community members willing to be partners in responding to emergencies but without access to current communication strategies and networks
- improving the equity and accessibility of information provision, particularly for people who have hearing impairments or who do not speak English well
- accommodating situations where there is a rapidly escalating incident or when there is a long lead time between a fire threat and the arrival of the fire front
- addressing difficulties associated with keeping all potentially threatened communities informed, particularly when
    - there is potential for the fire situation to change rapidly
    - access to remote communities is difficult
    - radio and television reception is poor or doesn't exist
    - properties are dispersed

Esplin also identified the need for providing locally accurate and relevant information in a way that takes account of the heightened stress levels (and possibly exhaustion if the fire threat has existed for an extended period) of communities under threat from bushfires.

> *The heightened fear of impending impact, whether real or perceived, will increase the level of stress in and on a community. Effective communication should therefore use local knowledge and key landscape reference points to give specific information and advice. These reference points may be access roads and tracks; they may be local fire and wind behaviour, patterns and effects. Accurately defining the location and behaviour of a fire reduces angst within the community. Accurately defining the location and behaviour of a fire also allows householders who are considering evacuation to make informed decisions.*
>
> (p 214)

The McLeod inquiry found that although Canberra residents were generally aware of the ACT bushfires, and in some cases were aware of road closures and heightened activity of emergency vehicles, they did not perceive that urban areas were at risk because of the lack of specific warnings. ABC radio was the only medium providing emergency warnings and residents were generally unaware that the ABC was the major provider of information in an emergency. There was also a lack of general understanding about the Standard Emergency Warning Signal.

The lack of early warnings to the community about the impending threat was the subject of the strongest and most frequent criticisms received in submissions to the McLeod inquiry from the public, the following issues were raised in submissions:

- residents were unaware that ABC radio would be the main information provider during an emergency,

- residents were not advised via television, newspapers or other radio stations to tune to ABC radio,
- residents were unaware of the role of the Standard Emergency Warning Signal,
- information provided through hotline numbers was hours old,
- inaccurate information was provided about road closures,
- there was a lack of public information about the position or direction of fires and
- rural residents reported not having been informed about fires entering their properties,
- some advice was confusing, for example people were told to fill their baths – but didn't know why
- advice or directions about whether to evacuate were uncoordinated and inconsistent, people reported being advised by radio to return and defend their properties while houses were burning while others were ordered to evacuate although they had just extinguished fires burning around their homes.

As a result of the lack of information about the location and direction of the fire and inaccurate information about road closures some people evacuated relatively safe areas in conditions of poor visibility and traffic congestion with no idea of where to go or whether they were driving towards or away from danger. Inconsistent information about whether to evacuate created disagreements between Police directing people to evacuate and in some cases using the threat of arrest to force evacuations, and residents who wanted to defend their homes.

The Esplin inquiry in Victoria reported that in a few isolated incidents police apparently acting on their own initiative encouraged some residents to evacuate without being advised to do so by the incident controller. This created concern and confusion amongst residents and in one case was contrary to a household fire safety plan that had been endorsed by the CFA prior to the fire.

The McLeod inquiry identified the need for effective media management in the event of a major disaster stating that:

> *Despite the injection of additional personnel, the coordination and management of these disparate resources left a lot to be desired until an experienced media consultant was engaged to take over the management of media relations generally. As a result, from the afternoon of 20 January, the situation began to improve substantially.*
>
> (p 183)

The Nairn, McLeod and Esplin inquiries identified issues with the information provided to residents about the level of assistance available to help them fight approaching fires.

The Nairn inquiry documented comments from three residents of a forestry settlement west of Canberra where the fire destroyed 16 of the 22 residences. The settlement had been used as a base for helicopters engaged in firefighting. Residents stated that they had been reassured by firefighters that they would be protected however when the fire

arrived the residents received no assistance and had insufficient water to defend their properties as their private water supplies had been used up by the firefighters. The residents described their sense of abandonment at being left to fend for themselves with insufficient resources to defend their properties.

The Nairn inquiry commented on the importance of planning for communications during a fire and found that:

> *…the lack of communication plans or at least the lack of awareness of such plans, needs to be addressed.*
>
> *…unless the basic framework is developed well ahead of an incident, time will be lost or a communications plan will not be promulgated to the people involved at the various levels of the suppression effort. The consultant found that with some jurisdictions not providing input to the inquiry it was difficult to determine the extent of the communication planning problems. There was sufficient evidence to say that at some incidents, communication planning was far from satisfactory.*
>
> (p 170)

A range of potential options for improving communication with the community in the ACT were identified in a debriefing exercise conducted by the Emergency Services Bureau with media personnel:

- *better access for journalists to the fire front and use of a 'pool system' for television footage*
- *better marketing of sources of public information—for example, the Canberra Connect website*
- *using radio for information dissemination as well as purely for news*
- *an increased public information profile in ESB*
- *raising the level of awareness of and providing training for media personnel in connection with bushfire and other fire and emergency-related issues, including the Standard Emergency Warning Signal*
- *using 'crawlers' on all television stations to alert people to listen to their radios in the event of an emergency*
- *during an emergency, having a different ESB liaison officer dedicated to each arm of the media—radio, television and the print press*
- *having a number of spokespersons —not necessarily ESB personnel —available to address the media when incidents occur*
- *providing media awareness training for firefighters in the field*
- *using email as the preferred way of disseminating press releases, information, and so on.*

## Improving warnings and information dissemination during a fire

Recommendations in the COAG natural disasters report identified state and territory governments as responsible for ensuring that there are

appropriate warning systems while local governments were responsible for ensuring the provision of appropriate local disaster warnings.

The COAG bushfire inquiry discussed

> "*the provision of timely and comprehensive operational information to the public as a key responsibility of all incident management teams. This information should cover the status of the fire in question, the response measures being taken, a realistic assessment of areas potentially at risk, and preparations that members of the public can make. …Although the operational pressures in such situations are extreme, provision of information to enable the public to make informed decisions is essential for the protection of life and property. This is another part of the philosophy of shared responsibility…"*
>
> (p 134-5)

The COAG bushfire report recommended that:

> *… a central function of the AIIMS Incident Control System be the flow of adequate and appropriate information to threatened communities, government, police and other emergency services authorities. The incident controller should have overall responsibility for this.*
>
> (p 149)

In Victoria the Auditor General, in recognition of the increasing media liaison role of regional CFA community education coordinators during fires, identified the need to formalise this role and to provide appropriate training and resources. The Auditor General recommended that:

> *The CFA formally define the role of community education staff in managing information flows and content, including any media liaison roles that may be involved*
>
> (p 82)

The Esplin inquiry also identified the need for close links between those planning operational responses and the fire agency personnel and Local Government officers tasked with keeping communities up to date recommending that:

> *…in relation to the provision of information to communities affected by fires and other emergencies, DSE and CFA ensure that:*
>
> - *Incident Management Teams understand that one of their primary responsibilities, in cooperation with the Municipal Emergency Response Co-ordinator, is to keep the community informed as to where the fire is and its likely path, what is being done to combat the fire and any preparations the community should undertake;*
> - *Community Information Units are effectively integrated into the Incident Management Teams; and*
> - *They continue to develop a joint Internet-based communications tool to provide information and advice to both affected and broader communities during fires.*
>
> (p 213)

In light of the lessons learnt in the ACT McLeod recommended that:

> *The Media Sub-Plan of the ACT Emergency Plan should be reviewed to include a greater focus on the provision of community information.*
>
> *The Community Information Sub-Plan of the ACT Emergency Plan should be reviewed to reflect needs broader than just media arrangements.*
>
> *The role Canberra Connect has demonstrated it can play should be included as a part of a revised Media Sub-Plan of the ACT Emergency Plan.*
>
> *There should be greater coordination of the content of whole-of-government media releases and messages.*
>
> (p 186 - 187*)*

Nairn recommended that:

> *…the state and territory bushfire agencies ensure that, on a district basis, communications are addressed within the district operations plans and that the plans are capable of easy adoption to incident action plans.*
>
> (p 69)

### *Communicating relevant operational information*

Providing threatened communities with relevant operational information enables community members to make informed decisions. Operational information identified by the Esplin report as being important for communities concerned the transfer of control between incident control centres, the determination of 'no go zones', (areas where fire fighters will not be deployed), the level of assistance that can be expected from fire agencies, and the consistency of information provided when fires cross state borders. Esplin made the following recommendations to improve the communication of operational information during a fire.

> *That Interstate Agreements prepared by the fire agencies be reviewed to include protocols for the joint release of consistent and appropriate information relating to fires burning across State borders.*
>
> (p 215)
>
> *That DSE and CFA ensure that:*
>
> - *a clear process is established for determining whether a specific location is, or is no longer, a 'no go zone' or an area into which it is too dangerous to deploy resources, and that affected communities are advised as soon as possible of the determination, the reasons for such determination and what actions they should take as a result;*
>
> (p 197)
>
> *That when Incident Management Teams implement significant changes to objectives and strategies, these are effectively communicated to firefighters, fire ground supervisors and affected communities, and are incorporated into the broader organisational planning.*

(p 194)

> *That DSE and CFA develop an agreed process for the effective transfer of control from one Incident Control Centre to another, including processes for communicating this change to fire ground supervisors and local communities.*

(p 188)

### *Improving local warning systems*

The COAG natural disasters report recommended that:

> *the proposed National Emergency Management HLG facilitate the preparation of guidelines for best practice in the development of local area emergency warning systems to include management, community engagement and technical issues.*
>
> *that post-disaster assessments by relevant agencies routinely review the effectiveness of warning systems, including the degree to which the warnings resulted in intended changes in behaviour, the appropriateness of information provided, the effectiveness of warning delivery methods, and the cost benefit and cost efficiency of the warning system.*

(p 32)

McLeod recommended that:

> *Well-defined, well-practised processes should be developed to support the delivery of information to the public. This includes improving the alert mechanisms for residents prior to an emerging danger period.*

(p 186)

### *Improving the Standard Emergency Warning Signal*

Several reports made recommendations about improving the usefulness of the SEWS.

The COAG natural disasters inquiry recommended that:

> *… the Minister for Communications, Information Technology and the Arts introduce legislative obligations on all broadcasters – commercial, public and the Australian Broadcasting Corporation – to broadcast natural disaster warnings to the public via radio and television, as and when requested by authorised disaster management agencies and Bureau of Meteorology personnel.*

(p 31)

The COAG bushfire inquiry supported the above recommendation and added recommendations that:

- *…all fire ban advice and subsequent 'bushfire threat warnings' related to specific fires be conveyed consistently in all states and territories, including the use of the Standard Emergency Warning Signal when lives or property are threatened*
- *…the final structure of the warnings be based on the findings of the Bushfire Cooperative Research Centre's project Communicating Risk to Communities and Others.*

(p 152)

The Esplin inquiry also endorsed the recommendations on warning systems in the COAG natural disasters report and added the following recommendations:

> *That the Co-ordinator-in-Chief of Emergency Management directs the Media sub-committee of the State Emergency Response Committee to review the use of the Standard Emergency Warning Signal and its accompanying message.*
>
> (p 137)
>
> *That Victoria include an agenda item for both the National Emergency Management Committee and the National Meeting of Emergency Services Ministers recommending that the Australian Communications Authority review both the Commercial Radio Codes of Practice and Guidelines, and Community Broadcasting Codes of Practice, to ensure they provide necessary guidance and obligations on radio stations during emergencies and in relation to emergency warnings.*
>
> (p 137)

### *Improving infrastructure*

The Nairn inquiry identified problems with telephone power back-up systems for both mobile and landlines. Telephone companies have replaced emergency generators with 8 hour back-up battery systems that are inadequate in major emergencies when power may not be re-connected within 8 hours. This has implications for both fire agencies, and for communities relying on telephone trees as an early warning system. To address this problem the Nairn inquiry recommended that the Commonwealth investigate, and where necessary, require the urgent enhancement of provisions for power and telecommunications systems to restore essential services in fire affected areas.

McLeod identified the need to improve the infrastructure to support effective communication recommending that:

*Back-up power should be available for the Canberra Connect call centre*

> *Media communications systems and facilities at ESB headquarters should be improved.*
>
> (p 186)

### *Improving media management and arrangements*

The COAG bushfire inquiry recommended that:

> *…each state and territory formalise non-exclusive agreements with the Australian Broadcasting Commission as the official emergency broadcaster, providing an assured standing arrangement. Similar protocols with commercial networks and local media should also be established.*
>
> (p 136)

Esplin acknowledged the importance of the role of ABC radio in disseminating information and recommended that:

> *…consideration be given to formalising Australian Broadcasting Corporation Local Radio as the official emergency radio station for Victoria, given it is the only radio station that can cover the whole of the State.*
>
> (p 214)

In response to radio reception 'black spots' in some remote areas Esplin also recommended that:

> *… opportunities be explored to use community radio to complement other methods of communication with isolated communities.*
>
> (p 215)

McLeod focussed on improving media management recommending that:

> *Before each bushfire season familiarisation briefing sessions should be held for the media.*
>
> *ESB should have the capacity to engage an experienced media director to be available in an emergency, to coordinate the provision of information to the media and for general public information purposes.*
>
> ( p 187)

### *Clarifying the role of police in evacuations during bushfires*

Esplin identified the need for refresher training for police members and recommended that:

> *That Victoria Police ensure all police members understand the Victorian legislation in relation to evacuation, and that any decision to recommend evacuation remains with the Incident Controller.*
>
> (p 181)

In the ACT McLeod identified an urgent need for evacuation policy development, protocols between agencies, community education and training for police and emergency service personnel.

> *ACT Policing and the Emergency Services Bureau should develop as a matter of urgency—and before the start of the 2003–04 bushfire season— a joint protocol covering their policy on community safety and evacuation during bushfires, having regard to the framework adopted by the Australasian Fire Authorities Council and the evacuation provisions in the Victorian Country Fire Authority Act. The protocol should be promulgated widely as part of future community education and information programs, and it should be incorporated in the training and operational procedures of both services, so that it is followed consistently during future bushfire events.*

(p 192)

Lessons learnt from a case study: Deddick Valley and Tubbut, Victoria

The principle of recognising the value of local knowledge and the need to communicate effectively with communities should be addressed in the agreements that are developed with interstate agencies. The process for development, implementation and communication of strategy applied to fires burning across state borders must be documented in these agreements.

Esplin p 159

## Using local information from the community during a fire

A common finding of inquires into the 2003 bushfires was that local landowners and volunteer firefighters were frustrated that fire agencies had not utilised local information or expertise during the fire.

The foreward to the Nairn report stated that one of the consistent messages heard during the inquiry was that: "*local knowledge and experience is being ignored by an increasing top heavy bureaucracy*"

Evidence was presented to the Nairn report that information from local landowners as well as the views of experienced local firefighters was ignored and the committee concluded that in some cases this led to fires causing avoidable and sometimes serious damage. Nairn made recommendations that relate to operational matters, such as the deployment of local firefighters with incident strike teams, the staffing of incident control centres and the chain of command of fire agencies however this paper is more concerned with findings and recommendations about utilising information from local communities.

There were many submissions to the Nairn Inquiry illustrating the frustration experienced by local landowners when the information they provided which was often specific to the local conditions, such as experience of previous fires, knowledge of terrain and access, local wind conditions and reports of local fires, was either not believed or not acted on. The failure to act on local information was viewed as a cost associated with centralised and remote incident management centres.

Nairn recommended that:

> *…the Commonwealth, through the Council of Australian Governments and the Australasian Fire Authorities Council, initiate an overhaul of the incident management systems used by bush fire agencies in Australia to better incorporate local knowledge and expertise and better understanding of the needs and circumstances of local rural communities in the management of major fire events.*
>
> *The Committee also recommends that this overhaul should aim to:*
>
> - *refine the system to facilitate setting up simple command and control structures, closer to the fire ground, in tune with the ever changing local fire ground conditions and needs of local communities;*

- *include training of incident management personnel on how to engage and involve local people in planning and management of fires.*
- *establish national models for community fire planning and provide for the integration of community fire plans into incident management; and*
- *include national reporting of the success of incident management of fires as a means of auditing the cost effectiveness or incident operations.*

(p 169)

The COAG bushfire inquiry discussed the need to make 'best use' of local knowledge and while acknowledging the significant benefits of centralised control systems, strongly endorsed the need for improvements that were identified in the Australasian Fire Authorities Council's review of the AIIMS Incident Control System that: *include a role for a 'safety adviser' and discuss the requirements to take account of community needs and the integration of 'local knowledge*'. (p 147)

While supporting improvements in the use of local knowledge the COAG bushfire inquiry also made the following observation:

> *An important observation needs to be made in connection with local knowledge. Although the inclusion of such knowledge in the Incident Control System for bushfire operations is critical, managing large fires is complex and demanding and has consistently been underestimated by many involved. People with vital local knowledge might not always be best placed or have the required competencies to manage large incidents. This can lead to local firefighters feeling they have been excluded from decision making or have been 'taken over' by fire managers brought in from elsewhere. This need not be the case if tact and awareness are displayed.*
>
> (p 151)

The COAG bushfire inquiry found that:

> *Failure to acknowledge and use local knowledge erodes the credibility of fire agencies and the AIIMS Incident Control System, ultimately reducing the effectiveness of the national bushfire-response effort.*
>
> (p 150)

The COAG bushfire inquiry differentiated between knowledge about the local environment and knowledge of previous fire events suggesting that while there may be many sources of information about the local environment that local knowledge of fire behaviour should be generally be provided by either a local firefighter or landowner.

In response to these findings the COAG bushfire inquiry recommended that:

> *the AIIMS Incident Control System be adjusted so that it adequately allows for the identification and integration of local knowledge during firefighting operations*
>
> (p 148)

The inquiry into the fires in Victoria also identified the need to make better use of local knowledge during a fire. Much of the discussion about using local knowledge related to the local expertise of firefighting personnel however the need to make better use of information provided by members of the community was also identified. Esplin identified the limited understanding that local people may have of broader issues impacting on firefighting responses as a key factor influencing the willingness of Incident Management teams to utilise local knowledge. The report points out that Incident Management Teams may have valid reasons for not implementing strategies suggested by local firefighters and identifies the problem as a communication issue that can be overcome. In some instances however local knowledge could and should have been used more effectively.

The Esplin inquiry recommended that:

> *DSE and CFA review methods of gathering and processing fire information to ensure all methods are pursued to greatest effect.*
>
> (p 196)

The Interim Report addressing urgent matters included recommendations that:

> *…in preparation for the coming fire season, the CFA modifies its operational procedures to ensure that local knowledge is flexibly and appropriately incorporated into tactical and strategic fire management*
>
> *…the DSE reviews procedures to ensure that all Incident Controllers and Incident Management Teams have full access to those Departmental, Parks Victoria or appropriately experienced and qualified community members who can provide local knowledge and expertise in the development of fire suppression strategies and that advice from the fire ground is incorporated into decision making.*
>
> (p 264)

## Planning to support the effective use of local information during a fire

Local planning can support the use of local knowledge during a fire by collating information that is not available from other sources, and by identifying local people who are best placed to provide or coordinate useful information that can inform responses during a fire.

As discussed in the earlier section on fire management planning preplanning can provide information about agreed priorities of community assets as well as specific information about terrain, fire access, water sources and the availability of local equipment.

The value of local planning is reflected in the following quotations:

> *Local knowledge should be collected on an ongoing, long-term basis and be included in fire management and response plans, with individuals being identified as suitable sources of local knowledge well before a fire event occurs.*
>
> (COAG p 150)

*A local community fire plan is a bottom up approach to fire management, which involves local rural communities in planning how best to deal with local and bigger fire scenarios. A local fire plan can also put in place some basic principles of operation, which can be documented for incident management system teams to use, and to establish who are the leaders in the local community, and how best to make use of all people in a local community. These community fire plans can be integrated into broader risk management plans. When this level of local planning is incorporated into a regional risk management, they provide a useful level of detail, which can bear fruit in a fire incident, whatever its size. They also provide the link between local knowledge and its use in the development of appropriate fire strategies in major fire incidents.*

(Nairn, p 164)

*Strategy developed in isolation from the community and without input from any key stakeholder is likely to be compromised. The likely strategic response to a fire must be established between the agencies and the community before the fire starts. Strategies should be based on an agreed understanding of the values placed on private and community assets and how they will be protected during fire suppression activity. This is best achieved through an holistic planning process that identifies those values well before the fire starts.*

(Esplin, p 148)

When we did actually see spot fires in the area and reported them, it took up to seven hours for them to respond to what we had seen. They told us that we were not seeing spot fires at all, that the planes had not seen it in the morning. The reality was that we were watching them burning probably about one kilometre away from us. This happened a couple of times. The last time it happened I actually lost my cool with them and told them that they were breaching their duty of care and if they did not do something we would sue them if the fire came through these two areas. That is when they decided we had a fire in the area.

Elizabeth Benton, *Transcript of Evidence*, 29 July 2003, p. 50 cited in the Nairn Report p 148

# 6 Community involvement during recovery from a major bushfire

This section discusses the lessons learnt and related recommendations about improving recovery processes made by the inquires into the fires in Victoria and the ACT. The recommendations made by the Esplin and McLeod reports mostly related to improvements that could be made at State or Territory and local government levels. The national approach for improving recovery from major natural disasters, including the role of the Commonwealth Government, as proposed in the COAG natural disasters report is then outlined. Finally the findings and recommendations of the COAG bushfire inquiry, which support and build on the recommendations COAG natural disasters report, are discussed.

The Victorian Auditor General's audit did not cover recovery and the Nairn Inquiry did not consider recovery issues, except in the context of a discussion on insurance. One issue that Nairn did raise, that wasn't covered in the other reports was the potential for profiteering by builders; an example was given where quotes for the cost of replacing a 40 square dwelling varied by over $200,000.

Insurance is an important element in recovery from bushfires and is discussed in some of the reports in this context; others discussed insurance as a risk mitigation measure. In this paper insurance has been discussed in the context of prevention and preparedness and has not been included in this section. Planning for recovery is related to both the preparedness and recovery phases of disaster management; in this paper planning for recovery is discussed in the context of the discussion about recovery. The need to make these choices illustrates the point discussed earlier in the section on national frameworks that however conceptualised (5R or PPRR) the phases or stages of bushfire management are inter-related rather than being discrete phases.

## Lessons learnt in Victoria – assisting many communities

The impact of bushfires in Victoria differed from the ACT, although there were fewer properties damaged and fewer lives lost, the fires burnt for a much longer time period, covered a larger area, crossed several municipalities and affected many smaller communities.

The Inquiry into the Victorian bushfires identified many lessons learnt about improving recovery planning and practices.

- The swift communication processes established by local governments for communities, including those in remote areas, provided up to date information and advice and assisted in recovery.
- Recovery centres established by local governments often provided a 'one-stop-shop' for assistance and were seen as providing valuable assistance.
- The establishment and maintenance of a register of trained volunteers available to assist the community by local

governments assisted local governments to undertake the multitude of additional administrative and support tasks generated during a major fire.

- Rapid contact with farmers whose stock had been affected by the Department of Primary Industries and the prompt and sensitive actions of Agricultural Recovery Officers led by senior veterinary officers in providing remedial advice, helping to identify stock suitable for sale to abattoirs and assisting with stock disposal was appreciated by farmers. In some areas where farmers did not have contact with this service (some farmers didn't seem to know about the range of services available) they acted on uninformed advice which was later regretted.
- The immediate commencement of land rehabilitation on public land and water catchment areas reduced further environmental and economic damage by ensuring roads were opened as soon as possible, stabilising land, protecting catchments to ensure water quality and revegetating where needed.
- Reopening and repairing roads (by both local governments and VicRoads) as soon as possible, without compromising safety, provides a critical foundation for effective recovery.

The Esplin inquiry found that some unemployed people, who may have become unemployed because of the impact of the fires on local industries were financially penalised because income support was only paid from the date of registration and people had to register in person. Some people in fire affected communities could not access Centrelink offices because they were engaged in fire fighting activities, and/or because of road closures.

In addition to direct loses suffered in the bushfires the incomes of many rural households were affected, either because people were engaged as volunteers in responding to the fires, in firefighting or community support roles, or because industries (particularly tourism related businesses) experienced a downturn. Financial counsellors were in high demand and many people needed assistance that was either not available or for which they were not eligible. The need for funding to be available for community development officers within local governments for as long as demonstrable community need exists was discussed.

Esplin noted that the relationship between those seeking support and those providing it was fragile and easily disturbed. Many people requiring support did not initially recognise their own needs and some were reluctant to ask for help or seek support from a local person because of privacy concerns.

Esplin reported that the value of Ministerial Taskforces in the recovery process has been clearly established but that the practice of establishing Ministerial Taskforces on a case by case basis wastes valuable time as terms of reference and administrative processes are established. Similarly, the time taken to establish recovery programs and entitlements, and to train those people responsible for delivering them, reduced the timeliness of some recovery efforts causing frustration within communities.

The role of community members, at statewide and/or local levels, in directing and prioritising recovery activities was not discussed in the

Esplin report however the report stated that "*The Taskforce successfully linked Government and the community*." (p 219)

The report describes response and recovery as "two sides of the one coin", parallel processes that should be integrated with recovery commencing at the same time as responses to the fire commence. Effective planning is essential for enabling recovery services to respond to community needs as soon as possible after the passage of a fire.

Including agencies involved in recovery in emergency briefings prior to the event was identified as an effective strategy for ensuing speedier recovery efforts after the fire had passed. Close physical proximity of personnel involved in recovery with those directing responses were considered essential for the accurate and timely flow of information.

While additional infrastructure was provided to support responses to the fire the need to plan for additional infrastructure, such as additional telecommunications capacity, to support recovery was sometimes not appreciated. Esplin found that local governments, utility providers and the Department of Human Services need to ensure that there is adequate contingency planning for a surge in demand during recovery.

Planning needs to ensure that relief and recovery efforts are predictable, equitable and consistent, this involves:

- Having well-publicised guidelines in place prior to an emergency
- Equitable Government financial assistance schemes so that people with similar needs receive similar assistance and that the reasons for differences in assistance are obvious and broadly acceptable.

Two particular areas of policy needing clarification to assist in recovery were considered urgent and were addressed in recommendations made in the interim report to the Victorian Government. These were concerned with the replacement of fencing on private land, or on the boundary between public and private land and the rehabilitation or replacement of private assets damaged during authorised fire suppression activity.

The lack of a coordinated approach and sharing of information between the many agencies that people were in contact with during recovery often resulted in people having difficulty finding the service they needed, having to tell their stories many times over and having to complete lots of repetitive paperwork. This lack of coordination caused frustration (and although not mentioned in the report may actually have re-traumatised some people who had suffered extreme losses) and increased the likelihood that people did not access the range of services they needed, or were eligible for.

Recommendations for improving recovery processes were that:

- Municipal Emergency Resource Officers develop registers of volunteers who are available to provide assistance and support,
- the Department of Primary Industries actively and widely promote the agricultural recovery services available to farmers,
- VicRoads and local governments review their processes to ensure that roads are opened as soon as possible following an emergency,

- the Victorian Government recommend to the Commonwealth Government that Centrelink eligibility criteria and registration processes be reviewed to improve access to income support when access is impeded by an emergency,
- Government funding for Community Development Officers involved in community support and rebuilding incorporates flexible resources to enable the purchase of services from a range of providers to ensure choice for those needing support,
- the Emergency Management Act 1986 be amended to include a provision that, on the recommendation of the Minister for Police and Emergency Services as Coordinator in Chief of Emergency management, or of another Minister, the Premier establish a Ministerial Taskforce to oversee recovery in situations of extreme natural disaster or other emergency events,
- recovery is recognised as commencing at the same time as response and recovery planning and delivery is an integral part of the operations of Municipal Emergency Coordination Centres,
- Victorian government departments, local governments, statutory authorities and utility providers be made aware of the need to develop contingency plans for recovery activities and that associated public education and information strategies are included in Municipal Emergency management Plans,
- all agencies engaged in recovery participate in community briefings prior to and during emergency events to ensure recovery issues are reinforced and communities are informed of the processes established to assist individuals – including matters that are not the responsibility of Victoria, such as Centrelink payments,
- the Victorian Government review the emergency relief and financial assistance policy, and develop and communicate a predictable, consistent and equitable policy designed to assist the community to recover from emergencies, including natural disasters,
- the Victorian Government review policies for replacing or rehabilitating fences or other private assets damaged as a result of a fire,
- the Victorian Government review policies for replacing or rehabilitating private assets damaged as a result of authorised fire suppression activities,
- the Department of Human Services, in conjunction with local governments, other Government departments and the non-government sector, modify recovery planning at all levels to include a case management approach supported by an appropriate information system to be activated at the time of an emergency and that the Privacy Commissioner be asked for advice in the development of this model,
- the State Emergency Recovery Committee explores opportunities to establish a ‘one-stop-shop’ approach wherever practicable following emergencies, including a single telephone number to

connect a person to all agencies involved in the recovery process.

In summary the Esplin Inquiry found that effective recovery processes should:

- be pre-planned and include consideration of necessary infrastructure (both physical such as telecommunications and strategic such as a Ministerial taskforce)
- be initiated concurrently with response activities
- provide relief that is predictable, equitable and consistent
- adopt a case management approach
- be wide-ranging and flexible
- continue to be supported by community development officers as long as there is a demonstrable community need

In the section discussing holistic planning the inquiry recommended a Municipal Fire Management Planning approach as a consolidated, more holistic planning process that would result in*:*

> *'… greater consistency, more effective co-ordination, better co-operation, effective and concurrent implementation of response and recovery activities and reduced duplication of effort'.*
>
> (p 139)

## Lessons learnt in the ACT – implementing a community development approach

The ACT fires had an unusually severe and sudden impact on the community and the recovery processes put into place are discussed in the McLeod report in some detail. Recovery is discussed in terms of the immediate actions that were implemented during the fires as well as medium and longer term recovery processes.

Short term recovery processes included:

- establishing evacuation centres,
- informing the community about evacuation centres - mainly via radio,
- establishing a 1800 bushfire information line,
- providing immediate financial relief and emergency relief such as food and blankets,
- providing emotional support,
- responding to unprecedented demand for emergency medical services for people with bushfire related injuries,
- evacuating group homes for people with disabilities and
- restoring power and telephone services.

Training exercises carried out prior to the fire season assisted in the rapid establishment of the evacuation centres and the implementation

of various sub-plans of the ACT emergency plan was considered to have been well managed. Scope for improvements in managing information dissemination at the peak of the crisis was identified.

Once the evacuation centres were closed the ACT established a Recovery Centre that acted as a primary contact point for a range of services. The Recovery Centre was widely publicised and well used.

Medium term recovery activities included:

- meeting accommodation needs, including for ACT Housing clients;
- developing a range of government financial grants for affected households, businesses and rural lessees;
- managing waste and establishing safe disposal sites for contaminated waste from block clearance; instituting a streamlined demolition and building approvals process;
- dealing with emerging public health and safety concerns (such as asbestos);
- monitoring air and water quality;
- providing services to replace lost personal records;
- conducting road safety inspections and cleaning up roads and verges;
- removing fire-affected trees;
- carrying out environmental restoration in Tidbinbilla Nature Reserve and Namadgi National Park;
- restoring fences in rural areas; and
- carrying out salvage operations in ACT forests and clearing away burnt pines.
- implementing processes to support ACT Public Service staff affected by the fire event.

The inquiry found that the Recovery Centre operated well and that a strength of the ACT approach to recovery was the early adoption of a case management approach to assisting people affected by the fires.

One of the sub-plans of the ACT emergency management plan was a community sub plan that managed over 1,000 registered volunteers who helped with the clean-up and rehabilitation of the environment and an appeal that raised over $8.5 million. In the short term the ACT community (including businesses) provided generous assistance in the form of food, blankets and other goods.

A feature of the management of the medium and longer term recovery processes in the ACT was the establishment of a Bushfire Recovery Taskforce made up of ACT residents and government officials to provide leadership during the recovery, advise the government and act as a bridge between the community and government agencies. In addition, the main advisory body to the Bushfire Recovery Taskforce a Community and Expert Reference Group made up of community organisations, fire-affected residents, unions, the business community and the Commonwealth government. The six goals of the Taskforce Action Plan cover themes of: supporting people, community involvement, clean-up, rebuilding, learning lessons and building a stronger future.

The McLeod report didn't make any specific recommendations that related to recovery - generally finding that recovery processes were well managed. McLeod reported the areas for improvement to the community recovery planning process that were identified by the ACT Bushfire Recovery Taskforce. Suggestions for improvement were:

- Develop procedures for maintaining up-to-date contact numbers for the Community Recovery Team.
- Expand the degree of participation of government agencies and key community groups in the preparation of the Community Recovery Sub-Plan.
- Review the Major Technical Systematic Failure Sub-Plan so as to include major technical systems providers.
- Investigate the co-location of response and recovery operations centres, including emergency power supplies, back-up telecommunications, access to the ACT government network, and appropriate accommodation.
- Develop processes for effective and regular liaison between disaster management agencies at the planning and activation stages.
- Review the Community Recovery Sub-Plan to more explicitly define the roles and responsibilities of participating agencies.
- Improve processes for issuing emergency financial assistance to victims.
- Improve the management of donations.
- Develop procedures for effectively managing public information, including public health and safety information, and appeal processes.
- Develop safety plans for the frail aged and people with disabilities.
- Adopt case management and community development models as best practice.
- Consider the need to establish dedicated management arrangements for planning for and coordinating community welfare recovery services to respond to emergencies in the ACT.

## A national approach to improving recovery from major natural disasters

Disaster recovery is described in the COAG natural disasters report as:

> *…the coordinated process of supporting disaster-affected communities in the reconstruction of the physical infrastructure and restoration of economic, physical and emotional wellbeing.*
>
> *Through this process, it is preferable that individuals and communities are supported in the management of their own recovery as they know best what their needs are, and this approach is most likely to build community capacity and sustainability.*
>
> (p 36)

It is pointed out that disasters can have severe and wide ranging impacts on health, social and economic functioning and the long-term wellbeing of individuals and communities and that the recovery process can take one to five years.

### Box 1: Eight Principles of Disaster Recovery

**Eight Principles of Disaster Recovery**

Disaster recovery is most effective when:

- management arrangements recognise that recovery from disaster is a complex, dynamic and protracted process
- agreed plans and management arrangements are well understood by the community and disaster management agencies
- recovery agencies are properly integrated into disaster management arrangements
- community service and reconstruction agencies have input into key decision making
- recovery services are conducted with the active participation of the affected community
- recovery managers are involved from initial briefings onwards
- recovery services are provided in a timely, fair, equitable and flexible manner, and
- recovery personnel are supported by training programmes and exercises.

COAG natural disasters p 36

These principles, originally developed by the Disaster Recovery Sub-Committee of the Community Services Ministers Advisory Council were presented in the COAG natural disasters and COAG bushfire reports and are supported by the Council of Australian Governments.

The High Level Group who prepared the COAG natural disasters report found that while measures to provide immediate and essential relief to families and communities after a disaster were effective, there was room for improvement in developing arrangements to assist communities as a whole to recover from the effects of severe disasters.

In line with generally accepted recovery principles (see Box 1) the approach to disaster recovery proposed by the High Level Group (which is described as being consistent with a community development views) is:

- to build community resilience by constraining and, over time, reducing damage and costs to the community and all levels of government though cost-effective mitigation, recognising of course that major unforeseeable disaster events will continue to occur
- to reduce the incidence of ad hoc and disparate relief measures by introducing a more disciplined, holistic and systematic needs based approach to relief and recovery assistance to communities
- to introduce new flexibility to enable damaged public infrastructure to be rebuilt to a more resilient standard where that is feasible and cost-effective
- to ensure equitable assistance and support to individuals and communities affected by comparable natural disasters across Australia
- to better integrate the relief and recovery arrangements of all levels of government, and
- to address the special needs of remote Indigenous communities.

(p 38)

The need to provided assistance at a whole of community level as well as providing assistance to individuals and families, small businesses and primary producers is emphasised. The objective of government natural disaster and relief and recovery arrangements are specified in recommendation 41:

> "…*arrangements put in place by governments and other parties for recovery from natural disasters should ensure support for disaster-affected communities in reconstruction of physical infrastructure and restoration of social, economic, physical and emotional wellbeing through effective, coordinated processes*".
>
> (p 38)

The report makes extensive and detailed recommendations for reforming current disaster relief and recovery arrangements. These include: introducing Special Community Recovery Modules; further enhancing and modernising Commonwealth natural disaster relief and recovery arrangements; and introducing complementary relief and recovery arrangements to be implemented by States and Territories.

## Special Community Recovery Modules

The development and incorporation in the National Disaster Relief Arrangements of a set of four Special Community Recovery Modules is recommended to foster a holistic approach to community recovery and resilience. The modules would be able to be applied either individually or in any combination to address specific circumstances. The recommended modules are:

*Module A Community recovery fund*

*Where a community is severely affected and needs to restore social networks, functioning and community facilities, a community recovery fund of an agreed amount (a sum to be determined by the circumstances) would be established. The local community, through the Local Government, would determine priorities for action within broad guidelines and criteria agreed between the Commonwealth and the relevant State or Territory Government.*

*Expenditure from the community recovery fund would be aimed at community recovery, community development and community capacity building for the future and would be administered by the State or Territory Government in close collaboration with Local Government, or other community governance bodies.*

*Module B Ex-gratia payments for individuals and families*

*Where the severity of the disaster warrants a higher scale of financial assistance to individuals or families than the standard provisions under the personal hardship and distress payment under NDRA, Clause 2.2 (a), there would be provision for ex gratia payments as mutually agreed between the Commonwealth and the State or Territory.*

*Module C Recovery grants for small business*

*Where the business sector generally was severely affected and this could result in the community losing essential businesses, grants to small business to cover the cost of clean-up and reinstatement, but not compensation for losses, would be provided within guidelines and criteria agreed between the Commonwealth and the relevant State or Territory Government.*

*Module D Recovery grants for primary producers*

*Where the farming sector generally is severely affected and could have production and viability disrupted beyond the current season, grants to farmers, pastoralists, horticulturalists and the like would be provided to cover the cost of clean-up and reinstatement, but not compensation for losses, within guidelines and criteria agreed between the Commonwealth and the relevant State or Territory Government.*

(p 41)

The advantages of adopting a more systematic approach through the development of these special community recovery modules are envisaged to be that they would:

- reduce the incidence of ad hoc measures devised for particular disasters
- mean that relief and recovery measures do not have to be invented or reinvented on a one-off basis
- provide governments with a set of measures ‘on the shelf’ which can quickly and seamlessly be applied when the need arises

- enable relief and recovery agencies to learn, adapt and refine the measures, criteria and delivery practices into a more seamless process of assisting communities with their needs
- retain the flexibility governments need to ensure that they are addressing the real needs of disaster-affected communities, and
- introduce a greater degree of equity in the assistance and support available to different communities in similar circumstances

(p 39)

## Enhancing and modernising Commonwealth natural disaster relief and recovery arrangements

Other recommendations for enhancing the Commonwealth role in relief and recovery arrangements included:

- Introducing flexibility so that during the immediate post-disaster stage infrastructure can be upgraded to a more resilient standard where feasible and cost effective,
- a 10% deduction in disaster relief assistance available to Local Governments that have not implemented disaster mitigation strategies unless exceptional circumstances apply (as an incentive for Local Governments to undertake disaster mitigation activities),
- Reducing inequity, 'double dipping' gaps in eligibility and administrative costs by encouraging charities, non government organisations and Local Governments that arrange public appeals to pool funds raised for distribution under the Special Community Recovery Modules, or under appeals launched by Commonwealth, State or Territory governments, and/or to deliver assistance and resources in ways that complement government programs.

Recommended amendments to the Natural Disaster Relief Arrangements Determination included:

- Including 'Recovery' in the title to reflect the widened focus on recovery
- Deleting arson as a reason for precluding claims for assistance so that innocent individuals and communities affected by fires are not deprived of assistance
- Introducing small grant options instead of concessional-interest loans for not-for-profit organisations without other financing options that have lost assets.
- Introducing small grants for people in need rather than concessional-interest loans where they have lost significant assets and are not able to borrow or service a loan.
- In addition to psychological counselling to include provisions for personal or financial counselling, or community development or capacity building measures to alleviate distress as this will be more suitable for a wider range of groups and cultures.

- Repealing the provision for Disaster Relief Payment assistance under the Social Security Act 1991 so that all such payments are made under NDRA (the Disaster Relief Payment is approximately $750 for a couple with 1 or 2 children and only applies where the Commonwealth Minister declares an event and there is a major loss of life. This provision has been used only once since its introduction in 1991 in the case of the 1997 NSW bushfires).
- New requirements for reporting the cost of natural disasters on a consistent national basis, and for a post-disaster assessment report for each natural disaster for which an NDRA claim is made, be introduced. These reports will enable improved national understanding of the cost of disasters and the effectiveness of preparedness, response, relief, recovery and disaster mitigation measures.

## Complementary relief and recovery arrangements to be implemented by States and Territories

The HGL, for the first time, examined existing State and Territory provisions for disaster relief and found significant variations and anomalies in assistance available to individuals, families, farmers and businesses. Best practices in State and Territory arrangements were identified and a set of model arrangements were proposed to complement Commonwealth arrangements.

The nine model arrangements included in Recommendation 49 were:

> ***Model Arrangement 1: Personal hardship and distress assistance measures***
>
> *States and Territories should ensure that access to the full range of personal hardship and distress assistance for individuals and households is available. The amount of personal hardship and distress assistance should be assessed on the basis of need, taking into account the capacity of applicants to meet their own needs. Additionally, assistance on the basis of need should apply to assistance provided for:*
>
> - *temporary accommodation and living expenses*
> - *repairs to or replacement of essential household items, and*
> - *repairs to dwellings.*
>
> *That assistance should be available where there has been a significant disaster impact, the cost of which remains below the small disaster threshold.*

### *Model Arrangement 2: Local Government contribution*

*States and Territories should ensure:*

- *that there is a broadly consistent and equitable regime under which Local Governments contribute a threshold amount of disaster relief and recovery expenditure before access to NDRA funds is available to them, and*
- *that expenditure thresholds are modified, as appropriate, to provide an incentive for the practice of mitigation.*

### *Model Arrangement 3: Assistance to small business and farmers*

*States and Territories should ensure that concessional-interest loans and/or interest subsidies (grants) are available for disaster-affected small business owners and farmers who cannot obtain finance on reasonable terms from normal sources, for enterprises which have reasonable prospects of recovery.*

### *Model Arrangement 4: Assistance to voluntary non-profit organisations*

*States and Territories should ensure that grants of up to $5,000 or interest subsidies on loans of up to $100, 000 are available to disaster-affected voluntary non-profit organisations to replace facilities and equipment to regain their operational capacity. Alternatively, concessional-interest loans of up to $100,000 should be available to organisations which are unable to obtain finance from other sources, and which have a reasonable prospect of repaying the loan. The conditions of a loan should not limit the organisation to restoring assets to the pre-disaster standard, but allow flexibility so that relocation or design features which reduce susceptibility to future disasters may be accommodated.*

### *Model Arrangement 5: Assistance for housing repair/replacement*

*States and Territories should ensure that a concessional-interest loan of up to $100,000, subject to a means test and evidence of ability to repay the loan, is available to persons whose dwelling needs substantial repair/replacement as a result of a natural disaster, and whose income is insufficient to obtain funding from normal sources. Alternatively, a means-tested grant for basic dwelling replacement or repair should be available to needy persons who do not have the capacity to repay a concessional-interest loan for that purpose. In both cases, a portion of the funds provided may be used for relocation or redesign of the dwelling to reduce the risk of future hazards.*

***Model Arrangement 6: Counselling and community capacity building***

*States and Territories should ensure that (subject to changes in the Commonwealth NDRA Determination) measures are introduced to support personal and financial counselling services, and community development and community capacity building measures, to alleviate distress and promote recovery in disaster-affected communities.*

***Model Arrangement 7: Emergency works and operations***

*States and Territories should ensure that measures are available to reimburse authorised organisations for the costs of designated emergency works and operations undertaken in disaster response situations, within the limits of NDRA eligibility provisions.*

***Model Arrangement 8: Community recovery***

*Arrangements should ensure that, in appropriate circumstances:*

*(a) States and Territories, jointly with the Commonwealth, can contribute to Special Community Recovery Modules, comprising*

- *a Community Recovery Fund*
- *ex gratia payments for individuals and families*
- *recovery grants for small business and*
- *recovery grants for primary producers, and*

*(b) where charitable and other non-government organisations arrange public appeals for communities affected by disasters, they are encouraged to*

- *pool the funds raised for distribution under the Special Community Recovery Modules, or under any national or State/Territory appeal that might be launched by the Commonwealth, State or Territory, and/or*
- *deliver their assistance efforts and resources in ways that complement government programmes.*

***Model Arrangement 9: Insurance cover***

*States and Territories should ensure that:*

*(a) in relation to Model Arrangements 3, 4 and 5, available assistance takes into account the level of insurance that affected individuals, organisations and businesses have, and assistance provided incorporates requirements for insurance cover wherever practicable. Disincentives to insure should be avoided, and*

*(b) assistance available under Model Arrangements 1 and 8 should not serve to discourage use of insurance.*

(p 45-46)

The COAG bushfire report echoed the approach outlined in the COAG natural disasters report stating that:

> "*Overall, the aim of a recovery program should be to ensure that affected communities emerge from the event as stronger, more cohesive communities*."
>
> (p 178)

The COAG bushfire inquiry supported the recommendations in the COAG natural disasters report report for modernising and enhancing recovery arrangements. The inquiry specifically recommended that lessons learnt since the preparation of the COAG natural disasters report report, and the outcomes of a review by the Community Services Ministers Advisory Council be incorporated, as a matter of priority, into a revision of the Australian Emergency Manual – disaster recovery to be undertaken by Emergency Management Australia in consultation with States and Territories, and the Commonwealth departments of Transport and Regional Services and Family and Community Services.

The Inquiry embedded recovery within the 5R risk management framework in the sense that successful recovery from a major bushfire requires that recovery be successfully integrated into each of the other aspects of the 5R risk management framework.

Therefore recovery should be:

- the subject of Research, information and analysis;
- understood as a part of reducing consequences (Risk Modification) as having recovery structures and processes developed prior to potential disasters reduces the impacts when disasters do occur;
- included in training and exercises as part of Readiness; and
- implemented when major fires are imminent and fully integrated into emergency management planing and response.

Lessons learnt about good practice in recovery from the review of inquiries into major fires were:

- That as bushfire recovery involves a complex set of interrelated factors and actions it is essential that recovery planning adopt a whole-of government and whole-of community approach.
- The requirement for whole-of government recovery management mechanisms and effective transition back to normal service delivery arrangements at an appropriate point after the disaster.
- The provision of longer-term aspects of recovery, particularly services that support families and individuals, through normal community services
- Service delivery arrangements should match the scale of the event and the size and geography of affected areas. This may involve 'one-stop-shops' such as recovery centres, linking people to existing services or a mix of specialist centralised services and use of existing services (which may need increased resources).
- When recovery centres or special arrangements are established particular attention should be paid to sensitively re-integrating clients with services providing ongoing support.

- The adoption of a case management approach where case managers link clients to the range of government and non-government services providing assistance and advice.
- Comprehensive and clear information needs to be provided, and reiterated, throughout recovery using a range of mechanisms such as electronic and print media, public meetings, internet, call centres, mail and through community organisations.
- Community confidence benefits if there are early investments in resources for recovery which allow emerging problems to be quickly resolved and early signs of recovery, such as clearing destroyed properties, are achieved.
- Building community capacity and beneficial legacies was described as perhaps the most important lesson learnt from recent recovery activities associated with major bushfires. Maintaining a high degree of community involvement in the development and implementation of recovery programs helped communities to recover.

It is important to keep in mind that the inquiries into bushfires considered in this paper were initiated soon after the fires in order to inform changes prior to the next fire season. They have therefore not been able to explore the impact of recovery processes in the longer term limiting their capacity to make evidence based recommendations for improving long term recovery outcomes for both individuals and whole communities.

## Summary

Post fire inquiries and research have clearly demonstrated the need for greater understanding and perception of bushfire risks by individuals and communities. Appropriate individual and community action prior to a bushfire is then needed to reduce risks. The reports agree that individuals and communities, governments, fire agencies and the insurance industry all have roles in increasing awareness of fire risks and how to reduce them.

A variety of approaches to community awareness, education and engagement have been identified or proposed in the reports however the success of these approaches is not well understood. Differences between communities,

There is agreement that monitoring and evaluation of community awareness, education and engagement programs as well as further social and psychological research is needed. This is consistent with the emphasis on research and ongoing learning required to inform risk management processes discussed in the previous section. Better information is needed to help programs to target those who most need them (people in high bushfire risk areas and/or those who don't accurately understand or respond to the level of risk) and to find out which approaches or combinations of approaches are most successful, in which contexts with which types of individuals and communities.

Research that has been undertaken has identified the need to:

- further refine the 'stay and defend or leave early' message,
- clarify policies regarding fire refuges, and

- develop clear and consistent terminology

Accurate, consistent and timely information about bushfire risks, operational matters and resources available to assist residents can save lives and properties. The importance of systems for informing communities and individuals is accepted as a crucial element of responding to fires and the reports discussed ways of improving the utility of warnings and information provided.

Community education and engagement programs can generate methods of communicating that pay off in the event of a bushfire.

Sharing responsibility and working in partnership requires a two way flow of information between fire agencies and communities. Planning and developing systems to support the effective use local knowledge by incident management teams during a fire, and the consequences of relevant local information that can inform fire fighting and information dissemination priorities not getting to those who needed to know were discussed in the reports

There are a multitude of tasks required during each phase of recovery and decisions need to be made about how to make best use of available resources. Recovery involves

There are a set of agreed principles guiding the development of policies and practices in bushfire recovery. The case studies from the ACT and Victoria demonstrated how these princi

Additional principles that while probably implied in the nationally agreed disaster management but are worth stating explicitly are:

Recovery process should aim to increase community resilience and strengthen communities

> Direct community involvement is a vital element of recovery following a bushfire that has had major community consequences.
>
> (COAG p 132)

# 7 Values and principles underpinning approaches to community awareness, education and engagement

The review has identified a number of principles that underpin the development of policies to improve community safety. These principles have been grouped into 'foundational' and 'operational' principles. Foundational principles are commonly accepted values that underpin current approaches to community safety in Australia. Operational principles, derived from the foundational principles, guide the development of effective policy development and planning of community fire safety interventions.

Foundational principles related to community safety identified in the review of recent reports are that:

- bushfire safety is a shared responsibility
- Individuals are responsible for taking action to mitigate their bushfire risks
- people and communities differ in terms of their risks, assets, and capacities
- priorities differ between individuals and communities, they may be competing or interrelated and include environmental, social and economic factors
- increasing community safety requires a risk management approach
- bushfire policy and practice should be evidence based

The operational principles that therefore inform policy development and planning for community fire safety interventions are:

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

The links between foundational principles and operational principles are not direct, one to one linear relationships. The derived principles have been informed by two or more foundational principles. In some cases foundational principles inform not only what should be done, but the process for doing. For example, applying the principles of shared responsibility, evidence based policy and planning, and differences between people and communities informs how risk management planning is implemented. Identifying and prioritising risks becomes an inclusive process that involves a range of stakeholders, draws on available evidence and takes into account the fact that priorities differ between and within communities.

Each of the principles is briefly discussed.

## Foundational Principles

**Shared responsibility***.* This concept referred to the need for responsibility to be shared between individuals, fire and other agencies and governments recognising that: (a) householders can take action that significantly reduces their bushfire risks; and (b) fire agencies will never have the capacity to assist all households in the event of a major fire. Research has shown that some residents expect that fire services will be able to protect them in the event of a major bushfire however this is an unrealistic expectation that could endanger people in the event of a fire and responsibility needs to be shared.

While the reports contained different emphases on the need for a broader range of stakeholders to take responsibility for mitigating bushfire risk, all agreed that responsibility should be shared. All levels of government, fire services and other agencies, small businesses and industries such as tourism, farming, forestry and insurance as well as communities and individuals have responsibilities to reduce risks.

**Individual responsibility.** Individuals and households are responsible for taking action to mitigate their risk of bushfire. This involves undertaking preventative and preparedness measures, developing household bushfire response plans that take into account the needs and capacity of each household member and maintaining adequate insurance cover. Preventative and preparedness measures include building and garden design and maintenance that can reduce risks regardless of whether the plan is to stay and defend or to leave early when there is a fire threat.

**Differing Priorities**. Saving lives was clearly stated as the highest priority however the ranking of other priorities varies amongst individuals and communities. Bushfires have economic, environmental and social consequences that vary depending on the landscape and land use and fire management objectives therefore vary across landscapes and over time. The landscape may support threatened plants and animals, water catchments, a range of industries, a range of community assets and privately owned assets. Priorities may be competing or complementary, for example controlled burns may support some environmental priorities in some landscapes and protect private or community assets yet, at the same time, have a negative impact on health, agriculture or tourism.

People and communities differ. Individual attitudes and perceptions influence how people respond to bushfire risks and are shaped by many factors; education, age, income, personal experience, knowledge of bushfires, peer

group influences, emotions, beliefs and residential location. The factors that lead individuals to act on knowledge of how to manage risks are not well understood.

A group of people in a location do not necessarily constitute a community with common interests and a cooperative attitude. Differences between individual views about bushfire mitigation and management can be stronger in areas experiencing demographic changes such as rural-urban interface areas and differences in the social and economic resources available within a community influence capacity to mitigate risks. The need for further research into the social and psychological factors that influence levels of preparedness and action taken during a bushfire threat was recognised.

**Risk management.** Steps in the risk management process include establishing the context, identifying risks, assessing risks through analysis and evaluation, and treating risks. Risk management requires relevant data and information to inform strategies to reduce the likelihood of bushfires and to minimise consequences when bushfires do occur through readiness, response and recovery processes. Community education, engagement and awareness are recognised as essential elements in bushfire risk management.

Evidence based policy and practice. A key purpose of the post-fire reviews was to add to the evidence base informing policy development. Varied sources of evidence were presented, including reports of the experiences of local residents, farmers, fire fighters and others, and expert scientific and technical knowledge. Fire suppression has historically been better funded than community engagement, education and awareness activities and it is not clear whether this is the most effective use of resources. Better evidence is needed about the cost effectiveness of different strategies for reducing the impact of bushfires to inform risk management planning and the allocation of resources.

## Operational Principles

**Comprehensive emergency management.** A comprehensive emergency management approach involves a focus on the consequences of emergency events for affected communities rather than on reactive responses to the event. This requires coordinated planning and processes for preventative, preparatory, responsive and recovery phases. Comprehensive emergency management involves whole of government planning and coordination between levels of government, between fire agencies responsible for private and public land and rural and urban areas, and with non-government agencies and community groups involved in preparing for, responding to, or recovering from bushfire.

**Understand local people and communities.** The capacity of individuals and communities differ, for example stressed communities are likely to have less capacity to respond to challenges than a vibrant community. An understanding of the limitations and opportunities influencing local people and communities informs effective planning to reduce risks. To engage all people at risk, including those who do not regard themselves as being part of a community, education, engagement and awareness activities (including fire management planning) need to be flexible and inclusive.

**Working in partnership.** Working in partnership refers to partnerships within communities, between local communities and fire agencies, between fire agencies responsible for public and private land and rural and urban areas, between fire agencies, local governments and other local agencies, between fire agencies and the media, and between government departments and different levels of government.

The increased emphasis on the provision of accurate and timely communication between fire agencies and communities during a fire threat, and the application of community development practices where local governments and state government departments support communities to manage their own recovery processes are examples of the implementation of this principle.

Identify and prioritise risks and assets. A risk management approach needs to be informed by a clear understanding of the relative importance of potential risks (the likelihood of the risk occurring and the impact if it did occur) and the effectiveness of different strategies (or treatments) that could potentially be adopted to reduce bushfire risks. Risks and assets prioritised at local and state-wide levels need to be integrated as State-wide priorities, as well as local proprieties should inform fire management plans.

**Local planning to mitigate risks.** Local community fire planning is a bottom-up approach that supports the development of local solutions to local problems taking into account social and physical resources available in the community. Plans that identify local leaders, networks, and people with valuable local knowledge can inform the full range of prevention, preparedness, response and recovery activities. Strategies that do not take into account local views are not likely to be as effective in the event of a fire.

Planning processes should enhance community partnerships, be inclusive and broadly representative, identify shared values, prioritise assets and include preventative and responsive measures. Local planning can inform the targeting of community awareness, education and engagement programs to high risk individuals and communities.

**Promoting household planning to stay and defend or leave early.** Household planning to stay and defend or leave early should be done before each fire season. This principle applies risk management at a household level. Planning should assess whether the house is defendable and take into account factors such as the needs and capacities of each member of the household, non-resident family members, neighbours and pets. It might also involve prioritising assets such as buildings, equipment and livestock. Agencies promote the recommendation and provide information to assist household decision-making, planning and preparation.

If the decision is to stay and defend a range of bushfire specific preparations should be undertaken and residents should not assume that a fire agency will be available to assist them. If planning to leave residents should be ready to leave well before the fire is anticipated, to know where they are going and what they will take with them. Differences between people apply at the household as well as community level. Some members of a household may plan to leave early while others stay and defend the property.

**Research, monitoring, evaluation and information management.** The need for further research as well as improved monitoring and evaluation of the effectiveness of activities aiming to improve community safety was a theme running through all of the reports. Recommendations included improving data collection and analysis, developing a national reporting framework, improving access to information for all stakeholders, the need to value local information, the importance of non-blaming post-incident reviews and the development of learning cultures within agencies and communities.

# 8 Evaluating community safety programs and activities: implications and issues

The issues raised in the reports reviewed in this paper have implications for the development and implementation of programs and activities that aim to improve community safety and raise challenges for monitoring and evaluating community focussed programs and activities.

These issues and challenges include:

- the need for flexibility in the development and delivery of programs to take into account the specific circumstances of individuals and communities,
- the need to target programs to: communities and individual households in high bushfire risk areas, to reach individuals with a low level of risk awareness, those who have mistaken beliefs about fire behaviour, and those who may not identify as being part of the local community
- individuals respond differently to the same information and the link between increased understanding and taking action to increase safety are unclear,
- understanding how educating and engaging communities in preparing, responding to and recovering from bushfires are linked in terms of outcomes achieved.
- evaluating the involvement of communities in risk based planning for prevention, preparedness, responses to and recovery from major fires
- exploring positive and negative unintended consequences, such as the links between social cohesiveness and community engagement
- building and evaluating the capacity of agencies, communities and other stakeholders to work in partnership

- demonstrating the cost effectiveness of community education, engagement and awareness programs,
- the development of performance indicators that can be meaningfully aggregated at a national level.

The evaluation of the impact of community safety programs needs to go beyond monitoring activities (such as the number of education sessions provided, the number of people attending and the content provided) and short term impacts (such as feedback from participants on the value of the information provided).

While this type of information is important the issues identified in the reports suggest that the evaluation of community education and engagement programs and other activities (such as community involvement in fire management and recovery planning), will need to consider what works for which types of communities and individuals and the factors (such as timing, approach, content) that make a difference.

The content and approaches taken to educating and/or engaging residents as well as longer term outcomes (such as increased levels of bushfire specific preparation) will need to be considered. Questions about what supports or inhibits increased understanding that leads to undertaking bushfire specific preparedness measures need to be addressed. The characteristics of people who are participating as well as those who aren't being reached by current programs and the barriers to their participation will also need to be considered.

Factors such as the size and composition of a group, the age or gender of participants, the location or timing of activities, or whether the facilitator is a local person may make a difference. In terms of approaches, does it make a difference if strength based approaches that avoid implicit blaming are employed?

The move towards community development approaches to recovery that aim to build stronger and more resilient communities after a major fire suggest opportunities for further research into the evaluation of community fire safety. The reports reviewed in this paper, because prepared shortly after major fires have not assessed the longer term impact of this approaches to recovery, in terms of community resilience or ongoing levels of fire awareness and preparedness. Nor have the papers explored the link between preventative community development based approaches that aim to increase bushfire risk awareness and preparedness and the building of more resilient communities.

Preventative bushfire awareness programs may contribute to building stronger communities that in turn support and motivate households to maintain higher levels of bushfire awareness and preparedness. Social benefits such as reduced isolation and a sense of belonging may be generated by involvement in community based bushfire programs. Alternatively the same sorts of social factors may limit the involvement of some people (those who don't have a sense of belonging) in community education and engagement programs. If social benefits are important for motivating continued involvement in bushfire awareness and preparedness activities, what types of approaches and programs build social benefits?

Many rural communities are undergoing sometimes rapid economic and/or demographic changes, and there may be some potential to increase both social capital and fire awareness and preparedness as well as to utilise existing social capital. The approaches used by programs to identify and respond to possible unintended outcomes, such as increasing the isolation of people with differing perspectives or values could be explored.

Another area to explore is what 'community' means in the context of greater community involvement in fire management planning. Is it assumed that Local Government involvement equates to community involvement? If community representatives are involved in planning committees how are they selected, how many are there, are they able to fully express their views on the committee? What structures or mechanisms are used for community representatives to feed back to and be informed by the communities they represent? Do committee processes allow effective representation (for example, decision making timelines that allow representatives to consult before making decisions)?

The aim of working in partnership with communities, a theme throughout the reports, raises a range of questions. The importance of informed and prepared communities in mitigating the impact of major bushfires is obvious but to what extent do community members want, or have the capacity to engage with ongoing groups or involved in planning processes?

In small (and perhaps not so small) communities the requirement for community involvement in planning processes may add to the burden of citizens already committed to various community organisations. On the other hand, what opportunities exist for those who do want to contribute and how do we find out who these people are, what they can contribute and how they would like to be involved?

There are implications for agencies of working in partnership with other organisations and communities as resources are needed to support partnership approaches, including the skills of paid and volunteer staff, and additional time for developing relationships, consultation processes and often decision making.

Developing processes to measure the comparative costs and benefits of community education and engagement programs, and other activities that increase the involvement of communities in planning and responding to fires presents new challenges. Methods for measuring cost benefits need to take into account qualitative measures that are difficult to quantify or convert to a dollar value. It would also be important to take into account the full range of stakeholders who could incur costs as well as reap benefits.

The reports presented clear evidence that households are motivated to undertake fire specific preparations by an awareness of an imminent fire threat - which is hardly surprising. The challenge is to maintain awareness of fire safety and actions that can reduce risks when the threat is not imminent and, as discussed in the COAG bushfire report, to reduce or eliminate the elements of the fire cycle (recriminations and complacency) that are counterproductive to improving community safety.

The COAG bushfire inquiry expressed the view that auditing by states and territories against a national set of best practice indicators would provide stakeholders (including communities) with transparent and consistent measures across a broad range of areas relating to bushfire mitigation and management. It was proposed that national indicators used to regularly review overall performance (and not to compare the performance of states and territories) would eliminate or reduce the impact of elements of the bushfire cycle and considerably reduce the impact of major fires.

> *Adoption of a common set of national indicators of good practice and subsequent state and territory auditing against them will not stop bushfires happening. Regular review and effective post incident operational inquiries will, however, provide—for state and territory and local governments, fire authorities and communities—transparent, consistent measures across a broad range of areas relating to bushfire mitigation and management. National indicators of good practice should not be used to compare the performance of the various states and territories: the focus should be on regularly reviewing overall performance, thereby reducing the impact of, or eliminating altogether, elements of the bushfire cycle. Were this achieved, major bushfire events' effects on communities, the environment and individuals would be considerably reduced.*
>
> p 234

The mechanism by which sharing useful information between governments, fire agencies and communities in a non-competitive process would result in better practice is not explicitly stated. Such an approach to improving practice may need to be carefully managed and facilitated to ensure that the process develops a sufficient level of trust and shared purpose between different stakeholders to support the both

the collaborative generation of knowledge about what does and doesn't work and the implementation of this knowledge.

> The community need not be a passive recipient of services; it can and should be an active participant in developing safety strategies.
>
> Esplin p 128

# 9 Conclusion

Since the Petris and Potter report there has been a change of language, many of the issues raised then are still current and responses to them have evolved. Rather than talking about vulnerability the discussion is about risk assessments that can inform disaster mitigation strategies as illustrated in the following comments from the COAG natural disasters report:

> *…until the late 1980's Australian Disaster Management tended to focus on planning and preparations with disaster rescue and response. More recently the focus of disaster management has shifted towards disaster risk assessments, community preparedness, disaster mitigation measures, and in some States, recovery management.*
>
> (p 9)

> *Central to the new approach is a systematic and widespread national process of disaster risk-assessments and, most importantly, a fundamental shift in focus towards cost-effective, evidence-based disaster mitigation. This represents an historic move beyond disaster response and reaction, towards anticipation and mitigation.*
>
> (p iv)

The need for further research and better knowledge management to inform evidence based disaster mitigation strategies is an important element of current thinking about mitigating the impact of bushfires. As stated in the COAG bushfire report the rationale for introducing research to the proposed 5R framework was so that:

> *… the fundamentally necessary research, information gathering and analysis element becomes an integral and explicit part of the risk-management process*
>
> .(p 52)

The reports reviewed in this paper have demonstrated that strategies for improving community awareness and preparedness are being considered in discussions about risk based strategic planning processes. The need for integrated planning at local levels that takes into account differences between communities, levels of bushfire risk awareness and local asset priorities and has been largely accepted. The model of consolidated fire management planning proposed by Esplin illustrates how local planning processes could be enhanced (see Appendix 1).

The discussion of the roles and responsibilities of individuals, communities, governments, fire agencies and other emergency and community service agencies in mitigating the impact of bushfires has developed. Community members are viewed as essential partners in reducing the impact of major bushfires. A variety of approaches are utilised by community education and engagement programs to increase the capacity of communities to reduce risks. Timely and accurate communication with communities during a fire is seen as an important component of incident management, and the value of local knowledge for informing responses during a fire is recognised by fire agencies. Effective community involvement during recovery planning, and a focus on the recovery of communities as a whole were promoted.

The reports reviewed in this paper, because prepared shortly after major fires have not assessed the longer term impact of a community development based approach to recovery, in terms of community resilience or ongoing levels of fire awareness and preparedness. Nor have the papers explored the link between preventative community development based approaches that aim to increase bushfire risk awareness and preparedness and the building of more resilient communities.

In line with an increased emphasis on evidence based policy and program development the continued development community education and engagement programs will be informed by the perceived cost effectiveness of these approaches.

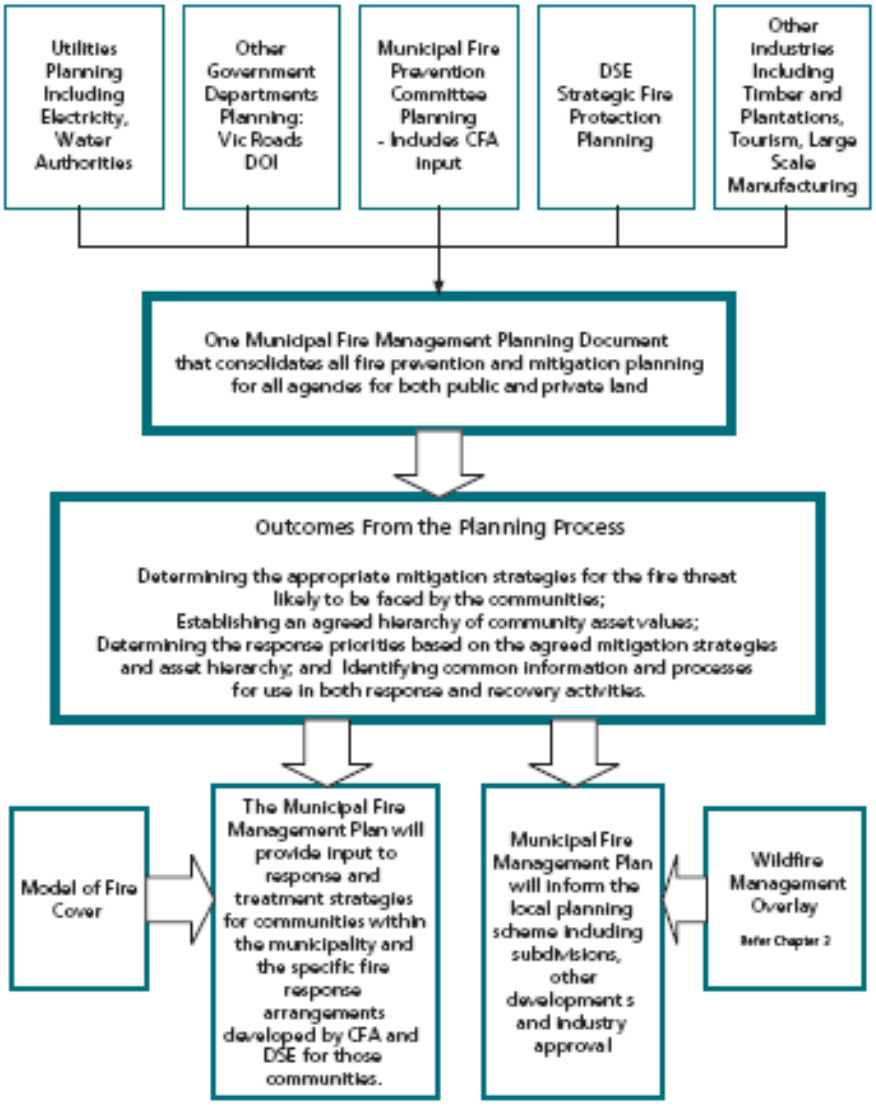
In a discussion on the balance between prevention and mitigation and response on public land Esplin explained that community safety is in part determined by relative investments in a) mitigation and prevention and b) developing response capability. The same argument could be applied to prevention strategies that involve community education and engagement rather than prescribed burning.

> *Historically it has been easier to justify resources for enhanced response, or in the case of fire, suppression capability. This is partly due to the difficulty in putting a value on the effectiveness of prevention strategies and the challenge of developing related performance measures. Contemporary policy in fire management is beginning to turn this around.*
>
> (p 229)

The reports reviewed have identified areas for improvement in the development and evaluation of activities and programs to improve community safety. This review has identified values and principles influencing the development of policies and practices to improve community safety in bushfires that can inform the evaluation of community education and engagement programs. Improving

understanding of the relationships between community education and engagement activities, contextual factors and the outcomes achieved (whether intended and unintended) will add to our understanding of how to decrease the risks posed by major bushfires.

# Appendix 1 – Proposed Consolidation of Fire Management Planning Arrangements




Esplin p 145