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Incident Management Approaches above the Incident Management Team Level in Australia

Abstract: This paper discusses incident management strategies widely used above the incident management team (IMT) level in the four Australian States namely, Victoria, New South Wales, Tasmania and Queensland. It begins with an overview of how incident management approaches above the IMT might differ from the local IMT level. By exploring this difference, this paper provides an insight into how emergency management personnel working above or beyond the local IMT level often deal with large scale multiple emergency events and require an understanding of broader problems that they might confront in the future. Then, it provides an outline of how strategic emergency management objectives are addressed in the state level arrangements in aforementioned jurisdictions. Specifically, this includes response orientations, state level emergency management facilities, long term thinking, the management of stakeholder relationships, leadership, and organisational adaptation and capacity building. Later, some of the challenges associated with incident management above the IMT level are discussed. Finally, the paper concludes by discussing the implications of this study to the emergency management sector.

Keywords: incident management team; information systems; stakeholder relationships; state operations centre; strategic emergency management.

1 Background

Effectively organising emergency management structures for community safety and security is still a work in progress in Australia. Following the Black Saturday

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bushfires of February 2009 and the 2013 bushfires in South-east Australia, questions still abound with respect to the most effective organisational structure for the state governments in responding to natural disasters such as bushfires. The potential consequences of ineffective organisational structures are much easier to identify, and include unreliable information sharing, fragmented preparedness and response strategies; the inefficient use of scarce resources, and potentially and most importantly, the needless loss of lives and property (Comfort and Kapucu 2006; Teague et al. 2010).

In the context of increasing risk from various disasters, the role of strategic management at the state level cannot be ignored. Strategic emergency management is constantly evolving and has been directly attributable to demand for higher public security (Choi 2008). At present, there are standardised systems aimed at organising emergency management in various countries including Australia. In Australia, the Australasian Inter-service Incident Management System (AIIMS) articulates the organisational processes used in emergency response to cope with natural hazards. AIIMS was adapted from National Incident Management System (NIMS) developed in the United States of America. The Australian Fire and Emergency Service Authorities Council (AFAC) which is the peak body for public sector fire, land management and emergency service organisations in Australia and New Zealand has given much effort to the development and implementation of AIIMS and acts as its custodian on behalf of the member agencies.

AIIMS is a management system designed to manage personnel and other resources from multiple agencies to effectively manage an incident within Australian jurisdictions. A primary intent of AIIMS is to standardise incident management activities and to provide flexibility and scalability for the needs of any incident size or scope (AIIMS 2013). It provides an organisational structure through standardised titles, roles, and responsibilities. The labour is divided by functional responsibility, where each element has a specific functional assignment. The structure can be expanded to include subunits to effectively maintain a manageable span of control. AIIMS has been appropriately developed as an Incident Management System, and works well at the local tactical level. However, how AIIMS provides link between the local level of Incident Management and the broader emergency management arrangements that jurisdictions need to have in place to manage community impact and consequences at a state or national level is still underdeveloped.

In funding the research reported here there was widespread acknowledgement of limited understanding about the challenges facing personnel working above the local IMT level. There was a need therefore to identify key attributes that would support shared understanding and coordination above the IMT level. Without this knowledge there are considerable weaknesses and risks in

emergency management frameworks. The purpose of this research project then is to identify the processes and challenges for those working above the IMT and to identify areas of improvement.

Organisational systems that support coordination and communication are undoubtedly very important, however, the failure of such systems in major emergency events has also been identified (Schneider 2005; Wise 2006). During Hurricane Katrina in the United States, emergency management was substantially hampered by a lack of information from the ground, and lack of communications and situation awareness paralysed command and control (Wise 2006). Similar challenges have been noted by Owen and Dwyer (2009) in the case of Australian bushfires in which coordination and communication between the state, regional and local levels can be impeded due to multiple communication plans and lack of their connectivity.

In a large scale bushfire event there will be teams of people on the fire ground fighting the fire. They are organised into sectors which are in turn organised into divisions. Incident management teams operating off the fire ground provide local management and support to those responders on the fire ground. When there are multiple fires there may also be a need for a regional coordination centre to be activated to prioritise resources to the various local incidents. Furthermore, if fires are of significant scale there will be personnel operating at a state level considering the broader strategic implications. Boin and 't Hart (2010) observed that the operational level personnel at local IMTs are professional experts to address the immediate threat and minimise the community consequences. While at the strategic levels (above the IMTs, i.e., regional and state level), the political-administrative executives are formally charged with making decisions with potentially longer term consequences and assessing the overall reliability of the emergency management response system. As the societal and political climate has low tolerance for minor disturbances, this places increasing demands on those operating at the strategic level. Sometimes wrong decisions are made under time pressure which might further escalate rather than reduce the crisis at hand (Boin and 't Hart 2010).

Moynihan (2009) has criticised the established hierarchical patterns of command and control within a centralised emergency management system in the US for its inefficiency in inter-organisational communication and coordination. To resolve this problem, Boersma et al. (2012) discussed how the net-centric approach of information systems at the national level of emergency management in the Netherlands helped in information sharing practices among agencies. They further noted that diversification of information systems and letting local end users decide about their functionalities could enable a better organisational coordination. It happens as individuals and their distributed networks are activated to share information rapidly and timely. This in turn helps in shared understanding of a situation which is better situational awareness and quicker actions based

on informed decision making. This is a promising approach for the emergency management sectors in different parts of the world. In this context, it is important to investigate how the emergency management arrangements at the state level in different Australian jurisdictions manage inter-agency coordination problems in order to enhance their performance.

To begin with, it is important to develop an understanding of strategic emergency management concerns above the IMT and to better understand how the focus and demands are differentiated from operational concerns at the local IMT level.

In order to address this concern this paper formulates the following research questions:

– In what ways is working at a state or strategic level in emergency management different from the work needed at the local IMT level?
– What challenges face personnel working at the strategic level of emergency management?

2 Methodology

This paper is primarily based on site visits of six state operations centres in four states of Australia (Victoria, New South Wales, Queensland and Tasmania) conducted over an 8-month period. During this period, we interviewed 24 emergency management personnel working in those centres. Developing the observations as case study comparisons allowed researchers to use a full range of sources including document analysis, interviews and observations aimed at clarifying the operational procedures of management teams working above the IMT level. All the 24 individuals interviewed had an operational role in their respective State Operations Centres. Among the interviewees, two were women and the remaining 22 were men (this is typical of the gender balance in these operations centres). The duration of the interviews varied with the shortest interview lasting 30 min and the longest lasting 2 h and this resulted in over 22 h of discussion.

Interviews focused on understanding the state level of emergency response, emergency management arrangements and challenges of multi-agency emergency management coordination as well as potential areas for improvements. The rich description provided by these senior fire personnel served to answer both our research questions. Data were analysed by coding the transcripts of recorded interviews and comparing findings on these topics. Given the experiences of these interviewees in local IMT operations as well as the experience of the researchers in observing local IMT work activity, it was possible to draw a comparison between the different work environments and answer research question 1.

Concurrent with the consultation process was the opportunity to tour various state emergency operations facilities as well as to observe the centres if they were in operation (either during a real event or – in two cases – when in use during a simulation exercise). The first visit in the State Control Centre, Victoria (SCC) overlapped with a hazardous material emergency response in Melbourne. The research team observed the emergency response coordination procedure led by the State Controller inside the SCC. Visits to two other centres were made during simulation exercises. The simulation exercises involved the state tier of bushfire managers and their supporting staff, operating from the state level, with selected Regional Controllers providing fire reports as exercise injected. All these observations helped to understand the activities performed in the State Operation Centres during real events or in simulation and to gain insights into the challenges in terms of information flow and situational awareness.

While developing the possible theoretically driven interpretation of the data and our findings, we went back and forth from interview transcripts and contextual explanations to critically reflect on our thoughts and to link the data with the theoretical interpretations. To increase reliability of the findings and the analysis, we referred to additional documents, such as the incident management approaches report to the Bushfire CRC (Bhandari and Curnin 2012; Bhandari et al. 2012) and the State Operation exercises reports provided by the SOC in various State Centres.

In addition, the research team also participated in workshops with members of the Australian Fire Authorities Council's AIIMS Steering Committee and the allied agencies to discuss the challenges of incident management above the IMT and to validate the findings outlined here.

3 Findings

The section below outlines how strategic emergency management connects to local incident management response and compares the main features of working at the local incident management team level with responsibilities performed at a strategic level of incident management.

3.1 How Different is Working Above the IMT from Working at the IMT Level?

The research team observed that strategic emergency management above the IMT is different from the local IMT level in both content and context. In this respect, it

is useful to examine the various layers of work occurring within a complex emergency event.

In large scale emergency events, there are a range of emergency management activities performed by people working on the incident ground, and at tactical and strategic levels (Owen 2011; Paton and Owen 2013). On the incident ground, first responders are working directly on the frontline. At a tactical level, local incident management teams work at supporting frontline responders in containing and mitigating the event and in enabling communities to make good decisions. At a strategic level (which may be regional, state or national), the focus is on two elements: oversight of incident management operations and consequence management for longer-term recovery (see Table 1).

The differences in focus and responsibility when working at **a local incident management level** compared to a more **strategic emergency management level** is highlighted below in Table 2.

The research team have observed that strategic emergency management above the IMT is different from the local IMT level in terms of complexity of the event, geographical context of emergency management, requirements of system oversights required, time frames, and resource management needs.

To begin with, the complexity of the incident increases above the IMT. This is because it is only in events with wide-spread impact and consequence that the state-level gets involved. It may need to coordinate the consequences of multiple incidents. In contrast, those working at the operational level in a local IMT typically manage one incident at a time (however these too can be complex for people on the ground). In responding to large scale emergencies above the local IMT level there is a need for engagement with the whole of government, utility providers, and NGOs. While there are similar interactions occurring at the local IMT level,

Table 1: Layers of Emergency Management.

Layers of emergency management	Description	Australian application
Incident ground	First responders; front line personnel working directly on the fire or incident ground	First responders
Tactical	Local level incident management work is directed at containing and mitigating the event	Local IMT
Strategic	Activity occurring above the local operational and tactical levels; may involve regional, state or national activity. Concerned with addressing the strategic issues across the whole-of government and community	Regional/State

Table 2: Features of Local Incident and Strategic Level Emergency Management.

Aspects	Local incident management	Strategic level emergency management
Event complexity	Usual operating mode is appropriate to address most situations	Become engaged when the incident escalates to high impact, non-routine, multiple events and consequences; emphasis on moving from response to recovery
Location	Locally defined	Broader context
Time span	Immediate, reactive	Longer duration, proactive, forward thinking (consequence management of indirect effects)
Resourcing and prioritising	End of shift handovers, upwards requests for more resources	Prioritisation of resourcing across events. Anticipation of resource exhaustion. Inter-state and international deployment requests
Information flows	Structured command and control policies	Emphasis on state-level and political
System oversight	Safety monitoring and assurance through structures (e.g., safety officer roles and responsibilities)	Reliability assurance. While the focus is not to micro-manage there is a responsibility to monitor, evaluate and to take action to address any breakdowns in communication or coordination
Inter-agency liaison	Minimum to moderate	Significant-engagement with whole of government

these demands tend to be more locally defined and have shorter timeframes. Emergency management personnel operating at the strategic-level of emergency management need to take into account the broader socio-economic impact of an emergency event. For example, indirect consequences of a large scale emergency event on a regional economy. In addition, there are higher level of political issues involved and thus require political engagement skills to handle major incidents at the strategic level.

The context of emergency response is also different between the local IMT level and those personnel working at the state level. This includes the physical distance between the decision makers and the area of impact. Generally, those operating at the strategic level need to monitor performance through remote means. This might have implications in terms of the time lags in information flow between different agencies operating above the IMT, and this is important especially given quality assurance role required at the state and the local centres. There is a difference in looking at key risks and areas of weakness above the local IMT. Rather than getting tactical and micro-managing the incident, those working

above the local IMT need to have a broad perspective to monitor the emerging risks and provide quality assurance of the incident control systems.

The other significant difference is related to time frames. For those working above the local IMT level there is a need for a longer term view of the incident, its impact and consequence. They also need to have a great focus on support to affected communities which includes those beyond the area of direct impact. Building resilient communities and systems require partnerships of community organisations and government, as well as, a strategy and long term commitment to safety (Comfort 2006; Chen et al. 2013). The strategic level of emergency management at the state level may need to form and sustain effective collaborative arrangements involving government, businesses and non-governmental organisations to mobilise resources in a longer term for community disaster response efforts and future public preparedness.

Information system requirements and information flows are also different above the local IMT level. Emergency management personnel working above the local IMT level need to gain a comprehensive situational awareness which becomes challenging when there are multiple agencies involved in complex events. Timely and pertinent information is essential to deal with rapidly changing situations in these events which is often very difficult to achieve. To add to this problem, it is important to get sometimes disparate groups to act together at very short notice through collective decision making to address any emerging problems. Information management is central to emergency response at various levels; however, in reality the process can operate somewhat differently. Local, regional and the state authorities often tend to view the response process from their own vantage points in the system. The challenge is to maintain interdependent relationships between participating agencies at different levels so that they can effectively collaborate. Choi (2008) suggests that smooth and effective flow of information is crucial to avoid confusion, complications and breakdowns in the disaster response effort.

The prioritisation of resources for both the response and recovery effort is potentially complex above the local IMT because multiple emergency events are being supported at different locations. It may also require emergency management personnel above the local IMT to work with politicians to formulate long term strategies of resource management.

To sum up, the state levels of emergency management in Australia are characterised by multi-agency coordination at State Operation Centres. Emergency management personnel at this level are required to have a broader situational awareness, longer term thinking, and the ability to meet multiple needs of the situation including information flow to the media, other agencies and politicians in time frames that may compete with the operational needs. This indicates that the

state level of emergency management needs to adopt strategic objectives in terms of forward thinking, emergency management facilities, emergency response structures and processes, stakeholder relationships, leadership ability, organisational adaptation and emergency management capacity (Choi 2008).

Recent catastrophic disasters such as Hurricane Katrina, the Japanese Tsunami, floods in China and Pakistan, and unprecedented bushfires in Australia have brought changes in conventional emergency management paradigms. The emergency management sector is trying to shift its focus from just operational management to the need of new strategic approaches and the establishment of the whole of government emergency response arrangements to resolve the community consequences. This brings us to the second research question,

"How is the strategic level of emergency management issues addressed in different Australian jurisdictions and what challenges exist in such arrangements?"

To be specific, state level strategic emergency management activities are still in a development stage in Australian jurisdiction (Bhandari et al. 2012). The findings in the following section present the state level challenges based on interviews with the senior emergency management professionals in Australia. It also provides an understanding about the state level of operations typically in place during major emergency events.

3.2 What Challenges Face Personnel Working at the Strategic Level of Emergency Management?

The following section outlines four challenges identified in the interviews.

3.2.1 Changes in the Nature of Emergency Events and their Management Complexity

In the past emergency management was considered only to be a function of a few and isolated government bodies. As in most parts of the world, the main institutions of modern government were created only in the nineteenth century in Australia (Howes 2005). These institutions were not designed to address current complex environmental issues including disaster risk management. When it comes to complex matters related to disaster management that cut across local, state and national boundaries in Australia, there is an ongoing struggle between the three tiers of government (Ross and Dovers 2008). Changes are noted by Anderson et al. (2004) and Choi (2008) in the context of the United States. They

comment that the increasing threats of natural disasters and terrorist events have led to the development of a comprehensive approach for various levels of government to work together effectively to prevent, prepare for, respond to and recover from major disasters and emergencies.

Policies and plans discussing a whole-of-government all hazards approach note the need to connect planning and response. However, the respondents revealed that this connection was not adequately addressed. Basically, planning to mitigate emergency events seems to be lagging and the senior emergency managers perceived they were left to deal with the consequences as explained by one of the participants:

> We're expected to arrive on the day of the disaster and somehow hold back the waters, stop the catastrophic mega fire and we can't do it. And then we get blamed because the town planning or the building infrastructure laws were not enforced and people build on the flood zone and the local council caved in to the developer and all of that.

This disconnect between planning and emergency event mitigation is of particular concern to participants who discussed the inequities in funding noting that every dollar spent in mitigation is worth every cent given what it might save in response. Those interviewed found it frustrating to be held accountable, in part, for the lack of foresight or courage needed by others in spending on mitigation, as the following interviewee explains:

> You know, we've got portable levy banks now that we might put up at [name of town] and guide it around and do whatever but the Mayor of [name of town] – they built three temporary levy banks that cost X million over the last two odd years. So if you'd have given them the money to build a permanent levy bank 2 years ago – problem solved. Unless it was an absolutely super-duper flood but, and that's a fundamental failure. We're the ones that end up getting held accountable for the failures or omissions of others.

This finding also highlights the increasing interdependence between emergency management, political decision-making and government policy.

3.2.2 Challenges of Governance and Institutional Change

The structures of governance within and between Australian jurisdictions are underpinned by various State legislative arrangements empowering different agencies with their authority and responsibilities. This approach has meant that each State has different approaches, though all share a common challenge emerging from the history of Government development.

In Australia, emergency management policies have evolved over time to become a central inter-organisational activity at the state, region and local levels and require collaborative action. It is well acknowledged that emergency management not only involves response but also other activities including mitigation, preparedness and recovery. Current disaster risk management arrangements in Australia includes an array of legislation, organisations, financial instruments and coordination mechanisms designed to manage disasters that include multi-tiered institutional arrangements and formal coordination forums. Considerable efforts have been made to improve collaboration between agencies and develop a more consistent national response amongst the different levels of government. Strategic level emergency managers are expected to get activated in complex disasters and take a strategic initiative to anticipate and guide operational processes at local, regional and the state level with much broader situation awareness. There are challenges in terms of the ways in which state and federal governments work together to address disaster risk reduction.

The challenges discussed however, are not just ones based on different levels of governance relationships but also derive from tensions between administrative areas of responsibility. According to Howes et al. (2012) state governments have traditionally divided up their responsibilities into discrete areas (e.g., emergency services, the environment, public health, infrastructure etc.) which have had the consequences of leading to silo mentalities within organisations and sometimes horizontal rivalries guarding responsibilities and resources. The practical implications are highlighted in the following comment by a participant:

> *I have yet to see an emergency management structure that's based around resource coordination, planning and sharing of information where the [agency] lines don't matter. It's easier to comprehend emergency management if you draw your little office on a place on a map and say "well here's our area of jurisdiction."*

> *I honestly think that the emergency arrangements we have in [name of State] are based around multi-agency think-tanks of decision-makers from health, education, energy, fire services, police and so on. But, the administrative groups that form emergency management teams then tend to dominate the logic of how incident management is structured. And they tend to organize themselves around the boundaries that control their parameters – their organizational parameters. ...And the agencies try to make the paperwork look like it works but I have not yet seen it work effectively across lines drawn on maps – across agencies and across administrative boundaries.*

One of the other aspects of engaging an all hazards whole of government approach has been to widen what is called an emergency with some positive impacts. This is in terms of changing organisational cultures away from viewing an emergency

event as the province of typical emergency services cultures sometimes called the "blue shirts" as in the following comment:

> *The all hazards bit is the other bit that worries me. But the perception of some agencies is that [a heatwave] is not an emergency. I'm not quite sure on what definition that's not an emergency but some people have suggested that's not an emergency because it doesn't involve [traditional uniform] agencies.*

3.2.3 Challenges of Leadership

At the state level leadership plays a pivotal role in the implementation of emergency management strategies. A number of participants also talked about the need to have great political acumen in order to understand the needs of political representatives and to employ these to meet emergency operational needs. There is a need to have engagement with political leaders prior to events so that they become familiar with the emergency management processes and capabilities of their emergency services industry. This ensures that their expectations are not unrealistic or unhelpful particularly during the response or recovery phase (Hayes 2012). In a crisis situation, political leaders are expected to show visible leadership, particularly in assuring communities that the government and agencies were doing their utmost to manage the situation, and to provide clear information for affected communities.

However, those in senior leadership positions who had to manage the major catastrophic events thought that there were shifts in the political sphere and government that needed closer attention. Also, changes in the number, duration and intensity of events have consequences for how such events are managed as illustrated below:

> *Things have changed, fundamentally changed. The paradigm has changed about large scale operations. I'm not saying it's good or bad. But if sometimes we are slow to sniff the wind, you'll get caught right out and as we've seen, many of my colleagues have lost their job around Australia. So, and they're the scapegoats. That's part of the difficulty we've got. People in a volunteer level who put themselves up as leaders or incident controllers at various layers who you know, get scarred by the incident but then get scarred by the investigation or coronial or whatever the process that comes in on top.*

This comment highlights the conventional attitude towards emergency services personnel. It also suggests that expectations to operate in ways undertaken historically may no longer be acceptable. In major events it is inevitable that there is political attention and engagement. It is important to ensure that there is good

communication and understanding between government and elected representatives of communities as highlighted below:

> *There is a failure within emergency management in its broadest sense, to understand the political strategic interface and how it affects us because we're very, very comfortable with our [internal emergency management] operations where we're doing our bit. And there's not a lot of engagement or involvement with the political chain because it's "business as usual." Even quite large incidents can be regarded, as that, but once you start to get a multiple, or very, very large scale or catastrophic type events, particularly in Queensland, we saw very powerful engagement of the former Premier and showing very direct political leadership in probably a way that most jurisdictions haven't seen.*

The respondent goes on to suggest that these shifts are not necessarily recognised or accepted more broadly in the industry, in part because of the insularity that characterises emergency services operations and the level of comfort such personnel have with traditional modes of operation.

3.2.4 Challenges of Understanding, Meeting and Managing Stakeholder Expectations

Understanding, meeting and managing expectations of stakeholder communities was a major concern for many of those interviewed. In this context communities include members of the general public, their elective representatives and their public servants in the government. The main concern for some respondents was to understand what communities wanted from emergency services organisations as follows:

> *We've not listened and monitored the communities' expectations as well as we should have. We've sort of hidden behind our agencies legislation and said, well this is what we have to do, we're doing something, but that's actually not what the community want necessarily in, you know warnings and providing them information.*

There is an acknowledgement that more needs to be done in servicing community information needs in particular.

> *The first one is the community expectation is just growing and growing and growing. We've got I Phones and we've got all this wonderful technology available publically domestically and I think, I could understand them turning around and saying, so why can't you do a better job?, there's all this great tech around now. It's not like the 1970s when maybe there was nothing.*

In their review of the outcomes of large scale disasters, Howes et al. (2012) note that there are repeated references to the need for better community engagement

and communication and a more recent call for shared responsibility. However, while acknowledging the importance of this message, there is, a lack of common understanding among the strategic-level leadership on what constitutes shared responsibility. Also, the expectations of public could be unrealistic as illustrated below:

> *I mean one of the elephants in the room seems to be this expectation that we will come and fix it all. I mean at what point do we need to recognize that there's some community expectations that need to be managed?*

More recently attention has turned to the concept of resilience as one that may enable a more integrated and proactive approach. However, Howes et al. (2012) note that there is no common understanding of what constitutes resilience. From the point of view of those in emergency service organisations as highlighted below, resilience has within it a tacit assumption that the organisations will provide for and meet the communities' needs.

> *How do we reduce the expectation on the community that we're going to feed them and water them and look after them every second of the day when we don't have the resources to do that? That's a huge challenge and I think we're only just starting to see the tip of the iceberg there.*

> *There was still expectation not only in the bushfires but also in the flood that, "why wasn't there somebody knocking on my door telling me that you've got to get out, you've got to get out." "Why wasn't there somebody telling me that the water's coming down the hill and it's going to take this path?"*

Expectations of individual will be impossible to deliver, given current budgetary and resourcing constraints as illustrated below by a respondent:

> *"This is what it looks like, it looks like you're looking after yourself for a short period of time" and the community assets, being police, fire, ambulance and others "they will do what they can to best effect for the whole community but not for your house or you individually." I think the earlier we get that sort of message if that's where we're going, I can't see where else we can, the sooner we get the message out at a high level the better.*

There was a concern that the efforts of Governments have been contradictory in their outcomes when it comes to the notion of community resilience:

> *We're trying to get the community to be more resilient when in one hand governments are giving them money to make them less resilient. So I think that's one of the things that's probably going to bite us more than anything. We're expecting them to be more resilient especially in an urban context where they're expecting that since they've paid their levies, they should be serviced and that becomes very difficult for us as an organization and I think as a State.*

Some respondents highlighted the need of a concerted government effort and political leadership:

> *I think that's a huge challenge because it's not going to be a politically nice message. We need to change that and unless it comes from the top down, it's almost prime minister and premier saying, "Hold on, all of the research is saying we're not going to get enough [resources], we can't afford enough, we're going to have to look after ourselves to a degree."*

4 Discussion

Strategic emergency management in the Australian context primarily deals with major emergency events and multiple activities that need to be coordinated in order to support communities. Those working above the local IMT level are expected to take into account much broader objectives to evaluate key and secondary risks as well as potential indirect effects and consequences for community recovery efforts. Emergency management personnel need to be forward thinking about the consequences of an event to wider communities including those indirectly impacted. Towards this end, an important concern is how to improve the ability of a community to reduce the impact of a threatening event and ensure the development of resilient communities that can respond and recover effectively.

There is considerable emphasis placed on organisational capacity in Australian jurisdictions for successful implementation of strategic plans at the State levels of management in areas such as information systems, managerial capability, leadership and organisational coordination at operational, tactical and strategic levels so that they cohesively meet multiple needs. However, there are still some challenges faced by the strategic emergency management sector to meet future demands and build community resilience to better manage, respond and recover from emergency events.

First, governance arrangements at the strategic emergency management level in Australia vary according to the jurisdictional and legislative environment in which the agencies operate. This variation is possibly due to the provision in the Australian constitution which places emergency management authority with the States and with the Federal/Commonwealth playing a coordination role only. This leaves limited scope of the federal government to influence the development and adoption of a national incident management model (and provides a point of contrast with the case of arrangements in the US).

Second, the fundamental principle for State emergency management above is that emergency response is a multiagency task. This requires a common understanding of command and control systems used by all those agencies,

non-government organisations and private entities that may be called on to respond to an emergency event. The issue becomes even more complicated when inter-state cooperation is required to manage cross-boundary fires as state level arrangements across jurisdictions are not consistent with one another.

Third, emergency management personnel working at the state level need to be forward thinking and have good stakeholder engagement skills. This includes building partnerships with affected communities and political decision makes at the government. The other major focus is mobilising resources for community response, preparedness and recovery in the long term.

Finally, it is important that the incident management system at all levels require consistent monitoring to ensure the reliability of the system, processes and procedures of operations (Conway 2006; Canton 2007). The research suggests that strategies used to monitor and evaluate the emergency management objectives and their achievements from a strategic perspective are still in a developmental stage (Bhandari et al. 2012).

Emergency management personnel also showed their concern about the processes that are currently used to make assessments such as post incident reviews. In their opinion, these are limited given that they are frequently either superficial (e.g., media reports) or self-serving (e.g., politically motivated). To overcome this, more work needs to be done to develop measures of emergency management performance for all layers involved in an incident management system. Respondents suggested that a culture of comprehensively identifying lessons (from good and bad experiences) needs to be fostered by providing legal protection to those involved (both individual and agency). At present, it has to be acknowledged that there are no robust means in place for assessing success during an emergency response at the state level in Australia and there is a need to further investigate what constitutes the measures of success particularly in large-scale events.

5 Implications of the Study

With an understanding of the strategic level of emergency management at the state level in Australia, we next discuss the implications of this study for emergency management industry from strategic planning and policy perspectives.

An important issue discussed in this paper relates to the ways in which different levels of emergency management within a complex emergency response system inter-operate. There is also a need to engage in a debate about what is tolerable risk and what is not, which of course will vary for different communities of interest and their economic constraints.

This study provides an insight in the way that strategic level of emergency management is organised in Australia. Strategic emergency management features identified in this study has implications for the state level of emergency management practice in other contexts. The key point is that without focusing on the broader socio-political drivers of vulnerabilities to hazards, the emergency management industry will face increasingly difficult challenges. The implications here suggest that the disconnected nature of current policy drivers need to be addressed. Disconnects in these policy areas then add to the complexities facing emergency managers at all levels. This debate though complex is important because the findings suggest that the role of the emergency services industry within the context of disaster risk reduction initiatives is far from settled. There is a need for a stronger (and national) approach to describing risk and articulating the costs and benefits of particular policy interventions and trade-offs. This will be challenging in an industry that is traditionally risk averse. This needs to occur in collaboration with communities of interest.

The other implication is related to the capacity of strategic-level managers to address and support community resilience. This study indicates a loss of confidence in the relationship between emergency management authorities and communities. The responses also indicate that at the strategic-level there is a need to reconcile organisational capacity and develop innovative strategies which may help to meet community expectations and support community resilience. Given the concerns about a decline in community resilience, this is one of the key areas that need to be urgently addressed.

In times of emergency or crisis, political leaders are expected to show visible leadership. The implications from the findings highlight a need for sound working relationships to coordinate political-response and clear governance arrangements and procedures. The most effective political leaders appear to be those who accept the briefings by strategic-level managers and are also responsible to emergency services response actions. Political commitment and vision will also be required; however, they have to be realistic aligning with the need and expectations of communities. Strategic-level emergency management leaders must also understand the socio-political environment under which politicians operate. This has implications for training and professional development in recognising political imperatives and working with stakeholders, including ministerial advisors.

To sum up, this paper has contributed to our understanding of the differences between local-level incident management and how this differs in content and context for personnel operating at a strategic-level of emergency management. There are many challenges ahead and understanding these has never been more important or timely.

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