Media Coverage of the Black Saturday Bushfires (2009) and Discussion of Climate Change in Australia

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Abstract

This research examines what issues are presented in the Australian print media regarding the ongoing discussions of the anthropogenic climate change in the wake of the Black Saturday bushfires in 2009. It selected three Australian leading newspapers—The Age, The Australian and the Herald Sun. To analyze newspaper contents this study undertakes the mass media agenda setting as theoretical guideline. Findings argue that despite a minimum resistance to the concerns of the climate change issues in the wake of the bushfires, generally all of the three newspapers presented this issue within a broader ideological parameter of free market economy which avoids the sustained debates of the Australia’s emission of the greenhouse gasses and other social context of the country.

Keywords: Media; Bushfires; Australia; Climate change; Media agenda setting

Introduction

This research has been conducted from Melbourne, Australia after six months of the catastrophic Black Saturday bushfires (ignited on 7th February 2009) in Victoria that killed more than 200 people, destroyed about 2000 homes and many invaluable natural resources. I would express my sincere compassion to all who have suffered through this disaster. Due to some extra ordinary weather conditions during the summer 2009, the Black Saturday inflames into an outrageous and uncontrollable catastrophe which could partly cause by climate change - as conferred by some contemporary environmental discourses while searching the root cause of the disaster. Interestingly, there has been wider media coverage both in Australia and worldwide some of which speculate on the possible role that climate change has played in the fires [1]. As Australian media, newspapers, televisions and radio have played very significant role in providing news stories and information about the hazard places. This study examines how the Australian newspapers have addressed the climate change issue while presenting the overall Black Saturday bushfires in their daily news coverage in the whole month of February, 2009.

Bushfires are an inevitable part of Australian ecology at least over the last 17,000 years [2]. The southeast including Victoria and Adelaide is susceptible to wildfires where the majority of population resides [2]. Although any formal attribution study quantifying the relation of climate change with the increased fire danger is not conducted yet, evidence shows that there has been influence of possible climate change [1]. The southeast Australia experiences a so-called ‘Mediterranean’ climate, dry and hot in summer but mild, cold and rainy in winter [2]. Rains in winter help the fuel growth (i.e. bushlands) whereas dry summers allow the fire danger to raise [2]. Additionally, this common fire risk is aggravated by periodic droughts and heat waves with a record-breaking severity in late January continued till mid February 2009 [3]. Such anomalies of climatic factors are further revealed technically by the climate change projections, a study based on Southeast Australia [2]. The climate change projections forecast that the region is likely to become hotter and drier in future. Several longitudinal and follow studies have warned that the growing trends of fire danger over the last few years is alarming. Especially the 2006-2007 fire seasons were the hottest time of that decade in Australia [2,4].

In academia, some of the fundamental weather variables have been examined before the catastrophic Black Saturday ignited in Victoria. Analysis indicates the evidence of anthropocentric climate change in Australia. As mentioned above maximum temperature, relative humidity, wind speed and drought are the weather variables those play critical roles in climate change [1]. Notably, all of these factors have been record setting on the day of the birth of Black Saturday in Victoria [1]. The state Victoria experienced an extreme heat wave (46.4°C) on the 7th February 2009 immediately after a previous record setting heat wave (43°C) which took place between January 28 and 30, 2009. NASA Earth Observatory provides an outstanding image of the surface temperature anomalies during the heatwave period in Australia [1,5]. Australian Bureau of Meteorology (BOM) mentioned this extreme weather as “exceptional” not only for such a record-breaking temperature but also for its longer duration [3]. Among the weather variables, relative humidity, for example, was also recorded as record low on February, 2009 with a lowest value of 5% in the late afternoon. The strong northerly winds on 7th February was exceptionally high which is comparable to other previous bushfires including Ash Wednesday (1983) and Black Friday (1939) [1]. Although no specific studies have attributed relative humidity to anthropogenic climate change in Australia, scientifically it is proportionate to the increased temperature and decreased rainfall. Nonetheless, these two factors are anthropocentric climate change indicators as accepted by climatologists [1].

Given that both the threat and impacts of anthropocentric climate change is increasing in Australia day by day, appropriate public policy and awareness is necessary to reinforce against greenhouse gas emission of the country. The country is largely dependent on transportation and at the same time dependent on coal mining. According to the UN (United Nations) estimates, Australia emitted about 1.32% of the global carbon emissions in the year 2008 [4]. If climate change is a threat for

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will argue that despite a large number of news reports and articles on the definition and uses of 'frames' in news reports. Overall, this study through literature review. The next section will discuss in details about Information' iv. 'Human Interest' and v. 'Lifestyle' (which covers the three newspapers have shown similar characteristics in prioritizing five change at national level in comparison with a plenty of other news sample to examine how the print media depicts anthropocentric climate change at the national level in comparison with plenty of other news sample to examine how the print media depicts anthropocentric climate change impacts. The most prominent discussions include debates between carbon trading and carbon taxing as a core sustainable policy, impacts of using coals for power generation, and so on. As yet, however, little is known about HOW the Australian newspapers place the overall anthropogenic climate change issue to the public domain. Hence, it would be interesting to see how the Australian daily newspapers deal with the environmental concerns while immediately covering news of the Black Saturday Bushfires 2009.

This study attempts to explore such an issue by analysing three Australian daily newspapers during the month of February 2009. Doing that the study follows deductive thematic analysis procedure [24], where the mass media agenda setting is taken as a theoretical framework to examine newspaper coverage on black Saturday bushfires in Victoria, Australia. Three Australian daily newspapers have been chosen as a sample to examine how the print media depicts anthropocentric climate change at the national level in comparison with plenty of other news reports and articles on Black Saturday bushfires in Victoria. Overall, all three newspapers have shown similar characteristics in prioritizing five different news frames—i. ‘Management’ ii. ‘Cause and Blame’ iii. ‘Factual Information’ iv. ‘Human Interest’ and v. ‘Lifestyle’ (which covers the issues of climate change) and eighteen associate sub-frames as identified through literature review. The next section will discuss in details about the definition and uses of ‘frames’ in news reports. Overall, this study will argue that despite a large number of news reports and articles on the Black Saturday bushfires, the Australian print media reporting of anthropogenic climate change has been very insignificant compared with four other types of news frames and associated sub-frames with an extraordinary prevalence of human interest and infotainment kind of stories.

Mass media agenda setting and framing

Media Agenda setting theory was introduced by Maxwell McCombs and Donald Shaw in 1972 in their ground breaking study into the presidential election campaigns that took place in 1968 in Chapel Hill, North Carolina [25].

Mainly, the mass media agenda setting theory provides a critical lens to understand how the media frame any public event guided by the media's own implicit political agendas.

Like few other media effect theory, mass media agenda setting theory endeavours to know long term instead of short term media effect on audience [26,27]. Journalists and other media professionals influence public opinions on a certain issue according to the salience they provide to that particular news coverage [26,27]. Salience transfer, as the main postulate of agenda setting theory refers to the degree of importance placed on the issues of news which ultimately influence priority obtained by these issues in the public sphere [28]. News stories and articles in paper image of a newspaper for example, are prioritized or ordered in accordance with their certain news value [27]. Some news stories considered more newsworthily for a particular newspaper agency and will be placed on the front page with more news space whereas less newsworthily stories might be placed in the middle of that edition or further back with less news space [29].

To trace how a media agenda becomes a public agenda, scholars revealed the function of ‘framing’ as a rhetorical cue that draws public attention to the salience of a particular issue [29,30].

Although there is no single definition of media framing, many discussions, such as [31-34] have summarized the similar characteristics of framing in media agenda setting. The general consensus is that news frames are ‘conceptual tools’ which are being used by media and individuals to convey, interpret and evaluate information [29,35]. Framing shapes the parameters of importance in which “citizens discuss [ongoing] public events” [36]. In order to set the parameter, framing defines a problem; then determines what are the causal agents involved especially with costs and benefits; then it diagnoses the cause by identifying different actors responsible for such problems; evaluates causes by making moral judgements of events or actors involved and also suggests remedies along with some future prediction of likely effects [31]. Hence frame influences readers’ understanding of a particular issue.

While this theoretical approach has been recognized initially in the wake of the ability of mass media in shaping public understanding of political campaigns in the late 60s [25], recent research demonstrate its competency in analysing more complex socio-political and environmental issues especially media framing of political economy, sustainability, climate change, natural disaster and health hazard in different countries such as the USA, Africa and also some countries in Europe and Asia [33,37-39]. A number of these studies claim that during the crisis of natural disasters mass media agenda setting was often advanced through creating public interests and convergence of popular stories and reports worldwide [39] instead of reflecting the ‘reality’ of an issue [28,40-49]. In her study, Jennifer Ellen Good has focused on three geographically based newspaper databases where the geographical ‘regions’ include Canada, the US and the ‘International’
Both of the studies assure the fact that these frames appear more frequently in the salience that newspapers provide on different public issues. Some additional literature review on the nature of news coverage in Europe and the US reconfirm the fact that these above mentioned frames account frequently in the studies on news coverage of public issues and events [47]. Hence such literatures provide us with the scope to initiate another deductive study approach to assess the prevalence of such frames in the news coverage of the Black Saturday bushfires in February, 2009.

**Framing health hazard in newspapers**

Studies on newspaper coverage of health hazards are few compared with the media coverage of political issues, as observed within the limited scope of this thesis. Research undertaken by Andsager and Powers [51] found that news magazines and women's magazines use some specific frames while presenting news reports and articles about breast cancer. Interestingly, news magazines more frequently used factual information frame such as economic frames to report on breast cancer and linking it with health insurance data [51]. Women's magazines, on the other hand, were more likely to use research on causes and prevention, emotional stories of the survivors and their families as frames [49]. Hence, it is anticipated that different types of print media use different framing techniques to cover health hazards and diseases [37]. These framing techniques guided by the implicit media agenda can have influence on people's perception of diseases and initiatives by policymakers on such an issue [37].

Also the presence of factual information frame is found while investigating the changes in media framing in four countries in sub-Saharan African magazines and medical journals. Pratt et al found that African publications frequently use factual information frame (which includes trends, statistics and numbers of casualties or deaths) in describing hazard events or places [37]. Thus factual information frame remained as a dominant frame in crisis communication in some African media. Moreover, a detailed analysis of 8 years of media portrayal of health hazards undertaken by Pratt and his associates list the priorities of frames some of which are provided here in accordance of their relevance to this study -

iii. Trends and Statistics: Includes data on number of death, cost, damages and loss of lives.

iv. Policy and politics: Discrimination and fears expressed in articles about diseases whose medical treatment or evacuation programs were politicized either at the local or national level.

v. Celebrity portrayals: This is basically human interest stories of celebrity involvements or their visit of hazard place and so on.

vi. Prevention: This frame provides information on celebrity involvement in public response to diseases [37].

Further, a study of the disease HIV/AIDS coverage in the US print media revealed an interconnection between the mass media agenda and agenda of the scientific community which are presented in the media [49-52]. Thus popular magazine and medical journals are using factual information and human interest type frames in the discussion of health hazards [37].

**Framing climate change and natural disasters in newspapers**

Recent studies on the media agenda setting draw more attention to the framing of environmental and climate change issues in a range of geographical locations. A study conducted by Jennifer Ellen Good [52] uses framing analysis “to explore the story of climate change at a (described as ‘around the world’) [43]. Good's findings show that while newspapers in the United States seemingly avoid the anthropogenic climate change issue, newspapers in two other geographical places also show ‘hesitancy’ to address industrial pollution and other aspects of anthropogenic climate change in their contents [43,50]. In another similar study, for example, Carvalho [21] analysed the framing of climate change issues in three major British newspapers: The Times, The Guardian and The Independent. Based on his analysis, Carvalho concluded that despite some resistance to government discourses in some newspapers “the ‘quality’ press’s analysis of the governance of climate change remained within the broad ideological parameters of free-market capitalism and neo-liberalism, avoiding a sustained critique of the possibility of constant economic growth and increasing consumption, and of the profound international injustices associated with the greenhouse effect” [21].
moment in history when, arguably, the story should be shifting from “Is climate change happening?” to “What should we do about it?”[43]. Good's study suggested four news frames categories—

vii. i. Social context: Based on the hypothesis that the stories of climate change are the stories of science which is least threatening to the existing status quo (in favour of the business). ii. & iii. Causes and Consequences: Interestingly, the basic assumption of these frames is that while the causes of climate change are anthropogenic, the consequences of climate change are ‘natural’ (such as the changes in weather variables). In short, such framing can divert attention from human causes (such as greenhouse gases responsible for global warming) to some other ‘natural’ reasons such as the “changing and extreme weather have always existed”. iv: Solutions: Since the newspaper articulation of causes and consequences of climate change are possibly least threatening to the status quo, the assumption was that the ‘solution’ to global warming suggested by this frame would potentially be even more so.

Furthermore, when the role of media framing research concerns disaster response, recovery and mitigation some researchers question the adequacy of framing in surrounding disaster response and recovery schemes arguing that disaster response is primarily a social issue as much as it is environmental [39]. In the study of media framing during Hurricane Katrina in southern Florida, the USA, Barnes and colleagues have identified some thematic framings of the US newspapers that include - i. Preparation, ii. Mitigation, iii. Response, iv. Recovery, v. Death injury and vi. Destruction.

Here ’Preparation’ and ’Mitigation’ present information on disaster preparation and possible initiatives to mitigate loss and damages. ’Response’ provides information about the response of government and responsible authorities to tackle the consequences. Recovery provides certain information about reconstruction of the Hurricane damaged places. Both death injury and destruction provide factual information on damages and casualties.

In summing up, this section discusses different framing types and the attributes that have appeared in the research on the media agenda setting of political news, health hazards and climate change issues. The next section combines a list of frames and sub-frames mostly from the discussions of this section which will be used in the deductive approach of this study to examine how the three selected Australian newspapers have framed the Black Saturday bushfires and anthropogenic climate changes issue in their news items.

Sampling and Methodology

Australia has two national and a number of regional and state based daily newspapers [44]. For this study, one Australian national newspaper and two state (Victoria) based daily newspapers have been selected. These are - i. The Australian (national) ii. The Age and iii. the Herald Sun. From literature review, five major frames and seventeen sub-frames have been identified as a main checklist to determine appropriate frames and sub-frames for all of relevant news items - reports, articles and letters those appear in the three sampled Australian newspapers during the month of February (from 1st to 28th February, 2009). Additionally, a piloting procedure have been conducted to filter more relevant news frames appropriate for the specific context of the Black Saturday in Australia. This study follows deductive thematic analysis procedure to identify appropriate news frames for different types of news text related to the Black Saturday bushfires.

Piloting and modification of news frames for data collection

This section describes the piloting procedure which has been conducted to filter the most relevant news frames listed from the literature review on the mass media agenda setting. From literature review, five major news frames and sixteen news sub-frames have been selected. Basically, most of the news frames found in available literature were incorporated by placing those under five main priority themes areas (five news frames in Table 1). But initially, we have listed 18 main news frames and 17 sub frames from the literature review. In order to combine some similar frames and also to eliminate some ‘irrelevant’ (those are less likely to appear) frames in Australian media, these initially selected frames and sub-frames have been pre-tested with a smaller sample of data. A search was conducted in the ‘News Bank’ electronic database with specific keywords or search terms: [bushfire] + [Victoria] + [Australia] + [2009] which initially yielded 6046 results. Then search term [The Age] + [The Australian] + [Herald Sun] was added to narrow down the number of news and articles in the database. After sorting relevance of data and redundant news reports, 639 news reports and articles have been identified as relevant to the Black Saturday bushfires in Australia. Then, stratified random sampling method (described in [24]) have been used to select news samples from each of the three different time lines (in Table 1) of the Black Saturday crisis. In total, twenty-five news reports and articles have been selected to cross check their appearances with the initial 18 frames and their 17 coexisting sub-frames, found in my literature review. Result shows that some frames are unlikely to appear whereas four new sub-frames have been observed having significant match in those 25 news reports and articles. This piloting was expected to strengthen the conduct of a more feasible study while doing a larger data analysis with all three newspapers.

| Frame(s)                  | Sub-frame(s)                                                                 |
|---------------------------|------------------------------------------------------------------------------|
| i. Management             | i. Prevention / Resource management / Appropriate policy / Disaster preparedness |
|                           | ii. Fire Safety during fires                                                  |
|                           | iii. Recovery / Reconstruction                                                |
|                           | iv. Addressing Impacts                                                        |
| ii. Cause / Blame         | v. Policy / Politics                                                          |
|                           | vi. Biophysical causes (incl. climate change)                                  |
|                           | vii. Morality                                                                 |
|                           | viii. Law enforcement                                                         |
|                           | ix. Debate & Critical Reflections                                             |
| iii. Factual Information  | x. Casualties (deaths, injuries)                                              |
|                           | xi. Cost (damage & loss, fire fighting)                                       |
|                           | xii. Other (no of fire fighters, extent)                                       |
| iv. Human Interest / Infotainment | xiii. Tragedy                                                                     |
|                           | xiv. Heroism                                                                  |
|                           | xv. Animals, etc.                                                             |
|                           | xvi. Mourning                                                                 |
| v. Lifestyle              | xvii. Living in bush, semi-rural suburbs, etc.                                |
|                           | xviii. Australian contribution to climate change                             |

Table 1: News Frames of mass media agenda setting.
A brief description of finally selected five news frames and associated sub-frames are given below.

i. Fire Management: ‘Fire Management’ frame deemed to catch stories or articles that report on or, argues for the better fire fighting options. ii. Human Interest Frame: This frame brings emotional appeals in presenting issues, events or problems which refers to an effort to ‘dramatise’, ‘personalize’ and ‘emotionalize’ news to capture and ‘retain’ audience’s attention and interest [33]. iii. Factual Information Frame: This frame reports on issues, crisis and problems that have ‘cost’ in terms of human casualty, economic consequences and environmental damages. iv. Cause and Blame: This frame presents issues in a way that attributes the responsibility of a crisis to different organizations and individuals like government, political and social groups, or, individuals like - arsonists. v. Lifestyle: ‘Lifestyle’ frame has been developed to know the degree at which the sampled newspapers inform people the scientific issues regarding the anthropocentric climate change in Australia. This also includes news and debates on existing government policy such as carbon trading vs taxing, and Australians’ growing interest on living in bush area which is more vulnerable to bushfires. The list of frames and associated sub-frames are given below.

Data analysis

Tankard (in 2001) has illustrated 11 framing mechanisms or focal points to identify different news frames in newspapers [24]. For this research, five mechanisms (from Tankard) are chosen to help to determine more appropriate news sub-frames for different types of news, that is whether a particular news report or article should be labelled under ‘policy and politics’ sub-frame or ‘biophysical causes’ sub-frame and so on. These five mechanisms have been used as five units of analysis for this study. These are -

viii. Headlines and kickers ii. Sub-heads iii. Photographs iv. Leads (the beginning of news stories) v. Concluding statements and paragraph of article. vi. News treatment and news size.

ix. For this research, headlines, kickers and subheads are always considered as important factors to determine any news sub-frame. Photographs do not appear in all news. However, it is considered as important parameter for a number of news only those particularly include photographs. For news reports, leads are given high priority to identify sub-frames and secondary sub-frames. For editorials, articles and letters to the editor and some concluding statements are given high priority to identify their sub-frame. Nevertheless, many of the news contents especially editorials and articles have been analysed thoroughly by the researcher (me) to identify their appropriate sub-frames. Doing that, sentences and paragraphs in any other places of these articles are also given importance. This is because some of the critical writings conceive important points or main agendas in the body of the essays rather than in the beginning or end.

Findings

The following three figures show the daily appearances of the five news frames in each of the sampled newspapers. These are presented as line graphs, to show a comparison between the relative frequency of the different types of news frames. While placing news frames, there are some variations observed in the three newspapers. Each of the respective graphs illustrates the frequency of appearances of the five frames as they appeared each day in February (2009) in three newspapers. There is a fairly balance in the frequency of appearances of ‘Management’, ‘Cause/Blame’ and ‘Factual Information’ frames in all three daily newspapers. A wider variation is observed in the ‘Human Interest’ frame. *Herald Sun* published far greater numbers of ‘Human Interest’ news documents, whereas *The Age* had the second highest number, followed by *The Australian*. But most frequently appearing news frame was ‘Human Interest’ in all of three different newspapers in this study. Another distinction is observed in the appearance of ‘Lifestyle’ frame. In comparison to four other news frames, all three newspapers published far lower numbers of ‘Lifestyle’ items throughout the month of February 2009. Examining news reports and articles that address anthropocentric climate change issues in Australia which is covered under the ‘Lifestyle’ frame in this study, *The Age* produced the highest number of news items, followed by *The Australian* and *Herald Sun* respectively (Figures 1-3).

News Sub-frames: The Tables 2.1-2.3 show the daily appearance
of the seventeen news Sub-Frames in each of the sample newspapers during the 28 days in February, 2009. Since The Australian did not publish any newspaper edition on Sundays during the month of February 2009 the Table 2.2 does not present any data on February 1, 8, 15 and 22.

Description of Tables 2.1-2.3: As mentioned earlier, each of the news frames was subsequently sub-divided into a number of sub-frames. The Management frame, for example, comprises the ‘Prevention’, ‘Fire Safety’, ‘Recovery and Reconstruction’ and ‘Addressing Impact’ sub-frames. The first sub-frame, ‘Prevention, Resource Management and Appropriate Policy’ (disaster preparedness) identifies news reports and articles that discuss policies or precautionary initiatives to minimize damages by bushfires in Australia. This sub-frame received least coverage by Herald Sun, whereas The Age and The Australian had almost double in terms of the number of appearances of reports and articles falling within this sub-frame.

The second sub-frame ‘Fire Safety during Fire’ explores news reports and articles that specifically addressed life saving precautionary measures while the Black Saturday fires were taking place. This also includes warnings about further fire danger (after effect), and instructions to evacuate risky places. The Australian and Herald Sun carried similar number of news documents on ‘Fire Safety during Fire’. Interestingly, despite being published in Victoria, The Age had a slightly lower number of news items within this sub-frame.

The third sub-frame ‘Recovery and Reconstruction’ covers news on upcoming recovery and reconstruction once the fires were brought under control. The Age and The Australian produced 38 and 32 news documents under this sub-frame whereas Herald Sun emphasised it...
Table 2.1: The Age: News sub-frames per day.

| Frames                  | Sub-Frames                  | 1/02/2009 | 2/02/2009 | 3/02/2009 | 4/02/2009 | 5/02/2009 | 6/02/2009 | 7/02/2009 | 8/02/2009 | 9/02/2009 | 10/02/2009 | 11/02/2009 | 12/02/2009 | 13/02/2009 | 14/02/2009 | 15/02/2009 | 16/02/2009 | 17/02/2009 | 18/02/2009 | 19/02/2009 | 20/02/2009 | 21/02/2009 | 22/02/2009 | 23/02/2009 | 24/02/2009 | 25/02/2009 | 26/02/2009 | 27/02/2009 | 28/02/2009 | Total |
|-------------------------|-----------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Prevention, Resource Mgmt, Policy & Disaster Preparedness | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 4 | 1 | 0 | 1 | 4 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 26 |
| Fire safety during fire | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 4 | 16 |
| Recovery/Reconstruction | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 4 | 5 | 3 | 2 | 0 | 2 | 2 | 1 | 1 | 0 | 2 | 0 | 0 | 2 | 1 | 2 | 3 | 2 | 4 | 38 |
| Addressing Impacts | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 2 | 3 | 0 | 0 | 3 | 0 | 0 | 1 | 1 | 3 | 0 | 21 |

Table 2.2: The Australian: News sub-frames per day.

| Frames                  | Sub-Frames                  | 1/02/2009 | 2/02/2009 | 3/02/2009 | 4/02/2009 | 5/02/2009 | 6/02/2009 | 7/02/2009 | 8/02/2009 | 9/02/2009 | 10/02/2009 | 11/02/2009 | 12/02/2009 | 13/02/2009 | 14/02/2009 | 15/02/2009 | 16/02/2009 | 17/02/2009 | 18/02/2009 | 19/02/2009 | 20/02/2009 | 21/02/2009 | 22/02/2009 | 23/02/2009 | 24/02/2009 | 25/02/2009 | 26/02/2009 | 27/02/2009 | 28/02/2009 | Total |
|-------------------------|-----------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Prevention, Resource Mgmt, Policy & Disaster Preparedness | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 4 | 1 | 0 | 1 | 4 | 1 | 1 | 0 | 1 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 26 |
| Fire safety during fire | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 4 | 16 |
| Recovery/Reconstruction | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 4 | 5 | 3 | 2 | 0 | 2 | 2 | 1 | 1 | 0 | 2 | 0 | 0 | 2 | 1 | 2 | 3 | 2 | 4 | 38 |
| Addressing Impacts | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 2 | 3 | 0 | 0 | 3 | 0 | 0 | 1 | 1 | 3 | 0 | 21 |

Table 2.1: The Age: News sub-frames per day.

Table 2.2: The Australian: News sub-frames per day.
much more, producing nearly double the number of items carried in the other two papers.

The fourth sub-frame ‘Addressing Impacts’ include some possible future problems relating to the Black Saturday bushfires, such as drought or loss of biodiversity. It also discusses some future impacts such as victims might experience psychological trauma (particularly among children), along with some professional suggestions to avoid the worst. Each of the three newspapers had around twenty pieces of news documents of this type.

The ‘Cause and Blame’ frame comprises ‘Policy and Politics’, ‘Biophysical Causes of Fire’, ‘Mortality and Irresponsibility’ and ‘Debate and Critical Reflection’. The sub-frame ‘Policy and Politics’ identifies news documents that discuss policies, politicians and authorities, and political issues relating to responsibility for the massive casualties and damages of the Black Saturday bushfires. The Age and The Australian had the higher level of coverage of the ‘Policy and Politics’ sub-frame compared to the Herald Sun, which produced less treatment or criticism of policy failure or responsibility for the Black Saturday blazes.

The ninth sub-frame for this study is ‘Debate and Critical Reflection’, which covers discussions on the causes of fires, addressing issues such as the politics of climate change and how complicated such issues are in reality. Unlike the ‘Policy and Politics’ sub-frame, news items under this sub-frame do not attempt to directly assign blame or identify the cause of bushfires or climate change. Rather, these writings attempt to critically analyse issues instead of simply assigning blame to individuals or groups. Among the three sample newspapers, The Australian had the highest number of ‘Debate and Critical Reflection’ articles and reports, while both The Age and Herald Sun featured few items falling within this sub-frame. The Herald Sun appeared to be the most ‘absent’ to undertake ‘critical reflection’ in addressing the Black Saturday bushfires in Australia.

The ‘Factual Information’ frame is divided into three sub-frames: ‘Casualties (Death and Injuries), ‘Cost and Damage’, and ‘Others’. ‘Casualties’ (death and injuries), the tenth sub-frame, falls under the Factual Information Frame. This sub-frame identifies factual information news stories that specifically contain data and information...
on casualties (both human and animals) due to the Black Saturday fires. The Age carried the highest number of news items on casualties, followed by the other Victorian daily, the Herald Sun. The national daily, The Australian has the lowest coverage of death and injuries caused by the fires.

The eleventh sub-frame, 'Cost' (damage and losses, plus the cost of fighting the fires) includes reports and data on damage and losses to houses, forests and other infrastructure and objects. The highest number of news reports under this sub-frame was observed in Herald Sun, followed by The Age, with the lowest number observed in The Australian.

The twelfth sub-frame 'Others' (number of fire fighters, hospital staff) covers news reports on information and data on hospital staff, progress of medical treatment, updates of fire fighters, etc. The Age had the highest number of items in this sub-frame, followed by The Australian. Surprisingly, despite being published in Victoria, Herald Sun published the lowest number of such news stories.

The fourteenth sub-frame 'Tragedy' consists of four sub-frames: 'Tragedy,' 'Heroism and Survival,' 'Animals, Celebrities and Others' and 'Mourning.' The thirteenth sub-frame, 'Tragedy' which falls under the 'Human Interest' frame, covers reports on death and casualties during the fires. Whereas 'Casualties' above relates to news items falling under the 'Factual Information Frame,' the 'Tragedy' sub-frame takes a more emotional approach to the stories. Herald Sun had the highest number of 'Tragedy' by-lines; significantly higher than the two other newspapers. The Australian, on the other hand, produced the lowest number of reports on 'Tragedy'; approximately one third the number appearing in the Herald Sub.

The fourteenth sub-frame, 'Heroism and Survivors' involves stories of survivors and bushfire heroes such as CFA fire-fighters. Interestingly, the frequency of 'Heroism and Survivors' stories mirrored that of the previous 'Tragedy' sub-frame, with the highest number appearing in the Herald Sun followed by The Age, whereas The Australian had approximately one third of the number of such stories as appeared in the Herald Sun.

'Others' (Animals, celebrity, sounds of hope) is the fifteenth sub-frame--also falling under the 'Human Interest frame--and includes 'Human Interest' stories about animals, and other 'feel good' news items. Again, the Herald Sun had the highest number, followed by The Age and then The Australian, which had approximately one fourth of the number of items as appeared in the Herald Sun.

The sixteenth sub-frame, 'Mourning' covers news that specifically address mourning for the Black Saturday victims. The Age had the lowest number of items in this sub-frame, with The Australian having the second highest number of appearances. The Herald Sun had the highest number of appearances of 'Mourning' stories.

Finally, the 'Lifestyle and Climate Change' frame comprises two sub-frames: 'Living in the Bush' and 'Australia’s Contribution to Climate Change.' The sub-frame 'Living in the Bush' discusses issues of vulnerability related to the Australian lifestyle, such as living in semi-rural suburbs those are closer to the forests. The purpose of this sub-frame is to identify the frequency of appearance of news that addresses the issue of a more sustainable and safe lifestyle in the face of climate change and the increased likelihood of catastrophic bushfires in Australia.

Lastly, the eighteenth sub-frame, 'Australia’s Contribution to Climate Change' involves issues at the policy level that are critical to climate change and global warming. This includes debates on carbon trading and carbon taxing to address Australia’s contribution to global warming; the use of coal to generate power in Australia; and so on. The Australian carried the highest number (15) of news items under this sub-frame followed by The Age (nine) and Herald Sun (three). The focus of this sub-frame is to identify news that addresses the issue of climate change in the daily sphere of Australian citizens’ lifestyle, such as using solar energy instead of power generated from coal. Surprisingly, this sub-frame was the largely absent in all three newspapers. The Australian produced 3 news documents on sustainable lifestyle issues, whereas both The Age and Herald Sun produced only one item each.

Comparison between Human Interest and Lifestyle frames: This section limits discussions on the frequencies of appearance of two predominant news frames and their associated sub-frames in three daily newspapers. The analysis is presented below throughout two comparative discussions of the appearances of 'Human Interest' and 'Lifestyle' frames.

The media’s use of the 'Human Interest' frame focuses on individuals and groups who are particularly affected by an issue or event [35]. It has been widely argued that instead of expressing compassion overtly, the print media uses 'Human Interest’ stories as a technique that lures the attention—and sympathy—of readers [35]. Some previous research on newspaper coverage of natural disasters also confirms that media simulate such ‘Human Interest’ dramas and ‘infotainment’ to sensationalise their coverage of a crisis moment [33,45]. Additionally, Hughes argues that this was the reason why more formal newspapers such as the Congressional Record had low circulation in comparison with some popular dailies such as the Times, The New York Daily News and so on [46]. Hence a connection between the higher readership of newspaper and its highest interest on ‘infotainment’ has been observed in the past studies on print media. Therefore, it can be argued that what newspapers are more likely to sell is drama and ‘infotainment’ rather than the issue itself to the readers while covering a public issue or event.

A similar correlation between media ‘Human Interest’ and higher newspaper readership is found in this study. The daily Herald Sun has the highest readership in Victoria among the three newspapers surveyed [47] in this study; it also produced the most ‘Human Interest’ news stories about the Black Saturday fires. Only from 8th to 20th February 2009, the Herald Sun published 371 ‘Human Interest’ news items, whereas The Age published 185 and The Australian published only 95 ‘Human Interest’ stories, articles and etc. Additionally, the Herald Sun produced extra sections especially for ‘Human Interest’ stories on the 9th, 10th, 11th, 12th and 13th of February. The combined number of Human Interest news stories relating to the Black Saturday bushfires published in The Age and The Australian are even lower than the number of such stories produced by the Herald Sun alone.

VI. Conclusion

The original intention of this research effort was to determine to what extent the public media in Australia engaged in discussion of climate change issues in their coverage of the catastrophic Black Saturday bushfires in Victoria in February 2009. The analysis took the approach of media agenda setting in its examination of three Australian daily newspapers with wide circulation: the national daily The Australian, and two Victoria-based papers: The Age and the Herald Sun. Anthropogenic climate change—specifically Australia’s role in contributing to increased atmospheric greenhouse gas levels as well as Australia’s vulnerability to the impact of global warming—are hotly debated topics in the country. Although difficult to establish a direct
connection between anthropogenic climate change and the catastrophic Victoria 2009 fire season, it nonetheless seemed ‘natural’ that some discussion of these issues would be woven into the public and media’s reaction to the Black Saturday bushfires.

This study examined media agenda setting through the framing of different issues and events relating to the Black Saturday bushfires. Every form of disaster is to some extent political, this study sought to gain an understanding into the politics of how the fires were presented in popular print media.

The study first explored the frequency of appearance of five news frames and eighteen associated sub-frames in the three sampled newspapers throughout the month of February, 2009. The overwhelmingly predominant news frame throughout the coverage of the fires was the ‘Human Interest’ frame–including a large portion of the news that can be classified as ‘infotainment’. The second most prevalent news frame was ‘Cause and Blame’, however this frame was designed not to include matters relating to climate change, but rather issues of policy and politics (e.g., fire prevention, range and forest management), matters of morality and irresponsibility, and law enforcement. Climate change—particularly Australia’s contribution to global warming through high per capita consumption of fossil fuels, and the likely impact of Australian lifestyle and settlement patterns (e.g., building communities and suburbs in fire-prone areas)—were classified under the ‘Lifestyle’ frame—which received the least coverage of any of the five news frames.

It is likely, however, that the newspapers will choose not to take too critical a stance on this controversial issue of industries and climate change. Most likely, a sense of ‘business as usual’ will prevail. The Black Saturday fires were tragic and costly (‘Human Interest’ and ‘Factual Information’ frames). Mistakes were made, some lives could have been saved (‘Cause and Blame’ frame). As to whether the Australian lifestyle should be held to account for its role in causing this disaster (‘Lifestyle’ frame), this is a matter for scientists to decide. In sum, the findings of this limited study appear to support Anabela Carvalho’s thoughtful frame), this is a matter for scientists to decide. In sum, the findings of this limited study appear to support Anabela Carvalho’s thoughtful frame). As to whether the Australian lifestyle should be held to account for its role in causing this disaster (‘Lifestyle’ frame), this is a matter for scientists to decide. In sum, the findings of this limited study appear to support Anabela Carvalho’s thoughtful frame).

In closing, it appears that the answer to the research question as to whether the Australian media attempted to engage in critical discussion of climate change in its coverage of Victoria’s February 2009 Black Saturday fires, is emphatically ‘no’.

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