# *Community Responses to Bushfires: The role and nature of Systems of Primary Sociality*

**Helen Goodman, Lucy Healey and Jacques Boulet**

Helen Goodman (BA, MSW, PhD) is a Post Doctoral Research Fellow at RMIT, where she works as part of the Community Self-Sufficiency research program of the Bushfire Cooperative Research Centre (CRC), and in particular, C7, the Evaluation Framework project.
Jacques Boulet (PhD) and Lucy Healey (PhD), both former academics, are researchers with the Borderlands Cooperative in Melbourne.
Contact: borders@borderlands.org.au (03 9819 3239) or helen.goodman@rmit.edu.au (03 9925 9883

## *Introduction*

Actual experience and knowledge of living with and being prepared for the possibility of bushfires are important elements in people's capacity to make decisions about what to do preventatively as well as in the face of a threat. This is especially important if we acknowledge that no formal fire-fighting service or technical or other systems can 'protect' us all, all of the time. Social networks involving family, friends, neighbours and local residents are central to local people's capacity to warn each other of impending threats and to provide crucial help to one another. Sadly, this on-the-ground knowledge and experience and the ways in which locally-grounded people communicate within and across social and professional networks are rarely given more than tacit credence by 'official' emergency service operations and relevant government departments and they have received little research attention. If we are to live with and through bushfires (and other disasters), particularly if we are to deal effectively with the predicted increases in weather extremes like 'severe fire events', ***local people's experience, knowledge and ties of sociality must inform and shape the policy, practice and operational responses of formal institutions*** (rather than the other way around). Equally, effective and safe self-sufficiency of local people needs to be understood – and acted upon – in terms of ***communities taking care of their own local place and commons***, even if the latter appears under the guise of private and public *'properties'*.[a]

Multiple channels of communication must be 'activate-able' when a bushfire (or any other threat to life) looms, and this requires the recognition and interpenetration of processes associated with both ***primary sociality*** (personal relationships amongst family, friends, neighbours and 'community') and ***secondary sociality*** (relying on the institutions of market and state and their processes and persons with defined statuses and job positions). With the balance increasingly tipping to the institutions of *secondary sociality,* which in many ways fail to integrate – or even recognise – local people's varying on-the-ground experiences and knowledge with 'higher order' emergency processes, we argue for the need to re-validate *primary sociality,* both to improve communication and enable local knowledge and experience (or lack thereof) to inform what the state and the market **can** – and, according to the ***principle of subsidiarity*** – **should** provide to local communities to assure their ability to sustain themselves, even in the face of disaster.[b]

People's capacity to respond to impending crises (including their capacity to warn one another) is dependent upon *knowing what to do*, not only in practical and technical terms (based on experience and knowledge of fires) but also in social and communicative terms. This paper draws on local people's experiences in the January 2005 fire on the Lower Eyre Peninsula in S.A. (known as the ***Wangary fire***) to offer evidence for the need to ***integrate the dimensions of the material*** (technical resources needed to contain fires threatening lives, livelihoods and the environment), ***the social*** (people's abilities and relationships within communities, especially for mutual support and 'live-warning' capacities) and ***personal ecological awareness*** (consciousness about living in a particular eco-social system), if fire and disaster preparedness and prevention are to be improved.
However undeveloped here, the following analysis is – at least – an implicit argument for '***situated*' *and contextualised, locally developed community safety programs***, undertaken in collaboration with fire service agencies and other locally-based organisations, supportive of, and with resources to feed into ***the capacity communities still may have for self-help and to care for themselves***. This paper is the first of several papers on the subject of living with fires; here, we focus on the broadest, most abstract and (arguably) most important element – that of ***primary sociality*** – that needs to be factored into our understanding and approach to living with and responding to natural threats.

## *Conventional approaches to dealing with emergencies*

***Having information*** that a threat exists and about the likelihood of its impact is a critical component in the emergency services' conceptualisation of a ***hazard cycle***; schemas typifying this cycle are commonly represented as an interlocking set of activities ranging across the continua of ***prevention, response and recovery***, as exemplified in the Victorian Emergency Management Manual.

Understandably, the initial focus is on the first notification of the emergency, itself defined in temporal terms – an 'emergency' is something which occurs "*due to the actual or imminent occurrence of an event which in any way endangers or threatens to endanger the safety or health of any person…*" (Emergency Management Act, Section 4, cited in the *Victorian Emergency Management Manual*). Thus, an often represented schema is a time sequence which, naturally, starts with the event.

Gradually, emergency services have moved their focus from *'treatment'* of the hazard problem, to encouraging *preparedness* in individuals and communities, to *'manage'* the hazard, sometimes referred to as a shift towards a *'community safety paradigm'*. According to Squires (1997), characteristics of this paradigm include 'protecting those at risk' and securing sustainable reductions in the source of the danger and the fear of it, all based on multi-agency and community partnerships.

The idea of assisting communities to be responsive to the threat of fire (and other disasters) leads naturally to an examination of the role of emergency services and other formal institutions in warning systems, commencing from the trigger of the actual event. An excerpt from the Country Fire Service (CFS) South Australia *Operational Management Guidelines* serves as an illustration of an Emergency Services focus on their role in warnings:

> *Bushfire warning message is to be authorized by the CFS Deputy State Coordinator, on recommendation of the Regional Coordinator following consultation with the Regional Commander...and distributed by the CFS Public Affairs Unit. The Bushfire Warning message will be based on information provided by a Regional Coordinator, Regional Commander, or Incident Controller via the CFS State Coordination Centre. ...The Bushfire message is to be preceded by the Standard Emergency Warning Signal. ...The CFS Public Affairs Unit will disseminate Bushfire Warning Messages via fax to ABC Radio and 5AA/NOVA*

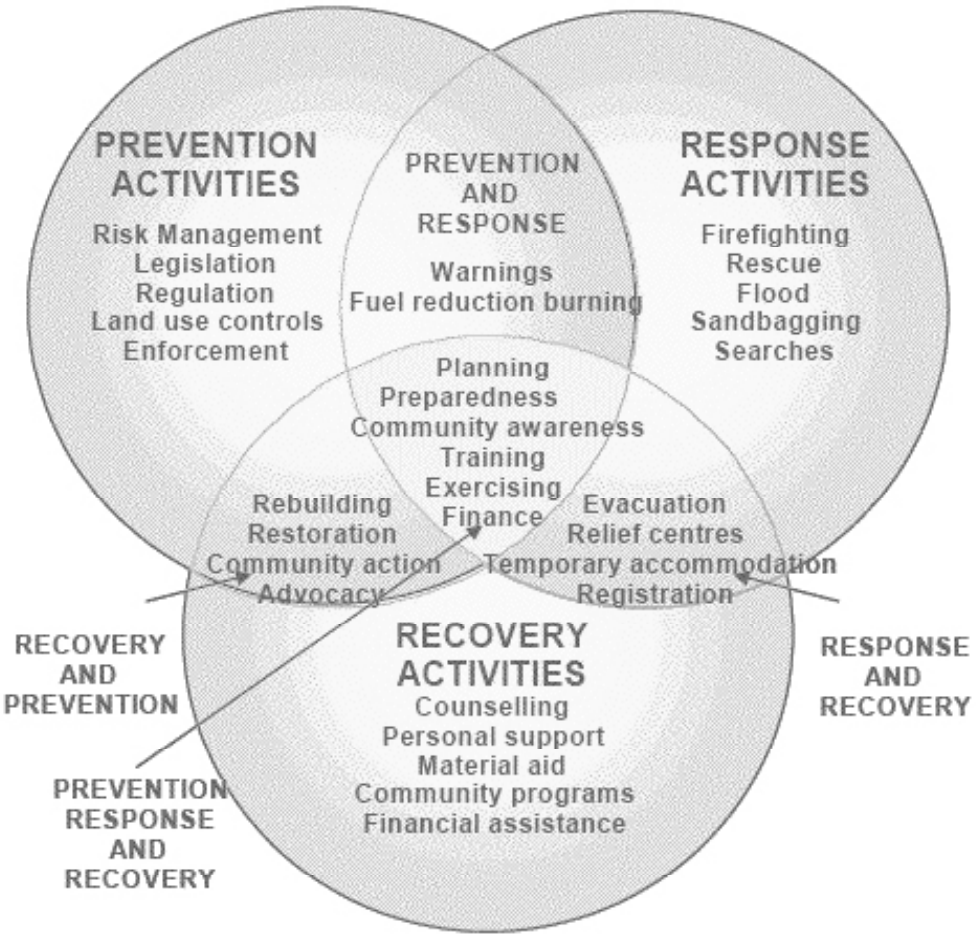



**Figure 1-1: Examples of Emergency Management Activities Clustered into Groups**

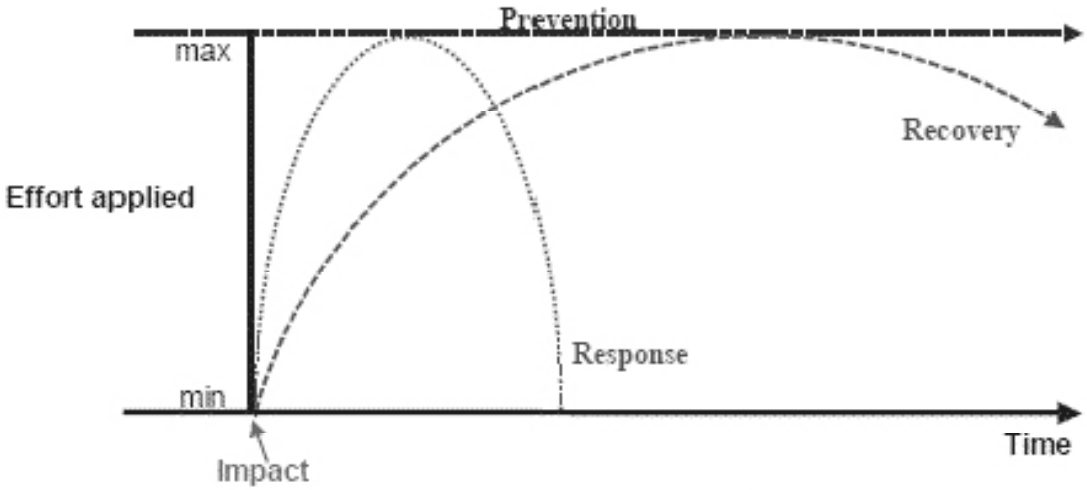



**Figure 1-2: Emergency Management Activities in a Time Sequence Model**

*as a priority and other relevant media… The ABC and 5AA will broadcast Bushfire Warnings every 15 minutes until notice is provided by CFS to discontinue broadcasting* (CFS, S.A., 2005).

The above formal warning system outline could be seen as suggestive of an '*assumptive world view*' located at one end of the community safety paradigm, ***an example of the centralised and bureaucratised institution of government***, seeing to the detail of its own dominant role definition. There is no room in this model, as there is often not in such models, for reference to the community and other 'partners' in this system of warning people. We will argue later that the narrow constrictions of this world view suggest that a lot more work will have to be done to change the paradigm (Squires, 1997) to allow *community and citizens as potential active participants in the maintenance of their own safety.*

The time-limited nature of the event of a disaster quite naturally occupies a central place in emergency management thinking and operations and leads to an emphasis in warning systems on *responsibilities associated with formally designated roles, particularly when examining mechanisms of accountability.* While it is easy to understand the mutual reinforcement occasioned by the interplay between such systems of 'formality' and 'accountability', making for the dominance of one 'system', *the formal one*, the literature still only refers to it as a *preoccupation* with official or formal systems and a "*lack of official credence*" given to informal or unofficial systems (Parker and Handmer, 1998).

While Parker and Handmer (1998) have demonstrated the case for the value of 'folk' or "'*local*' *as opposed to specialist and technical knowledge*" in relation to flood warnings (and in spite of three decades having passed since the publication of the landmark book in the *genre*, Kai Erikson's 1976 ***Everything in its Path***, about a disaster in the coalmine area in the US Appalachians), little research documentation of the contribution of 'local' or 'folk' knowledge in relation to the threat of bushfire is available. This article seeks to place the discussion of the 'informal' within a wider conceptual framework of pre-existing community relationships, norms and experience, that is, of the pre-existing ***primary sociality*** of affected community members. It also provides empirical data demonstrating the fuzziness of definitional boundaries between 'formal' and 'informal' responses to bushfires (or other disasters); indeed, several people from whose stories we draw were members of both the 'formal' system as volunteer fire fighters and of the 'informal' system, when activating their relationships and knowledge – possibly garnered within the 'formal system' when working together as members of brigades – as they responded to their community, neighbours, and family members when 'off duty' and in a civilian/informal role. We will be suggesting, therefore, that an examination of the 'fuzzy spaces' between the formal (secondary sociality) and informal (primary sociality) spheres of every-day life may be beneficial for the development of more adequate 'warning' responses as well as for other preventative and recovery processes in disasters.

## Context of this study

Wangary is located on the Lower Eyre Peninsula in South Australia; its main town, the City of Port Lincoln, has a population of approximately 14,000 people and is 676 kilometres from Adelaide. The area is largely agricultural, supporting a large number of grain and grazing businesses, with coastal areas supporting a large fishing and tourist population. The landscape contains several smaller inland townships, a significant amount of native scrub and also areas of heavily forested National Park.

The fire began on Monday 10th January, 2005. Whilst declared to be contained that evening, on Tuesday morning ('Black Tuesday') it broke containment lines and claimed nine lives, two men on a private fire unit and seven women and children, six of whom were caught in cars fleeing the fire. Ninety-three homes were destroyed along with numerous other buildings, vehicles and equipment and over 46,000 stock (Smith, 2005). The Wangary fire was a severe fire event, with the grassland fire danger index peaking at over 350 (Gould, 2005). [c]

While the Wangary fire was one of the most destructive fires in South Australian history, major fires have taken a heavy toll on communities across Australia and have resulted in a series of reports and inquiries (Cameron, 2003; Esplin, Gill & Enright, 2003; McLeod, 2003; Ellis, Kanowski & Whelan, 2004). The Federal Government established the Bushfire Cooperative Research Centre (CRC) in 2004 to work with fire services and other agencies to increase our collective knowledge, particularly around issues of mitigation of the effects of fires.[d] This study forms part of a research focus on understanding community capacity and reducing community vulnerability to the threat of fire.

## Methodology

This article is based on in-depth interviews with 35 persons from seventeen households affected by the Wangary fire. The opportunity to conduct them arose following a study carried out by Rhodes (2005) for the Coronial Inquiry into the fire, in which members of 288 households from the fire-affected region participated in a telephone survey of household preparedness for bushfire.[e] In the phone survey, residents were asked if they would be willing to speak further to researchers; 191 of the 262 people who responded to that question were willing to do so. The present study selected households from the 191 people, aiming for approximately even numbers across four geographic locations of the fire ground which coincided with the spread of the fire (see Map 1 below), and for a range of household ages and composition. In total, seventeen households, comprising 37 individuals, were interviewed.

The four shaded areas of the map bear some correspondence with the spread of the fire. The Wangary Wanilla area denotes the area where the fire began in relatively flat, open farmland country. This section was most affected by the fire prior to a westerly change at about 11.40 am on Tuesday. The Green Patch and White Flat areas were more affected by the easterly run of the fire after 11.40 am, also on the Tuesday. The Louth Bay, North Shields and Poonindie areas are predominantly residential and holiday areas, which were affected by fire in the early afternoon of Black Tuesday. The larger, mainly farmland area, named Edilillie and Koppio, experienced its most severe impact after the south-westerly wind change around 2pm on the Tuesday (Rhodes 2005: 20).

Of the seventeen households, ten interviews were with couples (husband and wife), two with individuals (women whose husbands were absent on the day of the fire) and the remaining five with families where adult children or siblings were present. We had a large group in the 50-59 age range and seven households with an income from farming. While there were 6 households who had middle-school age children or younger, none of these children were at home on the day of the Wangary fire.

Three interviewers (two females and a male) were present at fifteen of the interviews whilst the remaining two interviews were conducted by the two female interviewers. The interviews were semi-structured, commencing with a request for a narrative summary of what interviewees had experienced on Tuesday, 11 January 2005, particularly focusing on their actions, recall of their reasons for their actions, reflections on those actions since the event and general reflections on making communities safer. With the exception of one household, all interviewees agreed to the recording of the interviews (there was, however, a malfunction in the recording of one interview half way through). In all, over 19 hours of taped interviews were analysed for this article.

We are mindful that, in discussing particular cases and demonstrating the impacts of different life circumstances on particular households, we risk being seen as judgmental of the actions of those who were

less perceptive about the impending threat than others. Our purpose is not to judge but, rather, to show how social connectedness as well as prior experience influenced people's preparedness for and responses to the threat of fire.

Furthermore, moving towards analysis of these data, we used ***ideal type analysis***, following Max Weber's original application of this approach as a heuristic device. The ***'ideal'*** in this approach is neither referring to an ethical category nor to a statistical average or to the 'commonness' of the phenomenon described. Rather, it is 'ideal' in a ***'logical'*** sense, a 'created' mental or conceptual construct by means of which an attempt can be made to 'order' reality by *isolating, accentuating and articulating the elements of a recurrent social phenomenon into an internally consistent system of relationships*. (Paraphrased from Weber, 1949; see also Gould & Kolb, 1964: 311-313.)

Ideal-type analysis, therefore, does not attempt to 'exhaust' the empirical reality to which it is applied, but it offers opportunities to construct frameworks for the description, understanding and explanation of social phenomena and processes ***associatively*** and – occasionally – causally, very much in the tradition of Weber's *'Verstehende Sociology'* with its roots in phenomenology. 'Ideal types' – in order to fulfil heuristic functions – need to be ***objectively possible*** and ***subjectively meaningful,*** and the *constructivist* tradition – since its (re-)emergence with Howard Becker, Herbert Blumer, Peter Berger and Thomas Luckmann, and many others from the early sixties onwards – has fully adopted the interpretive strategy of ideal type analysis, without necessarily using this term. [f] We are using the term here to locate our methodological approach broadly in the epistemological tradition evoked above, including its contemporary evolved forms of constructivism, discourse analysis and suchlike.

## 'Formal' warnings

For all the reasons suggested in the initial sections to this article, a logical place to start when attempting to understand the way local communities 'operate' in the face of emergencies and threats is to examine the *processes of warning* in place (or not) as an event strikes. This also gives us an idea about the nature of community cohesion, of the existence of possible sub-groups or marginalised groups who would find themselves outside of either the formalised or informal systems of warning available to the community. We start with an examination of ***formal*** warning systems.

After the Wangary fire, the CFS conducted Project Phoenix, an investigation into the fire for the purposes of extracting 'lessons learned'.[g] In the project's report, the authors note that warnings were issued in relation to the Wangary fire (as well as two other fires occurring on that same day), but they do not go into the detail of what the warnings entailed. They concluded that the warning systems *"the CFS rely on, for communication to the community on a real time basis, such as the CFS regional offices and call in 'hotlines' did not cope with the demands of the day"* (Project Phoenix, 2005:7). Both the speed of the Wangary fire and the variable nature of its spread have been reported elsewhere (Gould, 2005); and Rhodes (2005), writing for the Coronial Inquiry, also noted the brevity of time for many residents between being warned of the fire and its arrival, as indicated in the table below.

**Table 1: Warning time before fire reached property**

| Time between finding out about fire and its arrival at the property | % |
|---|---|
| Few minutes | 34.5 |
| Less than ½ an hour | 34.5 |
| Between ½ and 1 hour | 11.3 |
| Between 1 – 2 hours | 9.2 |
| More than 2 hours | 7.0 |
| Don't know/remember | 3.5 |
| Total (N=142) | 100.0 |

(Rhodes 2005: 46)

A limitation of surveys is that further questions eliciting the context and content of a particular answer, and which may make the response more understandable, cannot be asked. What did respondents mean by 'finding out about the fire'? Was this a quite general 'finding out', as described below, where people 'found out' about the fire on the Monday night? One respondent in the sample of seventeen households, for example, worked as a volunteer fire fighter on the Monday night during which time he 'found out' about the fire, and later 'found out' about the possible impact of the fire on him when a neighbour – also volunteering – rang from the fire-ground on the Tuesday morning to warn him of its escalation. He received a further message from the neighbour that the fire was heading his way and that its impact was likely to be high. A full interpretation of Table 1 is thus not possible, but it can be said that nearly 35% reported very little time (with another 35% having less than half an hour warning) between 'finding out' about the fire and its arrival. This was not the case with some of those in our sample of seventeen households; that is, the people with fire-fighting experience and links within the community were not surprised by the potential for danger and they actively sought out information or were alerted to the danger through important 'informal' channels of communication and social networks. We discuss these 'informal' networks below.

The interviewees in this study seldom commented on the *formal* warning system; one respondent, while travelling toward the Lower Eyre Peninsula on Monday 10th January, heard a radio news broadcaster refer to the fire as the Wangary fire, mispronouncing 'WANGary' as in 'bang', rather than with the correct local pronunciation, 'WONGary', leading him to assume that the announcement was not by local broadcasters but probably from Adelaide, rendering it of questionable worth to him.

Members of three households said that they were advised to evacuate their homes on Tuesday 11th January. For one household, this advice came via a phone-call from a Local Government Officer to a female member of the household. She discounted the advice and noted the message contained no indication of where it would be safe to move to. She was also persuaded by her husband that staying at the house was the safest option. However, she expressed sympathy for the inexperienced young man who, it seemed to her, had been instructed (presumably by his supervisor and rather onerously) to pass on information that lacked credibility. The members of the two other households received advice to evacuate from the police; however, these warnings *post-dated* their own knowledge of the imminence of the threat, which had already been conveyed to them by other household members. Thus, of the three households that were contacted by 'official' sources with advice to evacuate, only one did. The motivation to evacuate in this case, however, seemed to derive more from the woman's personal inclination (and her husband's somewhat ambivalent agreement) than from the formality – and weight – of the ('formal') police advice.

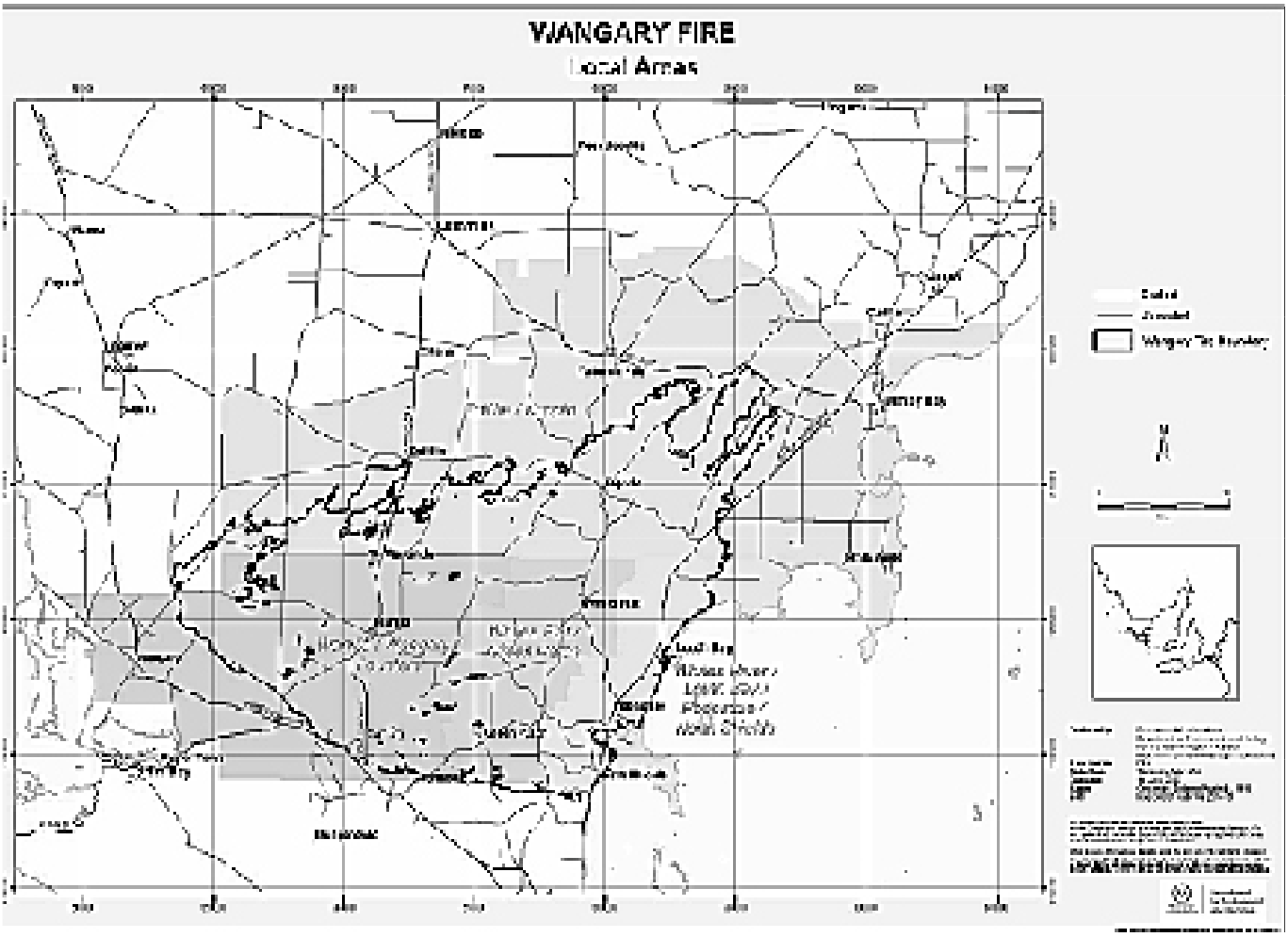
Only one householder sought information directly from the CFS by way of a phone call; he was advised that the fire was not a threat to him, which turned out not to be the case.

## 'Informal' warnings

We begin here to explore the role and function of (systems and processes of) primary sociality as mechanisms of community self-care, specifically in relation to warnings given about the imminent fire danger.

A 'warning' is a complex phenomenon. It usually involves actors as givers and receivers of information, and the range of mediums through which information flows includes telephone or other electronic means, face-to-face, and environmental cues. Often the giver can provide additional information other than the immediate threat and sometimes the receiver interrogates this information, clarifying aspects of the message. Warnings might also be self-deduced; if well enough attuned to the environment and with

## Map 1 Local areas and fire spread




relevant experience, one can deduce certain information from visual cues and experience to draw a conclusion amounting to a warning. There is, of course, a temporal dimension to warnings. Often, the timeframe in which a person hears or deduces a threat and passes this information on is important. They may be delivered iteratively over sequential time frames.

While we discuss the relevance of some people knowing of the fire on the Monday night, we take the event of the fire breaking containment lines – in fireground terms, 'going' – on the morning of Tuesday 11th January as the key event in our discussion of warnings. From this period on, warnings encompassed additional information iteratively collected as the Tuesday morning unfolded. These warnings were passed on by people in face-to-face interactions and also via telecommunications, including mobile and landline telephones and UHF radio located in emergency service vehicles, aircraft and in people's homes. Sometimes, this information contained details of recognised landmarks, such as *"it's crossed the highway at such and such"*, or *"it's at the airport"*, or *"it's into the caravan park at North Shields"*.

## *Sources of warning, land use types and fire service experience*

Table 2 summarises sources of warning as described to us in interviews; all seventeen households knew of the fire on the Monday night. As our analysis will show, the information that the fire had broken containment lines and was 'going' was, for several interviewees, confirmation of something they had thought might be a threat, particularly amongst some local fire service volunteers who expressed having come home dissatisfied with aspects of the fire management on Monday evening and feelings of apprehension with the predicted weather.

When we look further into the seventeen interviewed households, we find examples where the warning was either actively sought by them, as they were attuned to the possibility of the fire risk escalating and in some cases had been actively involved in fighting the fire. We also find examples of those who were caught very unawares and, in a few extreme cases, even disregarded, or minimized, the warning messages they were given. Instead of having recourse to 'personal differences', this suggests the need to seek a more structured explanation of the differences between those who were more likely to be open to seek or be given warning messages about the Tuesday fire and those for whom this was less likely to be so. Table 3 presents a starting point for possible explanations for the different responses to the Wangary fire.

In this table, we differentiate households according to two dimensions: whether residents had fire service experience (or direct experience with bushfires) and the association people had with the land on which they reside. To explain the latter, seven households were engaged in full-time farming, owned the land on which they lived and drew their primary source of income from it. Nine households owned small landholdings on which they lived but from which they did not necessarily draw any income or, if they did, it was not the main source of their livelihood. For some of these people, their residence was a 'lifestyle' choice, which enabled them to pursue particularly rural-based interests and needs. The final household was in rental accommodation, a house situated on a large farming property.

What associations can we make between the data in Table 2, which set out the sources of warning information, and those in Table 3, detailing the association between residence, land and fire (service) experience? When cross-tabulating the data from Tables 2 and 3, into Table 4, we detect further patterns: the seventeen households are now distributed across three 'categories' or 'ideal-typical' configurations. We have included the specific warning modalities in the respective cells. Using the household 'categories' (or configurations) from Table 4, we propose the following grouping (Table 5) as an ***analytical framework***, indicating in the far-right column a continuum of safety in response to a fire threat, according to ***ideal types*** (as indicated in our methodological discussion earlier).

The three 'categories' or ideal types of households are used to suggest an ***underlying associative configuration*** which helps us understand or explain what seems – to the outside eye – a series of broadly differentiated responses to the fire threat, moving from one enabling a safer response (Ideal Type 1) to one where certain elements contributed to a less safe – or 'vulnerable' – response to the threat (Ideal Type 3). We suggest that the ***different associations with the land held by the three groups and the life circumstances, relationships, community and neighbourhood networks, resources, skills and knowledge which underpin and characterise these associations, offer important considerations in understanding the nature of responses to the threat of fire***. Suggestively, they go some way toward understanding/explaining which 'configurations' seemed to enable some households to work together in a way that made for a safer response to the threat of the fire.

Obviously, these are broad – indeed, 'ideal-typical' – configurations, and there are deviations within each which are important to point out, even if we do not explore them in detail in this article. One obvious internal variation within the suggested ideal-typical configurations is ***gender differences in responses***, which we discuss briefly next.

## *Gendered responses to the threat of fire*

What was particularly instructive from interviews with the seventeen households was the extent to which experience with fire – and thus the capacity to make informed decisions about how to translate knowledge of the fire's movement into a safe plan of action – tended to lie with men rather than women.[h] Thus, a number of women explained that they deferred to the greater knowledge and expertise of husbands for decisions about what they should do as the fire drew close. For some women, the decision to *stay together* was paramount, irrespective of whether they decided to stay at home or flee the fire; still others wanted their husband to give often very explicit directions about what to do; and others yet, for whom the prospect of fire had been a longstanding source of anxiety, were keen to leave their homes. There were, however, some paradoxical ideas about what constituted safe practice in the face of fire.

We wonder if, as people become disconnected from working the land, they lose the self-sufficiency that has characterised many farming communities; do they lose the awareness of their precarious place in the environment (do they lose, for example, the ability to 'read' the landscape and weather signs) and no longer have the material and social resources at hand to prepare for a fire? As a local economy diversifies and new people settle in rural and semi-rural areas, it seems apparent that it is often women, particularly women who have responsibilities to children or elderly family members (as well as work commitments), who become especially vulnerable to the loss or lack of such skills and experience – with tragic consequences.

We now look in more detail at the characteristics or 'configured elements', as we have discerned them from the interview material, of each of the ideal types.

## Ideal Type 1: 'generational farmers'

To summarise from the tables above, we have set out some associations between sources of warning, land use type and current or past fire (service) experience. Out of the seven households depending on full-time farming as primary source of income, and which include current or past members with fire service experience, five households were warned by a contact in the volunteer fire service. The two remaining properties were among the last to be affected by the fire on the Tuesday given its geographic spread (see Map, area 4). One had been monitoring the fire the previous evening through a volunteer fire service friend living closer to the fireground; the other household was monitoring the fire, mostly by keeping tuned to the UHF radio, including the radio operated by the Warren aircraft.[i]

**Table 2: Summary of mix of sources of warning for imminent threat**

| Source of warning | No. households |
|---|---|
| Warned by contact in volunteer fire service | 5 |
| Warned by family and/or friends/acquaintances not in fire service | 6 |
| Deduced danger from a mix of radio broadcasts including UHF, broadcast, weather patterns and experience | 2 |
| Warned by formal bodies | 3 |
| Received none of the above warnings | 3 |
| ***Total itemised sources of warning** | **19** |

*Note: The total exceeds the number of households as some householders received warnings from more than one source.

**Table 3: Association between residence, land and fire service experience**

| Association between residence & land | Current or past fire (service) experience | No fire (service) experience | Total |
|---|---|---|---|
| Full-time farming (owners) | 7 | 0 | 7 |
| Small landholders (owners) | 4 | 5 | 9 |
| House rental on farm (non owner) | 0 | 1 | 1 |
| **Total households** | **11** | **6** | **17** |

**Table 4: Land use types, fire service experience and warning information**

| Association between residence & land | Current or past fire (service) experience | No fire (service) experience | Total house-holds |
|---|---|---|---|
| Full-time farming (owners) | 7 (5 warned by another CFS member) | 0 | 7 |
| Small landholders (mostly owners plus one rental)* | 4 (2 receiving warnings from outside household; 2 were warned by family members living elsewhere outside household) | 6 (2 did not understand warnings or 'cues'; 1 warned by family; 1 warned by employer as workplace was near the fire ground) | 10 |
| **Total households** | **11** | **6** | **17** |

*Note: we have included the single rental household into the 'small landholder' category, for reasons which will be explained later.

**Table 5: Household categories, ideal types & continuum of safety response**

| Household category | Ideal type | Continuum of safety in fire response |
|---|---|---|
| 7 households with current or past fire experience whose primary income is farming | Ideal Type 1: generational farmers | Safer contexts |
| 4 households with current or past fire experience whose association with the land is one of being a small landholder | Ideal Type 2: semi-attached small landholders | |
| 6 households with no fire experience and also small landholders | Ideal Type 3: least attached small landholders | Most vulnerable contexts |

The seven households had been farming families for a considerable time – in most if not all cases, for longer than their own generation – leading us to call this Ideal Type 1 group the ***'generational farmers'***.

## *Current or past membership of the fire service*

The 'generational farmers' are distinctive for their experience – current or past – in the fire services, which obviously brings knowledge, skills and a determination or confidence regarding suppressing fire. It also meant that some had fire industry approved protective clothing and equipment to hand and, significantly, for the *current* CFS members amongst them, they had knowledge of *this* fire.

For example, some men in this group had been out with their CFS crew on the Monday night fighting the fire. One interviewee told us that – at changeover – he explicitly asked a neighbour starting the next shift to advise him if there was a change in fire behaviour. If the change were for the better – a safely contained fire – he planned for his family to resume their holiday (the family had returned for a business meeting on the Monday night, only to notice smoke during the afternoon and that their (fire service) truck was out of its shed). As requested, the neighbour duly advised the family that the fire had broken containment lines on the Tuesday morning. On receipt of this information the warning was passed on to others, including other members of the man's local brigade group who were resting following the previous evening's fire fighting and also to others in the nearby community (see below). This 'early warning system' was underpinned by mutual knowledge at a community level, informed both by the men's work in the brigade and by other associations as members of a farming community. These associations were further strengthened by the fact that at least three members of this group also had adult children who were current brigade members.

Fire experience was gained through membership of the fire service and direct experience with fires on their own or neighbouring properties. While only one interviewee spoke of having been involved in fighting the Tulka fire in the nearby region (in 2001), we assume some others had also been involved, given the high number of CFS volunteers in this study and as several of our interviewees mentioned that fire. For one family, it was their third fire since taking over the farm. Past experiences of dealing with fire – even if such experience did not entail actual active fire fighting (for example, farming women have traditionally provided back-up support to men engaged in active fire fighting[j]) – was a significant factor in the confidence with which people took the actions they did, for example, whether to stay on their property to face the fire, as well as the degree to which they helped and warned others.

## *An environmental affinity*

Some individuals within Ideal Type 1 articulated an affinity with the environment; farmers spoke of feeling *'twitchy'* on high fire danger days, when summer northerly winds are strong and unpredictable, and the heat is dry and intense, and, it being harvest time, they are aware of the ever-present danger of farming machinery sparking fires. These are the times when the farmer who decides not to reap scans the horizon for the tell-tale plume of smoke, fearful of the consequences of less cautious farmers hell-bent on bringing in the grain.[k] One farmer who came home at 7 o'clock on Tuesday morning after being on fire service duty the previous night, said:

> *... it's funny how you sense things. You could sense the weather ...you know that if it got away, it was just going to be nasty...*

Another farmer noted:

> *I could see the weather was getting extreme and I could see it was going to be a horrific day, not just a bad day. My own experience tells me, 'cause I've been fighting fires all my life, and I could tell that this was something that we were going to really be struggling with...*

In another household in this group, an older woman told us she watched the weather pattern every night and actively tracked weather conditions in order to determine her activities for the following day, which typically entailed going to 'the farm' where she had spent her married life and where her sons now farmed. She correctly anticipated that with the wind change, *"the side of the fire will become the front and that it will come straight for us"*.

## *Farming experience with fire*

Looking further at the associations between these farming households, we can see additional characteristics of the 'generational farmers' that influenced their response to the fire threat. As noted, grain growers burn off stubble as part of the grain growing cycle and live with the risk of farm machinery sparking fires during high fire danger periods.

As well, 'generational farmers' have farming implements available that can serve the dual purposes of farming and fire fighting; crop spraying units can serve as fire units, and some have dedicated fire fighting units on the back of a 'spare' utility truck. One household sheltered in their farm shed and wore masks used for grinding and welding, in order to help their breathing as the air grew dense with smoke.

## *Preparedness to manage on their own*

There was a level of *pragmatism* amongst the 'generational farmers', best expressed by one interviewee who, upon being warned (by a CFS colleague with whom he had worked the previous evening) that the fire had 'got away', set about preparing as if he and his wife could manage on their own:

> *I said to Mary, at some stage, look we can't expect any help because the fire has travelled 25 kilometres or so at this point, and there are so many farmhouses between here and there that the resources would be stretched to the limit and we couldn't expect any help.*

By contrast, as we shall see, those within the Ideal Type 3 group *assumed* they would receive outside help.

## *Sense of community*

It might seem contradictory that, whilst this group was prepared to face the fire at their respective properties 'on their own,' this

was nonetheless underpinned by a strong sense of connection and commitment to neighbours and friends surrounding them. When the farmer, who had asked his neighbour to call him if the fire worsened, received the call, he warned those whom he knew would be asleep (because they had been on duty with him the previous evening) as well as immediate neighbours:

> *I went off to catch up with Bill and on the way I called in to Smith's, that's the new house just down the road here. I noticed them just at the door and I jumped out and went to see them and I said, look, you know, it's coming, 'cause it was already smoky by then and I said look, if you haven't got the gear to look after yourself, you'd probably best to make … it's your decision, but either you collect up what you want and leave or, you know, whatever … make up your mind what you're going to do. We're about to get burnt out.*

Another farmer noted that before he knew definitely that the fire had broken containment lines, he *"started preparing our own farm for the possibility of fire impact"*. He went on to explain the things he did in preparation for its arrival:

> *…Well, first of all, I started ringing around the neighbours, just to see what manpower they had around on the day. And in particular a neighbour west of us, Susan, because I knew she had just been in hospital and she was on her own with children...*

While the above quotations were uttered by men, both conveyed that they could do what they did because their wives were attending to other preparatory tasks and responsibilities at home. Asked if they would do again what they had done the morning of the fire and if they would do anything differently, both women and men firmly said that they wished they could have phoned more people.

### *Mutuality of assistance*

Assistance did not always go one way; for example, one householder was warned by a neighbour who could not return to his property, so the former went to assist the latter's wife who was alone. Some of the ability of householders to do what they did was further enhanced by the 'serendipitous' presence of neighbours who could not get home to their own properties, but stayed and helped families we interviewed, suggesting a ready ability to get involved in defensive fire fighting tasks which non-farming people could possibly not so readily engage in. Of course, the ability to engage in operational tasks is not the only value in the presence of others in emergency situations; when behaving in supportive ways, they can represent a crucial element in contributing to a safer outcome. We cannot explore this proposition further, but we do suggest that having additional people on the property, with both requisite skills and knowledge and providing company and psychological support, serves to strengthen the overall ability of a household to respond.

### *Size of households in the farming context*

The makeup of Ideal Type 1 households showed several common characteristics; five of the seven households had adult children still working on the farm, with their labour on the day contributing to the fire-response capacity. Adding to those households with adult children working on the farm were households with adult children with farm working skills, even if they were employed elsewhere in the region. Thus, a father and a son were joined by another son who was employed in a nearby town. In another instance, a married couple was joined by an adult daughter while the 'live-in' daughter was unable to get home to help.

All of these households consisted of couples, except for one which included an older woman and her adult son. There was visible cohesion between some couples, clearly enabling them to quickly take up roles and allocate tasks (in nearly all cases, men were taking the directive role, given their firefighting experience). In five of the seven households, the woman stayed with her husband and fought the fire at the home. For most of the women, their usual occupation was farming. While not specifically inquiring about the background of the women, most offered that they were born in a rural area and, in some cases, this region, thus contributing in ways we have yet to fully explore.

### *Farming – a life-time pursuit*

Two representatives of this group seemed to sum up one of its characteristics. One, an elderly woman, responded to our question as to whether she would have considered leaving the farm that day: *"I wasn't going to leave and just let everything be destroyed*." Another householder recalled the struggle after the fire to face seeding again:

> *It's been, sort of, a long six months, especially when seeding came along, just none of us thought we had the energy to do seeding, but we knew we had to get the crop in or else there won't be a future, you can't pay the bills and the bank. So we sort of … all looked at seeding, thinking, oh, no, x thousand acres, no, no, no… We're really glad that it's finished. That sort of feels like we're back in a cycle of farming again…*

The fact that farming is cyclical in a seasonal and a generational sense provides some insight into the relational context in which this group was working and living, both in the social and the ecological sense.

#### Summary of Ideal Type 1: generational farmers

To summarise, the characteristics of this group of households were that they had access to particular knowledge about the progress of the Monday night fire, good general knowledge about reading the weather, general experience with weather and fires, and an understanding that in a fire of this magnitude there was unlikely to be much, if any, assistance to be expected from fire emergency services. Their knowledge was further strengthened by personal familiarity with each other's circumstances and the whereabouts of household members on the Tuesday morning. There was cohesiveness between the couples and an ability to allocate tasks and work as a team.

Some of the data from the interviews with this group of households suggest that these families are generally well connected with each other and that they seek, where possible, to use this information for the benefit of the larger community.

## Ideal Type 2: semi-attached small landholders

At the middle point of the continuum on Table 5 of safe to less-safe responses there are four small-landholder households with some fire (service) experience. The sources of warning for this group were somewhat different from those of the previous group, there being little contact or passage of information from outside the household that was either timely or of much use. A member of one household currently served in the local fire service, whilst the other three households had members whose participation in a local fire service dated back some years. Of these four households, two had no warning from the outside about the imminent fire threat and the other two received warnings from non-resident family members.

The current CFS member was at home, asleep, having worked on the fire truck the previous night. His parents and in-laws, who lived in town, called to warn him of the likely impact of fire. We do not know if other members of his brigade had also tried to call him. His wife, who had left with the children to go shopping so as to give him some quiet sleeping time, was unaware of the growing danger. An older couple, long time residents with a lot of family in the area, were also notified of the impending danger by family members; they were

helped considerably by immediate family members, who travelled through road blocks to get to them.

A third household was made aware of the Monday night fire by the previous evening's television news, and in the fourth household, a woman sought information by scanning radio and television programs and calling the fire service. Other than this, neither household had contact with anyone else that morning and the fire front arrived before they had time to make many preparations.

Included in this group, nonetheless, is one of the most fire-prepared households we encountered in terms of their planning and preparation; the husband had gone to the fireground the night before to offer his assistance and had been watching the smoke and the weather pattern. This was the only household in which interviewees said that *"they had a long time to wait"* for the fire front to come through (even though they were not far from the source of the fire). They were so well-prepared and had moved quickly into their much-rehearsed plan of action that, by the time the wind changed and it was certain that the fire was coming their way, they just had to brace themselves and wait for the first signs of the front.

We have loosely named this Ideal Type 2 category ***'semi-attached small landholders'***, suggesting some connection to the land on which they were living, but, in the main, a more tenuous connection than that held by the farming households. In this regard, it is of significance that none of the members of these four households depended on the property for their primary income.

## *Association with the fire service*

We did not specifically ask interviewees about their history of fire (service) experience, but we were nevertheless offered insights; the wife of the man currently involved in CFS explained that her husband had joined the brigade because they might need some fire service assistance in the future and that being a current member offered some sort of insurance. The long-term resident spoke of his past fire service membership as a matter of ordinary community association, whilst the male members of the other households had been members of brigades in other parts of South Australia. We understood they were members because they lived in rural communities, not necessarily because they were farmers. For one of these men, his work necessitated being responsible for the safety of young people in a high fire risk area; recalling a past experience of a fire front passing over him whilst on duty in a fire unit, he said:

> *It puts the fear of God in you…it never leaves you…* ***Once you've been touched by it, you are more receptive. You pick up on things.*** *I have a pretty healthy respect for what fire can do and how quickly it can happen.*

We have given emphasis in the above quotation to the expressed awareness of signs in the landscape and weather, characteristic of both the generational farmers and, obviously, those having had direct experience of being in a fire.

## *Occupational groups*

Of the four households in this group, members of two households were currently in employment and two were retired. One man worked off-shore (his wife reported considerable anxiety over the summer months when he was away, due to her fear of fire) and the other couple both worked in town, the man in construction and the woman in administration. The two retired couples had relevant skills from previous work as well as their fire fighting experience – one in mechanics and one with responsibilities for vulnerable groups in a high fire danger region. One woman who had knowledge of emergency preparations (through her husband's involvement in emergency services) noted that knowledge was different when you had to apply it to yourself.

## *Land use*

All four households 'used' their land in small-scale ways; one was a keen fruit and vegetable grower and three had horses.

### *Length of connection to this land*

Two households in this group had extensive family ties in this part of the Peninsula. Members of the two other households came from other parts of South Australia, one household having moved to the Eyre Peninsula within the previous two years and the other about 20 years previously. Thus, of these four households, only one had resided in their current residence for a long time, sharply contrasting with the 'generational farmers', where the periods of association in their current residences were considerably longer.

### *Availability of assistance on the day*

Three of these four households had more than their usual number of people in residence on the Tuesday. In one household this was fortuitous, as a friend was staying with them, but in two other households, visitors came in response to the fire threat. In one instance, a female friend arrived to assist with transporting animals away from the fire; in another, adult children arrived and were able to offer emotional support and a degree of skill in some of the more operational tasks, such as driving machinery and handling fire pumps.

As already noted in Ideal Type 1, visitors played an important role, even if it was less operationally focused. Early on the Tuesday morning, residents in the household with the visiting friend offered to take him out of the area, but they were relieved when he declined, as they greatly valued his help in preparing the home and in providing company to the wife at the most frightening time. In another household, a friend arrived to help move animals, which it was too late to do, but her presence enabled the husband to visit an elderly neighbour, whom he knew would be struggling with the aftermath of the front. The husband indicated that he would not have left his wife alone and gone to help the elderly neighbour had the friend not been there. So while three of these four households had unforeseen 'extra' people at the property, which was helpful to themselves and others, only one received assistance that intensified their fire preparation and involved heavy machinery, which was generally the province of farming households in the Ideal Type 1 group.

### Summary of Ideal Type 2: semi-attached small landholders

Broadly speaking, the characteristics of this group reveal lesser capacities than those within Ideal Type 1 but greater than those in the following Ideal Type 3 group in responding to a fire threat, with the exceptionally well-prepared household standing out from all the groups in terms of preparedness. This household was, however, generally less informed about details of the fire from friends or neighbours and had fewer people present to assist them to deal with the threat. The associations with the land in the Ideal Type 2 group are not as strong as for those in Ideal Type 1 but, as we shall see, they are stronger than in the Ideal Type 3 group.

## Ideal Type 3: least-attached small landholders

We turn now to the Ideal Type 3 group, described as the '***least-attached small landholders***'. This group contained six households, mostly living on their own small landholdings, except for a young couple in a rented farmhouse and another family who lived and worked in town but had a connection with family members living on a farming property. These households fall at the lower end of our continuum, being the most vulnerable in terms of safety and in their response to the threat of fire, precisely because they did not work where they live (in the main), had no experience with bushfires, and were ill-prepared for such an emergency.

Given the lack of fire experience in this group, actions taken in response to the fire were of a somewhat solitary nature, due in large part to members of each household being dispersed at the start of the fire owing to work and other commitments. The natural desire to help people in need was prominent; however, household members indicated that they had given little forethought to how to act, let alone account for members of an extended family and household who are dispersed geographically when a serious bushfire situation developed.

## *Association with the fire service*

None of the members of the six households had any fire service experience and very little experience of fires, which we take as a highly significant characteristic of this group's rather minimal understanding of the vulnerable niche they occupied in their socio-ecological landscape.

## *Warnings received or given*

Residents of these six households had minimal warnings passed on to them and did not understand those that were. Similarly, they had little opportunity to be part of an informal warning system themselves, a significant general characteristic of the Ideal Type 3 group.

For example, members of two households were unaware of the warning signs of an imminent fire threat or responded in questionable ways to warnings received. In one household of three, the young woman while engaged in duties in a retail job, was aware of the wind and smoke – but commented on its meaning for her retail work rather than its possible meaning in the landscape. Her cousin phoned to tell her he believed the farm were she lived would be in the line of fire, but she did not understand the seriousness of his warning and took no action until someone else phoned. Her husband, too, was slow to respond to information passed on (third-hand, as it was, from a Council worker to his brother who rang him) advising him to go home because of the threat of fire. A third adult in this household was at home on the property, but was struggling to know what to do. In the other household, the young woman had gone (as had many others) to take photographs from Winter's Hill, which provided a spectacular vantage point to view the fire. In the meantime, her husband took a call from a friend who warned him of the imminent threat and the couple eventually left together to go to the young woman's father's property on which she conducted a small business.

Two other households received no warnings at all. One woman who lived on a small property with animals was, of all 17 interviewed households, closest to the fireground. She believed her life was saved by a tradesman, who had arrived to undertake a pre-arranged job but was concerned by the weather conditions and went to investigate. When he realised how close the fire was, he rushed back and spurred the woman into action. She 'panicked and froze' and required firm commands from the tradesman to get moving. The pair left the property as flames moved up the driveway. The members of another household were with extended family in town and were unaware of the fire until a distress call was received from a parent at the fireground.

A member of a fifth household was at work at a site fairly close to the fireground until he and his fellow workers were advised to go home because of the fire. His partner had left home for an appointment in town, where she remained until she learnt of the fire around lunchtime. She attempted to get back into the area but was stopped at roadblocks. Residents of the sixth household were warned by telephone by a relative who was watching the spread of the fire from Winter's Hill.

## *Occupational group and connection to the land*

The members of these six households were less connected to the land in terms of their occupations – and thus less able to 'read' weather signs. For example, the household with the three adults had moved onto their land a few years previously and had no farming experience. In another household, there was an older woman, born in Europe, who had brought her animal breeding business with her from another part of South Australia to her small landholding. Her husband's work was some 8 hours away and she was often alone. Her existence in this environment seemed precarious and she spoke of always being anxious about the climate. For some years, she had frequently talked of moving away from the area owing to her fears. In fact, they had sold the property by the time of the interview some months after the Wangary fire and were looking to relocate to a more settled, less-dry part of South Australia.

The older couple in another household were long-term residents of the district but the husband, forced to take a redundancy payment, was begrudgingly in retirement; they spent a lot of time away from the area, travelling and holidaying in the outback, sometimes alone and sometimes with others. Another household had moved into the area some years previously; the husband was retired and his daughter ran a business from this property but lived in the nearby town.

We included in this Ideal Type the young couple living in the rented farmhouse as their housing and occupational circumstances suggest that they were 'less attached' to the land on which they lived (not 'owning' it and thus subject to the decisions of the property-owner). The couple did not have fire service experience either, but the young man was extremely agile and presented as hardworking and familiar with machinery. This – and the fact that he was engaged in rural-based work (albeit casually) and was working close to the fireground on the morning of the fire and thus far from his home – meant that he became very involved in fighting the fire. Indeed, he seemed to have been willing to be called upon by various others whom he assisted on the Tuesday morning and he sought to actively assist those close to the fireground. He also knew that his partner was not in immediate danger, since she had an appointment in town, which presumably 'released' him from worrying about her safety and their rented house, which otherwise might have made him respond differently.

Finally, in the one household which was somewhat 'anomalous' for Ideal Type 3, the family's principal residence was in town, but they had close familial connections through the wife to her parents' ('generational farmers') property, where they kept some sheep. As the couple had made a conscious decision to live and work off-farm, it seemed logical to place them in this category. Whilst the members of this household did not live in the fireground area, the couple was nonetheless present in the fireground area at the time, as will be seen in the next but one section.

## *Usual occupancy of the home*

Given that the fire occurred on a week-day, residents in town-based employment were away from home; nonetheless, of the six households, there was a presence at four of the properties, including the older woman with the animal breeding program, the couple with the husband in forced retirement, the father of the household where the daughter ran her business from his house, and one of the three young adults who had only recently moved to a farming environment.

The woman who bred animals was 'seasonally' anxious about the possibility of fire and spent considerable time on her own at the property, as her husband's business interests regularly took him elsewhere. One of the three young adults living together was also at home as he spent most of his time on the property, whilst the other two household members worked in town. He said he was unprepared for the fire, had difficulty reading the signs, could not interpret the incoming information about the impending risk and reported difficulty filling the fire unit which he had never used before.

## *Movements on the day*

In another household, the woman who lived and worked in town (but whose parents lived on a property on the fireground) tried, unsuccessfully, to get to her parents' property to help them, following a truncated phone call from her mother. She was stopped at roadblocks. Coincidentally, the woman's husband had earlier been helping his father-in-law on his property and when he and his in-laws fled the property prior to the front reaching them, they were separated, travelling in two cars; the husband also tried, unsuccessfully, to get from the fireground into town, where his own immediate family resided.

The casually employed young man (whose partner was in town) mainly spent the day helping on private fire units. In the afternoon, he made his way to his home, taking two hours for what is usually a 20 minute trip, due to the state of the roads. He found his house intact, left again, and finally returned – after helping others defend their properties and looking for a displaced neighbour – only to find his home burning to the ground.

Finally, the young woman who ran her business from her father's property but lived in town, travelled together with her husband to get to her father who was on the property.

## *Assistance given or sought*

The experience of the young labourer is particularly poignant given the policy advice to actively defend the home for some time after the fire front has passed.[1] When he first returned home and saw the house standing, he heard a call on his UHF radio that a neighbour was missing and went looking for him. It was on his return that he found his home collapsing and burning, his good intentions costing him and his partner dearly. Asked about the decision he made, he said he felt obliged to respond to the message. The missing neighbour (who was located) had been good to him when he was starting out in his current work. This represents just one of the hundreds of extraordinarily difficult decisions people made all across the peninsula that day; it also points out the strength of ties that bind people together.

## *Lack of experience with fire*

The woman running her business from her father's property was totally inexperienced when it came to fire. She told researchers that she was *"blissfully unaware"* of any danger on the Tuesday morning; *"I knew there was a fire but having never been through a bushfire, it didn't really bother me. I figured – It would be OK. We'll be safe."* She went to Winter's Hill and took photographs before she was finally alerted by her husband of the imminence of the danger to the farm where they had business interests and together they then drove through the fire affected area to get to the property. It was during this time, rather than when the front arrived at the property, and its aftermath, that she felt closest to losing her life.

The household of three adults, who had only just moved out to the farm, was very ill-prepared and vulnerable. The young woman explained that both she and her husband (at their separate jobs in town) were slow to respond to telephone warnings to go home and that her brother, who was at home on the property, had no idea how to prepare for the oncoming fire. She further explained that after she and her husband had arrived home, she had difficulty in getting them to act together. She eventually left the property and drove to town with the intention of joining her children who were safe at a relative's place. After driving through at least two fronts, she was advised to stop and she took shelter with a farming family (who we identified as belonging to the Ideal Type 1 group of 'generational farmers'). She instantly recognised that she was safe with them:

> *...I was really thankful I saw one of our neighbours that live in a farm and I know that they've been farming for a long, long time. ...I'm thinking, well, if anybody's knowing what I should be doing, it should be that ... that particular family...*

In the case of the older couple who received a warning from a family member about the approaching fire, the man asked his wife to leave, which she did, but, amidst the smoke and flames, she crashed the car not far from their property. The husband was remorseful for the instruction he gave his wife, which put her life in such danger. As we interviewed him, he explained that he had not enough equipment and would struggle to buy what he thought was necessary in order to be prepared for another fire. He had practical skills and knowledge of water pump machinery and was clearly grappling with hard decisions about whether to spend what he estimated would be $2,000 to purchase a diesel pump that would stand idle for much of the time, as its only use would be in the event of fire. It is also important to note that his instruction to his wife to leave the property did not accord with the Australasian Fire Authorities Council "prepare, stay and defend, or leave early" policy.

The man who was helped by the arrival of his daughter and son-in-law said that he could not have managed without their assistance. The couple drove together along fire-affected roads, avoiding roadblocks in order to reach his property. Although the three had skills and strengths in presenting an organised, joint attack on the fire once the front passed, they nonetheless lacked the practical experience and equipment of those in the Ideal Type 1 group of generational farmers. Furthermore, unlike the 'generational farmers', the man held the erroneous view that a fire like this *"was unlikely to ever happen again"*.

The family where the wife had strong original family links to the generational farmers is an interesting inclusion in this group, as it illustrates the disjointed nature of their responses given their spatial disconnection from their land in general and from each other on the day, and the conflicting familial loyalties. They were vulnerable on the day in that the husband and wife acted independently of each other, the latter trying to get to the fire-affected area to help her parents who had called for help, whilst the former, having become separated from his in-laws, tried to escape the fire-affected area to where his immediate family resided. In this sense, they were separated and not part of a cohesive household attempting to act in concert, as the majority of the generational farmers were able to act – in part because of the connectedness between work and home. Both husband and wife were vulnerable by virtue of being on the road in dangerous conditions, although, admittedly, the husband was able to exercise leadership and use his knowledge of the dangers of flammable liquids, to guide two carloads of tourists with young families he encountered on the highway towards cleared ground.

## *Financial resources and fire equipment*

One final characteristic of households in this group is best illustrated by the retired man who, in the aftermath of this fire, was grappling with the decision whether they could afford to invest in expensive fire fighting equipment. Having an independent power supply and a fire unit is more difficult for householders for whom this is an additional separate cost, rather than a cost that could be spread over other farm-related tasks, as it was for generational farmers.

### Summary of Ideal Type 3

The members of these six households appear to us as the most vulnerable and, arguably, least connected to the land. Their association with the land seems transitory in comparison to that of those in the two previous 'ideal types,' either because they could live on any small landholding (one household was already in the process of re-locating) and still maintain a lifestyle interest, or because they had made a conscious decision to dissociate themselves from

a primary production livelihood (as with the family who lived and worked in town).

In addition, members of these households were less likely to receive warning information from others (4 out of 6) or were less likely to be able to interpret this information when they received it (2 out of 6). They were more likely to spend time on their own on their small landholding and could thus be regarded as knowing less about the movements of their neighbours and community in general. This was due, in part, to the split between their places of work and residence or the separation of couples, owing to work commitments elsewhere. One of the households in this group illustrates the social vulnerability of their domestic situation, where the husband had the knowledge and skills about home defence, but not the finances to purchase what he considered base-line protective equipment.

The vulnerability and lack of fire preparedness and experience of women was particularly apparent in this group as they took to cars to drive in smoke and sometimes through fire fronts, one only narrowly escaping, being trapped in her car in the fire; another leaving her property only as flames approached the house; and yet another crashing the car in dense smoke soon after leaving her property. One woman thought she would lose her life on the drive to her father's property and another considered challenging the road blocks in order to get to her parents' property.

Finally, although only one person said that it would be unlikely for a serious bushfire to affect this region again in his lifetime, we find it of no surprise that he formed part of this 'ideal typical' group.

## *Concluding Reflections*

Since the Wangary fire, several massive Australian (and overseas!) bushfires – most recently, the Victorian fires from late-2006 and into early-2007, burning across 1.1 million hectares of public land, destroying 51 houses and killing one person – have re-affirmed the relevance of the research this article reports. The Great Divide Fires, which lasted 69 days before being contained, involved 19,000 CFA (Country Fire Authority, the Victorian rural fire service), DSE (the Victorian Department of Sustainability and Environment, responsible for fire safety in State Forests), Interstate and overseas fire fighters, and were front-page news for all of that time (see Guerrera 2007:7). Public statements about the linkages between bushfires and climate change, global warming and the growing shortage of water are becoming increasingly commonplace – only to be questioned by some who have political or economic interest in minimising or denying such linkages – something unthinkable just a few years ago (ibid).

As well, public questions about the roles of and reliance on a voluntary fire services in the face of the expected increases in number and ferocity of bushfires are being asked, especially against the background of rapidly changing demographics in the bush and in regional and rural Australia. In Nguyen and Catalano's 'Battling for the bush' (2007), the National Party's Peter Ryan comments: *"The big issue that everybody is dancing around is that the CFA was never intended to fight protracted campaigns; to its enormous credit, it has evolved into a very formidable force... but I think this issue of (the CFA) having to do what it is doing is one we are going to have to face up to as a matter of public policy."* What then follows in the article is the *'much talked about'* issue of payments for firefighters, or other ways of supporting them materially, and a brief hint at the changing demographics, suggesting that *"generation-Y fire fighters"* are *"**more driven by their own interests** – career advancement, skills development, new challenges and friendship opportunities – than their older colleagues."* And whilst a "boost in generation-Y's participation" would help, the authors of the article end it with the rather cryptic, *"But much responsibility for easing the strain on existing firefighters also lies with the broader community. This summer has proved that Victorians have much to learn about fire safety."*

Leaving aside the rather ***'unspeak'*** character of the notion of the 'broader community' in the above quote (Poole, 2006, author of the book 'unspeak', explaining it as 'the mode of speech that persuades by stealth'), our own article is precisely intended to illustrate the significance of ***community*** and other ***relationships of primary sociality***, as complex and multi-layered modes through which local people give meaning to, behave in, and respond to a fire threat of the magnitude of the Wangary fire. We believe that the positive – and operative – aspects of such relationships are under-recognised in conventional approaches to dealing with emergencies – even in their aftermath! – and that this constitutes a serious gap in supporting communities to live with – and respond effectively to – the threat of extreme (fire) situations. Obviously this is not to suggest that emergencies should be dealt with in isolation from more centralised, professionalised and technologically better equipped approaches at a regional or state level, but it ***does*** suggest that the latter interventions lose a lot of their potential when they operate without regard of the former.

In the Wangary fire, it was the ***presence*** of local people combined with their varying ***levels of experience and knowledge*** of dealing with fire situations and operating through ties of ***primary sociality*** that enabled many people, often in quite isolated areas, to survive a fire for which there was little or no prior 'official' warning. It is true that, in hindsight, there were some questionably unsafe 'choices' made, but it is especially important to point out that the impromptu, informal warnings about the fire's movement and its multiple fronts that were delivered by telephone or physical visits to nearby households provided the necessary impetus for people to act upon information that was deemed credible, precisely because the messenger was 'known', was 'on the ground', was 'to be trusted', and was to have fire fighting or other relevant 'fire experience'. Too often, the power and potential of the considerable resources present at community level are being neglected or ignored by more centralised bodies – both governmental and private/commercial – and too little is done to support, maintain and improve their capacity, in spite of rhetoric to the contrary.

In a previous article focused on the width and breadth of (community) volunteering –itself highly relevant for the issue we are discussing here (Healey, Boulet & Boulet, 2006) – we have elaborated on the meaning of ***primary*** and ***secondary sociality***, re-connecting with important elements of an earlier generation of social theorising. We thus hoped to recover ways of complementing the highly individualistic modes of thinking and practice which have become *de rigueur* in all aspects of human behaviour. We find support for this in the contributions by many involved in ecological action and thinking today, and there exists an emerging recognition that our present modes of thinking and being and relating are counterproductive to the development of sustainable alternatives – including, we would argue, the development of meaningful and sustainable ways of living with the (increasing) risks of bushfires and other more imponderable disasters.

In 'A politics of global warming: the social-science resource', Andrew Dobson (2007) suggests that, whilst there is an "overwhelming public as well as scientific consensus that a key driver of contemporary climate change is … human induced and [that] the key question now is … 'what are we going to do about it?'" He identifies three major current responses: technology, lifestyle and green taxes, but, in spite of their plausibility,

> *…from further back, they begin to look like individual pieces of a jigsaw that – as a whole – may well be the problem rather than the solution. For each of these measures either inhabits or is informed by the idea of markets that cater for profit rather than need, operated by self-interested individuals. Environmental theorists and campaigners have long pointed out that this mix is potentially a recipe for disaster rather than salvation.*

Dobson proposes that *good social science* would suggest that there is a

> *…much deeper reservoir of social, political and economic possibilities available to us than the technology, lifestyles and green-tax mantras would have us believe. This research work suggests that now is the time to rescue the habits and practices of pro-social behaviour: behaviour that aims at the common good rather than the maximisation of individual self-interest.* ***This is a tender plant that has been battered mercilessly over the past thirty years of market liberalism, but it is still there, and it is extremely important to the climate-change debate [and – we would add - for community-safety]****. The tragedy is that the very solutions that the governments of some of the countries most responsible for greenhouse-gas emissions (come up with) could almost be designed to extinguish the remaining remnants of pro-sociality* [our emphasis].

Our data shows rather clearly that – on the one hand – ***ties of primary sociality DO have a positive effect on meaningful responses to emergency situations*** and that – on the other – 'official' responses and warnings either do not penetrate to people on the ground or often lack timeliness or are simply ignored by some.

It seems to us that it would be imperative for governments, their respective departments, and emergency services – first – to come to know and understand relational systems of primary sociality and – second – to strengthen them and – third – to integrate and calibrate their own processes with them after recognising that responses of primary sociality are strong but can be rendered fragile when overridden or systematically ignored, especially when they are facing profound changes themselves (Alston, 2006). Much of the recent upsurge of contributions about community strengthening, community capacity building, social capital and such more would be fully compatible with this assessment (see also Healey, Boulet and Boulet, 2006, as previously mentioned; and Dandenong Ranges Music Council, 2004). Returning to Dobson, who cites Swedish research (Matti, S. and Berglund, C. '*Citizen and consumer: the dual role of individuals in environmental policy*' in Environmental politics, 15/4, 2006) which clearly shows that

> *…policies designed to appeal to the individual as a consumer rather than as citizen 'crowd out', or reduce, 'the sense of moral obligation' in favour of pro-environmental activity. Once again, the preferred form of government policy both reinforces the frames of mind and conduct that contribute to environmental unsustainability* ***and simultaneously undermines*** *the habits and practices that inform much pro-environmental behaviour. This double-whammy is a serious obstacle to dealing with climate change – and indeed with any other problem which requires pro-social responses.*

In our earlier-cited article, we also talked about the importance of the ***subsidiarity principle*** (see footnote ii) which, we suggested, would assist in framing other relationships between the 'systems' of primary and secondary sociality, especially in addressing more fundamentally the bureaucratic and increasingly centralising tendencies of (central and state, but, given their growing size and scale, also of local) governments and their associated institutions of secondary sociality.

That has, of course, deep implications for the structure and associated processes of the relevant emergency service organisations themselves, for the increasing territorial scale across which the reach of their services is assumed to operate and for the paradigms governing their operations. Taylorite distinctions between the 'head' and 'hand' aspects of fire fighting in all three of its commonly accepted aspects – prevention, response and recovery – really should not belong in a modern and informed organisational response to disaster. Neither should organisational stand-offs between different fire services lead to reported 'this-is-not-our-fire' stalemates, that leave locals bemused and suspicious of the resulting inactions which contribute to even more damage, as stubborn 'rumours' emanating from the devastating 2003 Alps fires in Victoria continue to have it. Thinking about emergency services as ***learning organisations***, we argue that they should be primarily geared to providing the optimal and appropriate ***requisite variety*** of localised responses to the variety of local circumstances which may occur in emergency situations, and – especially – that they should practice the principle of ***functional redundancy,***[m] whereby enough *generic* knowledge, expertise and experience is deployed right where it is needed – locally and in the face of disaster (rather than allowing the expertise to be whittled away by demographic and other erosive and corrosive processes; see Morgan, 1986).

The question of ***sustainability*** in communities of such generic knowledge about fire safety, the ways of the local community and its socio-ecology, and of the preparedness of local people to uphold this knowledge, improve it and impart it to newcomers – even to ***induct them***, as suggested by one of our interviewees – should be briefly mentioned. Matters of sustainability are still too often dealt with in terms of the availability of resources and the presence of 'systems' only; the ***ability to sustain***, however, means so much more; it includes ***awareness***, changing and consistent ***practices*** based on that awareness, the creation and maintenance of ***relationships*** and connectivities and the creation of a new ***culture***. ***Systems*** and ***resources*** will only then become meaningful when they are supported by the four previous elements and, reciprocally, only then will they start to support the latter. In a word, it has to do with treating people and communities as people – again.

Finally, therefore, the orchestration of the technological, the social and the personal dimensions of disaster responses needs to be re-thought and indeed, reformed. Given the increasingly fragile ecological context of Australia and, indeed, the world, we believe it is crucial for institutions and authorities within institutions of secondary sociality to start trusting local people's knowledge again and the strength of their relationships; moreover, if social capital has to do with 'trust', some of that capital should be spent by these institutions towards those operating within the sphere of primary sociality. Concluding with Dobson, again:

> *All of this suggests that addressing climate change (and its associated events, like bushfires and other emergencies) is both more difficult and easier than the executive summaries swirling across the desks of government ministers and newspaper front-pages portray. It is more difficult, because the drivers of unsustainable attitudes and behaviour are deeper and more structural than supporters of liberal capitalism can afford to believe. Yet it is also easier, because resistance to those drivers is expressed on a daily basis by the actions of tens of millions of citizens around the world as they strive to do the right thing, not for any gain for themselves or fear of fiscal punishment, but because it's the right thing to do.*

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## Endnotes

(a) These organisational matters – and the poor integration of so-called formal and informal systems of responses will be the subject of a separate but related paper. We use the term *'commons'* to connect with the ongoing process of land 'enclosure', started in early modern times continuing to this day in the guise of property development, the contracture of the 'public' domain, and the intensification of the 'private' domain. See, for example, The Ecologist (1993) *Whose Common Future? Reclaiming the Commons.* Earthscan, London, especially Chapter Two, *Development as Enclosure.*

(b) The ***Subsidiarity Principle*** "states that higher levels of government should only perform functions that cannot be effectively and efficiently undertaken by lower levels of government… [it] might involve a [constitutional] provision… that, unless amended by a referendum, decision making and administration is to be delegated to the most local practical level." (Lowell, 2006: 5; & Coghill cited in Lowell, 2006: 5) *Subsidiarity* – as a principle dividing responsibilities between state and 'civil society' (including churches, NGOs and levels of government) – has a long history in continental Europe, especially since the 1801 *'Concordat'* between Roman-Catholic Pope Pius VII and French Emperor Napoleon, and which had its legal ramifications in the French Constitution, which – in turn – became the prototype for most continental constitutions. Importantly, is still forms the basis for arrangements around service delivery in welfare, schools, recreational services, and support for non-governmental organisations and initiatives across Europe and it posits that 'super-imposed' or 'up-scaled' government bodies or powers should NOT take over the roles and functions sufficiently fulfilled by more localised (the German "Bürgernah" or "close-to-the-citizen" expresses it well) or by informal, non-governmental or 'primary sociality' institutions, groups and bodies.

The notion of *'subside'* refers to the *'holding back'* attitude suggested before for central governments, whilst the notion of *'subsidise'* (note that both words derive from the same Latin verb, *subsidere*) brings to the fore the continuing role of central and state governments and their institutions in *resourcing* the 'bodies' who fulfil these functions. Indeed, central governments have the power to raise revenue as well as the role to ***distribute that revenue equitably and justly*** across their territory and to the various groups of citizens according to their needs; it stands to reason, however, that this should not necessarily imply that they would be the 'best' to deliver whatever is being 'distributed'. It is interesting to note that the UK Government also votes on a *'subsidy'* to be granted to the Royal House for the maintenance of its 'duties' and of the infrastructure the latter require. The 1981 Webster's Third International Dictionary calls *subsidiarity* a ***"theory in sociology: functions which subordinate or local organizations perform effectively belong more properly to them than to a dominant central organisation"*** (Vol. III, p. 2279). Whilst much literature exists in the human service delivery area, it should be obvious that fire services can easily be included in this purview. Importantly also, Lowell points out that "In a contemporary context, subsidiarity has a higher profile as a 'new political resource designed to protect local interests within the new internationalization of government' and features prominently in the European Union legislation" (ibid. p. 5 and quoting Fletcher, 1999: 23).

(c) The Fire Danger Index is an indicator of the severity of the fire danger whereby the hotter, the drier and windier the conditions, the higher the index will be. The Index ranges from 2 (where the difficulty of suppression is rated as low), through to 5 (moderate), 10 (High), 20 – 40 (Very High), and 50-100 (Extreme). See www.esb.act.gov.au/firebreak/grass-behave.html, accessed 14/3/07. The Fire Danger Index of the Wangary fire was 350.

(d) Bushfire Cooperative Research Centre http://www.bushfirecrc.com/

(e) At the time of writing, the Coronial Inquiry into the Wangary fire was ongoing.

(f) For a good appreciation of the present 'state of the art' of research in the qualitative/interpretive tradition, see Denzin & Lincoln (1994 & 2000) and the Sage journal *Qualitative Enquiry.*

(g) http://www.cfs.org.au/about/pdf/Project%20Phoenix%20-20Lessons%20Learnt%20Activity%20-%20Noetic%20Solutions.pdf Accessed 31/1/07.

(h) The gendered nature of experience in fighting fires, either through formal

fire service or 'on the ground' experience, is discussed in Goodman and Proudley (2006). It is a focus of a large research project by Proudley (2007) where data from 38 household interviews is analysed in terms of decision-making.

(i) The Warren aircraft is a reference to a local business, owned by Warren, whose aircraft were engaged in aerial fire suppression.

(j) We acknowledge that there is a significant number of women who have taken up "operational" rather than "support" roles within the fire services (Beatson & McLennan, 2005). There were no such women however in our sample.

(k) Many farmers on the Lower Eyre Peninsula are seeking to put in place Harvester Ban days, in an attempt to self organise and implement safe harvesting practices. By doing this, they hope to avoid the introduction of legislation which they see would introduce inflexibility to their farming practices.

(l) This Australasian Fire Authorities Council (AFAC) is sometimes referred to as the 'stay and defend' or 'stay or go' position. See the AFAC position paper, *Position Paper on Community Safety and Evacuation During Bushfires* available at: www.afac.com.au

(m) 'Organic' understandings of organisational functioning, according to Morgan, espouse four major principles:

1. Establish ***redundancy of functions*** rather than just avoiding redundancy of parts. The latter thinks of the 'whole' as the sum of the constituent parts, so, with increasing specialisation, everybody knows more and more about less and less; the highest goal of organization is avoiding duplication or redundancy, as it is not 'cost-efficient'; such system is a 'spare-parts-system'. By contrast, ***redundancy of functions*** understands the 'whole' as being in the parts – the parts reflect the whole and *redundancy or overlap is deliberately created as all parts consciously are creating (and are capable of creating) the whole;* people are able to engage in a range of functions (as appropriate and needed); they can substitute for one another, they have multiple skills and knowledge about all functions but those skills and knowledge are 'redundant' in that they are not all the time used for each job at hand. Redundancy of functions allows for great flexibility, is capable of re-organisation and provides much more job-satisfaction.

2. Aim for ***requisite variety or diversity of organisational 'answers'*** to the variety and differentiation of environmental demands (Ross Ashby, cybernetician). In other words: any "system" or organisation must be as internally diverse as the variety and complexity of its "environmental" needs demand. Relating this principle to the previous one implies that the variety of necessary responses to a complex environment needs to be built into the single units of the organisation ***directly where they are needed,*** i.e. ***where the interaction with the environment occurs;*** that means that multi-functioned people or teams need to be in place at the very boundary with the environment where their variety (and therewith redundancy) is needed. Each of the sub-units needs to develop as a "cell" of self-organising, multi- and trans-disciplined working groups, ***having all the requisite skills and capacities to adequately and holistically deal with their environment***.

3. ***Minimum critical specification***: in order to preserve the capacity of the various units to self-organise (see above) and to maintain their flexibility through redundancy and requisite variety, a long-standing and deeply engrained bureaucratic principle needs to be reserved; i.e. that organisational arrangements and tasks need ***to be defined as clearly and specifically as possible***. The principle of minimum critical specification expects the 'higher' (more 'central') levels of management to create enabling conditions for the 'lower' (more de-central) levels ***to operate as self-determined and as self-organised as possible***, so that the flexibility generated (and required) by the previous principles can indeed unfold. In other words, it is detrimental to staff creativity and to the development of self-responsibility when the tasks are over-specified.

4. '***Learning to learn***': the previous principles may suggest an important ***centrifugal*** danger: self-organisation, redundancy and the encouragement of variety can end up in chaos. An ***ability to engage in single- and double-loop learning processes*** cannot be assumed to be present in individuals and groups part of an organisation/community; the design of organisations has to include, therefore, the creation of contexts, 'occasions', where learning and reflection, as well as the establishment or maintenance of an organisational identity can occur. It should be noted that this principle is built on the assumption that a thorough democratic and participatory spirit pervades the organisation/community in question.

## John Howard's glowing futures

Once a jolly jumbuck camped by a billabong
under the shade of a swaggie it seems
and he sang and he watched while Conzinc mined uranium
"Who'll come a waltzing Matilda with me".

Down came a miner to poison the waterhole
up jumped John Howard and embraced him with glee
and he sang as he stuffed the profits in his money bag
"You'll come a waltzing Matilda with me".

Up rode the Greens riding on a fountainhead
up rode the Democrats, the ALP.
"Where's the grubby yellowcake you've got in your money bag
We'll not go a waltzing Matilda with thee".

Howard and the miner weighed down by uranium
both drowned themselves by the Coolabah tree
and their ghosts may be heard as they greet the God of Capital
"Please come a waltzing Matilda with me".

John Tomlinson