Policing and climate change

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ABSTRACT

Policing within Australia in the 21st century does not resemble policing that occurred thirty years ago, due in part to a variety of events such as Royal Commissions (Wood and Fitzgerald), formation of the Australian Federal Police (AFP), technology, Port Arthur shooting tragedy and environmental issues to name a few (Etter, 1999, p4). Public debate about climate change has been significant in Australia; former Prime Minister Kevin Rudd in 2008 stated that 'climate change represents a most fundamental national security challenge for the long term future, locally, regionally and globally'. Whether it is natural disasters, crime, reduced food and water or environmental refugees resulting from the impact of climate change, police will have an important leadership role and responsibility.

Communities are rapidly changing and it appears that the world is 'shrinking' due to the ease and speed with which travel and communication can occur between continents. This in reality means that many of us are international citizens (Negus, 2010, p1). Gene Stephens (2005, p52) accurately states 'the twenty-first century has put policing into a whole new milieu–one in which the causes of crime and disorder often lie outside the immediate community, demanding new and innovative approaches from police.' In 2007, the Australian Federal Police (2007) hosted a conference titled *'International Policing: Towards 2020'* which was attended by 300 police and military delegates from many countries. The most challenging questions to be asked were *'What expectations will society place on law enforcement in 2020', 'what will the future look like for policing?''* Former AFP Commissioner Keelty emphasised that the 'future is virtually unknown, the world is in a state of flux and the burden of responsibility rests of the shoulders of police to face intellectually and practically the challenges' (Australian Federal Police, 2007, p4).

Many immediate and emerging challenges confront policing and how they are managed will impact upon the community confidence. Most Australian Police Services have either Future Direction Statements or Corporate Plans which briefly roadmap where they are heading (New South Wales Police Force, 2008).

Climate change has previously been an issue that has only captured the attention of the environmental community (New Europe News, 2009). 'Most Australian senior police haven't considered climate change to be relevant to their work' (Bergin & Allen, 2008, p1) however, former AFP Commissioner Keelty (2007, p5) describes climate change as 'the security issue of the 21st century.' It is critical that a full explanation of climate change, socio-economic issues and potential impact for security and policing be examined to assist strategic planning by Australian policing. Chris Abbott (2008, p3) advocates that agencies tasked with protecting and sustaining national security, such as police will need to adapt to better cope with a changing global environment.

What is the future for policing?

Tonita Murray (2000), former Director of the Canadian Police College appropriately highlights that it is vital for police managers to undertake the study of the future as it will identify key trends, which will demand their attention for maximum advantage with minimum effort and cost. Where do police start to identify what is 'to come and how will they react' thereby 'looking over the horizon', when traditionally police have been 'a closed, slow to-change subculture' (Stephens, 2005, p53). Possibly the increase in the number of Generation 'X' staff who are sometimes referred to as Generation 'E' (for entrepreneurial) (Davis & Cebron, 2005, p46) may provide assistance. David Foot in Murray (2000) stresses the importance of studying demographics as 'it explains about two-thirds of everything' and intelligent study of what is occurring in society. Police executives can take note of Foot's advice or not keep up with the rapid change, which is a potential serious threat (Stephens, 2005, p56). Etter (199, p7) identified the importance both in the medium and long term to consider the changing demographics such as aging population and breakdown of traditional family structures.

When reading the various Future Directions and Corporate Plans of Tasmania Police (2009), New South Wales Police (2008), AFP (2007a) and South Australia Police (2007) there is no real evidence of future trends or challenges that require significant research and planning. The Directions in Australia New Zealand Police 2007-2011 document prepared by the Australia New Zealand Policing Advisory Agency (2008) at item 2.1.1 stresses the *'need to complete environmental scanning and strategic assessments to inform business planning and identify emerging issues and trends.'* The International Policing: *Towards 2020* conference (Australian Federal Police, 2007) provided futurists such as Mr Watts Wacker from the USA and experts in a variety of disciplines such as international governance, technology, science, environment and social issues to stimulate and provoke thinking from a policing perspective, which hopefully can contribute valuably to strategic planning. Deputy AFP Commissioner Drennan (2010, p2) highlights the 'need to be cognisant of new developments, and to be able to adapt our methodologies and practices to ensure we remain effective and relevant as a law enforcement organisation.'

Future policing challenges leading up to 2030

Whilst there have been many policing issues/challenges identified over the next two decades. Murray (2000) believes that there are three significant mega-trends that policing worldwide need to consider, namely information technology, globalisation and the expansion of human rights.

In recent years, the advances of information technology have been significant from business, policing and illegal perspectives. Information sharing between police services has been enhanced, requiring extensive training and exploration of new areas, such as identity fraud through organised crime networks (Drennan, 2010, p4). Mr S Arnold, President of Arnold Information Technology, USA encourages police to work with and understand the weaknesses and strengths of companies such as Google as 'data-spaces' are developed (super ceding databases) (Australian Federal Police, 2007, p10). Keelty (2007, p3) reflects that '15 years ago people could not have predicted the incredible information technology revolution that has been experienced.'

Globalisation (Keelty, 2007, p3) and the policing effort has been gaining momentum for some time as the number of joint investigations and international/national cooperation that has occurred. Multi-jurisdiction training occurs (for example the Jakarta Centre for Law Enforcement Cooperation) and is increasing significantly as evident by the number of Australian police working overseas or contributing to conferences such as the Dutch-led *'Pearls in Policing'* which will be hosted by the AFP in 2010 (Negus, 2010, p 5). Oscar Gutierrez, Prefecto Inspector of Policia de Investigaciones de Chile states that he needs 'law enforcement agencies to cooperate and that is going to be of great importance for our future' (Australian Federal Police, 2007, p6).

In recent months, there has been significant increase in media attention relating to physical attacks on international university students in most Australian capital cities (Killick & Brown, 2010). Senior Police

Collaroy rock pool, Sydney, Australia.

and politicians from Victoria recently visited India to allay concerns with the Indian authorities about the safety of Indian students in Australia. This reinforces the emerging challenges that Barbara Etter (1999, p7) identified, namely dealing with incidence of violence in society and policing an increasingly multicultural population and client base.

Climate change

In 2007, the Intergovernmental Panel on Climate Change (IPCC) released their fourth assessment report (AR4), which concluded:

• warming of the climate system is unequivocal
• humans are very likely to be causing most of the warming that has been experienced since 1950
• it is very likely that changes in the global climate system will continue well into the future, and that they will be larger than those seen in the recent past.

These changes have the potential to have a major impact on human and natural systems throughout the world including Australia (Climate Change in Australia, 2010). According to the Department of Climate Change of the Australian Government (2009), this means that Australia is very vulnerable to the effects of climate change and the best estimates are that by 2030 Australia will face:

• a further 1 degree Celsius warming in temperatures
• up to 20 per cent more months of drought
• up to 25 per cent increase in days of very high or extreme fire danger
• increases in storm surges and severe weather events.

'Climatic features such as extreme events, abrupt changes, and the nonlinear behaviour of climate systems processes will increasingly drive impacts on people and ecosystems' according to Professor Will Steffen (2009). Steffen's is supported by a number of other experts such as Alan Dupont and Graeme Pearman (2006) who claim that 'global warming in the century will present far more daunting challenges of human and biological adaption, especially for natural ecosystems which typically evolve over hundreds of thousands and millions of years.'

Despite the evidence and public debate, Australians rated climate change seventh out of ten as significant foreign policy in October 2009, when in 2007 it was rated as first priority (Gattan & Morton, 2009). 'Climate change is complex, making it difficult to predict with precision, and the associated risks' (Liu Institute for Global Issues, University of British Columbia, 2010, p2). It is critically important that the risks identified from the scientific community assist in informing the policy makers (Barnett & Adger, 2007, p649).

Climate change involves a likelihood of a global average temperature increase of between 2 and 4 degrees Celsius causing the sea to expand thereby causing a rise in sea level, suggested to be about one metre by the end of the century (Abbott, 2008, p5). The Pittwater local government in the northern beaches area of Sydney have drafted a flood management plan for the expected sea level rises, which the State Government predict as 40cm by 2050 and 90cm by 2100 (Nicastri, 2010). It is estimated that there will be serious impact on coastal property in Australia, low-lying Asian mega cities and the Pacific Islands (Queensland Police Service, Metropolitan South Region, 2008, p2).

Reconstruction work on Collaroy Beach, Sydney, Australia.

Socio-economic impact of climate change

It is realistic to expect that climate change is having and will continue to have significant impact on the people of the world and there will be naturally socio-economic damage, such as loss of infrastructure, resource scarcity and mass people displacement (Abbott, 2008, p6). As has been witnessed with the tsunamis in Asia in the last decade, buildings, roads, transport, communications and energy supplies have either been damaged or totally destroyed. Chris Abbott (2008) cites from the British Treasury in 2006 that if the worst-case situation occurs with climate change and there is inaction by governments, the cost to the world economy could exceed 20% of the global GDP each year. The majority of Asia's population and economic centres (India, China, Pakistan, Thailand, Indonesia and Philippines are located close to coastal areas (Maas & Tanzler, 2009, p10). This highlights the need to start seriously planning for mitigation strategies to ensure resilience of critical infrastructure in vulnerable areas (Purdy, 2010, p7). It is encouraging that Queensland Police are considering how to strengthen some of their physical infrastructure to withstand major disasters and put in place redundancy systems to deal with extreme weather events (Bergin & Allen, 2008, p8).

Food, water and energy are three resources that may become scarce with the negative impact of climate change. Food production areas of countries such as East Timor and China may be affected by land degradation caused by flooding, drought, and soil erosion. Shifts in rainfall patterns could render previously productive land infertile (Dupont & Pearman, 2006, p30). Closer to Australia, 85% of the East Timor population are dependent of agriculture as their sole source of income (Barnett & Adger, 2007, p641). In the densely populated Ganges, Mekong and Nile River deltas, a one-metre sea level rise would reduce 1.5 million hectares of land currently under intensive agriculture (Warner, Ehrhart, de Sherbinin, Adamo, & Chai-Onn, 2009, piv). Indigenous Australians living in remote communities of tropical northern Australia will also be adversely affected with natural resources at risk (Australian Government, Department of Climate Change, 2010, p2). Professor Steffen predicts that the large Himalayan glaciers are retreating quite rapidly and may completely disappear by 2050 potentially affecting one billion people who rely directly on that resource to support their food production (Source Security.com, 2009).

Water and the availability thereof, either for drinking or irrigation has been on the public agenda in Australia in recent times as our 'industries and urban centres face ongoing water limitations' (Australian Government, Department of Climate Change, 2009). Due to the drying trend, the water storage of the Murray-Darling Basin was so low that there was not enough water to meet critical human needs in 2009-2010 (Freeman, 2009 in Steffen, 2009, p15). There 'could be a catastrophic decline in the availability of fresh water with climate change' (Keelty, 2007 Inaugural Ray Whitrod Oration, 2007). There could also be potential contamination issues of water sources due to storm surges and heavy rainfall (Abbott, 2008, p6).

The global population is expected to increase from six and half billion to over nine billion by 2050 (UN Department of Economic and Social Affairs, 2006 in Abbott, 2008, p7). Between 25 and 50 million people are estimated to be migrating or displaced by end of 2010, due to the impact of climate change (Warner, Ehrhart, de Sherbinin, Adamo, & Chai-Onn, 2009, p2). It is envisaged that in many Asian countries internal movement of people are more likely (Dupont & Pearman, 2006, pviii) from rural to urban centres resulting in increase in poverty and social grievances amongst inhabitants (Buhaug, 2009, p2). It is predicted that there could be up to 200 million environmental refugees by 2050 (Abbott, 2008, p7) and 'if atoll countries like Tuvalu, Kiribati and Tokelau become uninhabitable Australia could be come under pressure to help resettle their people (Dupont & Pearman, 2006, 58). Closer to home, a one metre rise in sea level would result in 8000 Torres Strait Islanders losing their homes (Human Rights and Equal Opportunity Commission, 2008, p5).

Climate change and security/ policing issues

Whilst the number of security issues identified is extensive, this paper will concentrate on crime and natural disasters (both nationally and regionally–Asia/Pacific) as it reveals to a diversity of issues.

Many researchers claim that climate change poses risks to human security (McCarthy, Canziani, Leary, Dokken, & White, 2001 in Barnett & Adger, 2007) and viewed as a non-traditional security issue (Liu Institute for Global Issues, University of British Columbia, 2010, p4). In 2007, the United Nations (UN) Security Council held its first debate (5663rd meeting) on the impact of climate change on international peace and security (Abbott, 2008, p4). In 2009, the UN General Assembly unanimously passed a resolution urging relevant organs of the UN to intensify their efforts to address the security implications of climate change (Qui, 2010). Ashton Carter of the US Pentagon (Clean Air Report, 2010) stresses that effects of affected populations will present 'new challenges to global security and stability' and there is a move to request the USA Congress and President to place a greater emphasis on the 'link between climate change and national security, thereby recommending greater research' (Carbon Control News, 2010). This position is supported by Mr Kevin Rudd, Prime Minister of Australia who said 'over the long term, climate change represents a most fundamental national security challenge for the long term future, locally, regionally and globally' (The Prime Minister of Australia: The First National Security Statement, 2008).

Crime

There have been a number of studies conducted in Japan and United Kingdom revealing a linkage between the frequency and intensity of crimes committed during periods of increased temperature. According to the Commonwealth Scientific and Industrial Research Organisation (CSIRO), the predictions by 2030 are for more higher temperatures in Australia (10-50% increase in days over 35 degrees Celsius and 10-80% decrease in days below 0 degrees Celsius) (Dupont & Pearman, 2006, p16). On that basis, it is appropriate to consider the result of the Eastern Tokyo study, which identified more homicides and acts of violence occurring on hot days and sunny days (Ikegaya & Suganami, 2008). The study also highlighted the hot weather increases human interaction and induces psychological stresses during unstable weather. Brunsdon, Corcoran, Higgs, & Ware (2009, p922) also reveal that 'both high temperature and humidity significantly affect the geography of disorder and disturbances. A study in sub-Saharan Africa indicated that a one degree Celsius increase in temperature resulted in a 49 per cent increase in the incidence of civil war (Keating, 2010). All of this research is important for senior Australian police when scanning their environment and formulating strategies to reduce or mitigate the incidence of violence in their communities and respective Corporate Plans.

It is highly likely that there will be an increase in environmental refugees into Australia (Bergin & Allen, 2008, p5) and there will be potentially different cultural attitudes towards Australian laws such as drink driving or knife crime (Abbott, 2008, p9). According to Chris Abbott, police will have a greater need of interpreters, sensitive community liaison programs and improved cooperation with embassies and consulates (Australian Federal Police, 2007, p16).

Environmental protests are prevalent in Australia since the 'Save the Franklin River' in Tasmania in the early 1980's to Captain Votiacov (of the Greenpeace ship) blockade of the Hay Point terminal south of Mackay in Queensland in 2009 (Australian Associated Press, 2010). Australian police will continually need to monitor developments both nationally and overseas with regard to climate change protests as many Australians wish to express their support of objections to government policy about climate change (Australian Associated Press, 2009).

Former AFP Commissioner Keelty (2007) stressed that police would play a role concerning environmental regulations as investigation of offences, corruption and fraud could realise, similar to the Singapore Police investigating the Barings Bank Fraud in the Futures and Derivatives Markets. The global carbon market is estimated to be worth approximately $118 billion and Interpol having already identified that it could attract criminal gangs (Deloitte, 2009, p1, 2). Carbon pollution reduction schemes have attracted organised crime in the UK and Europe and in the future there could be fraud with regard to organisation's misstating their carbon position or bribery and corruption with public officials for example securing land to develop wind farms. Australian police may also get involved
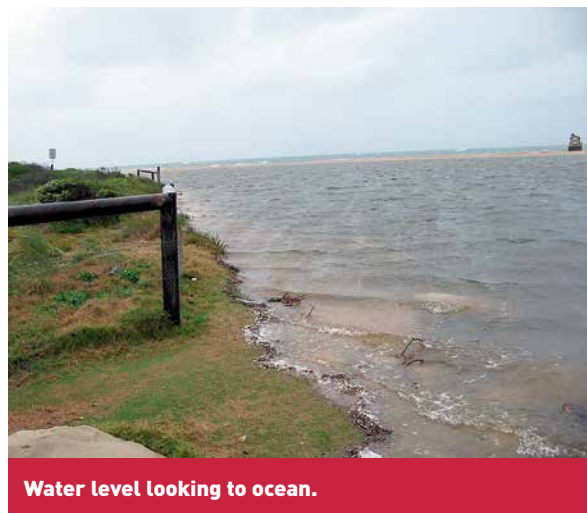
Water level looking to ocean.

with our neighbouring countries providing assistance in investigations and analytical expertise, as recently evident in the case of an Australian national trying to defraud the government of Vanuatu by offering a program to cut its greenhouse emissions (Bergin & Allen, 2008, p4). Prosecuting environmental cases has been historically challenging and investigations can be extremely resource intensive as demonstrated in the Enron case in the USA in 2001 (ibid, p3).

Natural disasters

The United Nations Development Program Bureau (UNDPB) states that the annual economic impact worldwide from natural disasters has increased from 213.9 billion dollars in the 1970s to in excess of 659.9 billion dollars in the 1990s (Pratt, 2010, p 21). When the death, injury and damage is taken into consideration, it clearly highlights that policing will need to provide significant leadership in prevention, preparedness, response and recovery of disasters. Buhaug (2009) highlights that the frequency and severity of climatic natural disasters has increased over the last few decades as evident by 360 hydro-meteorological disasters worldwide in 2007, affecting 210 million people.

It is anticpated that the region to the north of Australia will exceed four billion people by 2020 (56 per cent of world population) (The Prime Minister of Australia: The First National Security Statement, 2008) and it and the Pacific Islands will become more vulnerable to natural disasters due to climate change (Bergin & Allen, 2008, p7). Disasters have dramatic impact on communities and countries as stated by the President Carlos R Flores of Honduras 'that Hurricane Mitch in 1998 reversed 50 years of progress of the country' (Pratt, 2010, p19).

There will be an increase in Australian police either responding to the disaster or maintaining law and order in our neighbouring countries. More emergency planning and exercises will be required and greater robust partnerships, such as Red Cross will be required over the next 20 years. Currently there has been criticism that the focus for international relief has been on 'short-term relief at the expense of longer-term recovery and develop efforts' (Human Rights and

Exercise Management with the Royal Solomon Islands Police.

Equal Opportunity Commission, 2008, p10). Many of the vulnerable countries at-risk has no contingency planning or disaster preparedness (New Europe News, 2009). Police need to engage more with experts in a variety of areas to examine credible disasters scenarios (including worst case), (Purdy, 2010, p6) assessing risks (Bergin & Allen, 2008, p10), utilising available data (Antarctic Climate & Ecosystems Cooperative Research Centre, 2009) and enhance operational planning. The AFP and other Australian police realise the importance of building relationships with other organisations (Keelty, 2007 Inaugural Ray Whitrod Oration, 2007, p7) and (Negus, 2010, p5).

Between 2001 and 2007 in south-east Australia there was an increase by 10-40 percent of fire danger weather compared to 1980-2000, it predicted that such weather will increase by a further 5-65 per cent by 2020 (Steffen, 2009, 30). As evident by the *'Black Saturday'* fires in Victoria in 2009 where 173 lives were lost and 2,029 homes destroyed (The Age newspaper, 2009), police will play a significant role in fires and other disasters over the next 20 years.

As people are required to move from, their locations due to disasters there can also be psychological consequences such as with indigenous Australians in northern Australia potential will lose 'ancestral, spiritual, totemic and language connections to traditional land' (Australian Government, Department of Climate Change, 2010, p11). *'They feel like they've lost control of their "country"-which they are responsible for looking after'* (Human Rights and Equal Opportunity Commission, 2008, p5). Or the opposite could occur where 'traditional land owners make demands on those who are relocating there' as experienced in some Pacific Island countries (Qui, 2010).

Police should also be conscious of the human rights issues that become prelevant in disasters such as unequal access to assistance; discrimination in aid provision; enforced relocation; sexual and gender violence; loss of documentation and unsafe or involuntary return or resettlement (Human Rights and Equal Opportunity Commission, 2008, p11).

A round table conference in Bangladesh in March 2010 identified that 'water issue, cross border migration, loss

of livelihood of people and food security would be the major areas of conflict in South Asia (The New Nation, 2010). There is the potential over the next 20 years for an increase in inter and intra state conflicts within the region over competition for scarce resources caused through disasters, thereby requiring Australian police to intervene and uphold the law (Drennan, 2010, p9). Police budgets will be impacted upon due to this additionally role and extensive planning and cooperation will be required amongst all Australian police to ensure efficient financial modelling occurs.

With disasters, there is an increase in vector-borne, water-borne and respiratory diseases such as malaria and dengue fever. A 2003 joint study by the World Health Organisation and the London School of Hygiene and Tropical Medicine estimate that global warming has contributed to 160,000 deaths from malaria and malnutrition and it is expected to double by 2020. (Human Rights and Equal Opportunity Commission, 2008, 4). The NSW Police Force Corporate Plan 2008-2012 (2008) states that the organisation will provide a 'safe and supportive work environment', which is the same, as all other police services in Australia. If police are providing disaster relief in Australia or offshore there also is the potential for high incidence of fatigue and emotional trauma (Bergin & Allen, 2008, p7). With Australian police, assisting with disaster response overseas or in tropical northern Australia there is a need to ensure they are not exposed to unnecessary health risks (both physical and psychological).

Conclusion

Barbara Etter (1999, p11) appropriately stated 'policing clearly needs to become more adept at anticipating change in the environment and adapting to it in a timely and effective way. 'The increasing role for policing in helping restore order and stability internationally was a significant feature of discussion (at the International Policing: Towards 2020 conference) as Australia is considered a pioneer in the field' (Australian Federal Police, 2007a, p7)

Professor Tim Flannery emphasises that 'in the future, policing will bear a large burden for responding to the societal stresses that extreme weather events create' (Australian Federal Police, 2007, p14), so it is strategically important in 2010 for Australian police to plan provide leadership for the future. 'Climate change is a complex issue requiring integrated–not siloed–responses' (Liu Institute for Global Issues, University of British Columbia, 2010, p1).

Looking towards the 'horizon', Australian police would benefit significantly by establishing robust partnerships with a diversity of stakeholders who have expertise in the area of climate change as policing will be expected to take a lead role in ensuring a safe and secure Australia and region. The impact of climate change is of significant strategic importance to both state and national police and must not be ignored.

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