Climate Changes the Law Enforcement Paradigm

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Abstract

This paper explores the impacts of climate change for law enforcement, particularly in rural areas. It begins by discussing the main contours of climate change – its causes, consequences, and acceleration – and the ramifications of these for humans, environments and the diverse species sharing our planet. The consequences of climate change are reflected in climate-induced migration, conflicts over scarce resources, and securitisation of food, water, and land. The paper considers these contemporary issues and developments from the point of view of the challenges facing police and allied agencies. A major strategic shift in law enforcement responses to climate change and environmental protection is needed. The discussion focusses on the implications of climate change for activities such as preventing harm, combatting crime, and engaging in emergency management, and the diverse enforcement configurations that are required in responding to complex social and bio-physical transformations. Innovative thinking and proactive policies are needed to prepare for the calamities rapidly unfolding as well as taking advantage of new opportunities for achieving social and ecological justice.

Keywords: climate change; disasters; emergency management; harm prevention; law enforcement

Introduction

This article explores the impacts of climate change for law enforcement, particularly in rural areas. It begins by discussing the main contours of climate change – its causes, consequences, and acceleration – and the ramifications of these for humans, environments and the diverse species sharing our planet. The consequences of climate change are reflected in climate-induced migration, conflicts over scarce resources, and increased concerns about the securitisation of food, water, and land. This is occurring worldwide, although the trends vary depending on specific geographical location and social circumstance, and are particularly acute in developing countries (Intergovernmental Panel on Climate Change, 2022, 2024; World Meteorological Organization, 2020ab, 2025). The article considers these contemporary issues and developments from the point of view of the challenges facing police and allied agencies. Indeed, it is argued that a major strategic shift in law enforcement, spurred by responses to climate change and environmental protection, is now occurring. This will deepen as the climate crisis intensifies.

The key focus of the discussion is on the implications of climate change for activities such as preventing harm (e.g., anticipating and putting into place precautionary measures to reduce risks and threats), combatting crime (e.g., including climate-related crimes), and engaging in emergency management (e.g., crisis response). The article points to the organisational challenges and diverse enforcement configurations that are required in responding to complex and rapidly unfolding social and bio-physical transformations. Innovative thinking and proactive policies are needed to prepare for the calamities ahead as well as to take advantage of new opportunities for achieving social and ecological justice.

For present purposes, the term ‘law enforcement’ includes formal government agencies such as police, coast guard, and border control, as well as wildlife protection, fisheries, environmental protection, and national security agencies and personnel. Particular attention is nonetheless given to police services insofar as they are often the first responders and overarching coordinators in crisis situations. Practices related to law enforcement include the activities of governmental agencies, non-government organisations granted regulatory powers (e.g., the RSPCA in Australia), non-government organisations engaged in regular environmental protection activities (e.g., volunteer coastal watch groups), and event-related local community initiatives (e.g., filling sandbags and contributing to rescue operations during disasters).

The paper provides a 'big picture' overview that identifies significant issues pertaining to law enforcement responses to climate change and environmental disaster. Information for the paper has been gathered from open-source publications, government and non-government, as part of a broad scoping exercise (see UNODC, 2024). Generic concerns for law enforcement are explored within a global context of climate transformation and disruption. An additional focus is rurality and the dynamics of state interventions in non-urban geographical areas. These places tend to be disproportionately affected by climate change and extreme weather events while simultaneously disadvantaged with respect to human and material resources.

Climate Change, Disasters and Rurality

Climate change is the most significant and urgent matter of our time. As leading climate scientists emphasise:

> We are witnessing the grim reality of the forecasts as climate impacts escalate, bringing forth scenes of unprecedented disasters around the world and human and nonhuman suffering. We find ourselves amid an abrupt climate upheaval, a dire situation never before encountered in the annals of human existence. (Ripple et al., 2024: 1)

Global warming is disrupting climate and weather patterns everywhere and thereby creating greater intensification and frequency of disaster events (such as extreme storms) as well as contributing to slow-onset crises (such as prolonged drought and rising seas). Severe storms in Florida, wildfires in Los Angeles, floods in northern Queensland, the list goes on, from every corner of the planet. Never in human history has such existential threat as that posed by global warming occurred to this degree and to this extent. The stakes are immense, and the survival of humanity itself is at risk (Stoett & White, 2024; Ripple et al., 2024; World Meteorological Organization, 2025).

It was reported in 2024 that global greenhouse gas emissions set a record in 2023, with over a one percent increase from the previous year levels (United Nations Environment Programme, 2024: XII). The world continues to heat up, and yet still governments continue to stoke the fire through 'drill, baby, drill' mentalities and 'business as usual' subsidies and supports for polluting industries. The situation is dire, the political response feeble, and often it is law enforcement agencies that are left to manage the crises arising from global warming since it is they who are the first responders in climate emergencies.

The Earth continues to experience the plundering of its resources, diminishment of biodiversity, and widespread pollution of its lands, waters and atmosphere, all of which contribute to climate change (Portner et al., 2021; White, 2018). Much of this environmental damage occurs in rural and remote locations, away from prying media eyes and safe from close governmental scrutiny. Here, also, live those humans and non-human entities (such as rivers and forests) most likely to directly experience the worst effects of climate changes.

For example, regions and people with considerable development constraints have high vulnerability to climate hazards. Increasing weather and climate extreme events have exposed millions of people to acute food insecurity and reduced water security, with the largest adverse impacts observed in many locations and/or communities in Africa, Asia, Central and South America, Less Developed Countries, Small Islands and the Arctic, and globally for Indigenous Peoples, small-scale food producers and low-income households. Between 2010 and 2020, human mortality from floods, droughts and storms was 15 times higher in highly vulnerable regions, compared to regions with very low vulnerability (Intergovernmental Panel on Climate Change, 2024: 5).

Thus, those most vulnerable to the consequences of climate change tend to live in specific geographical locations and population centres. For instance, rising seas are disproportionately affecting low-lying countries, such as the Pacific islands and those in the Indian Ocean, and present as an immediate existential threat. Where one lives is vital from a geophysical point of view when it comes to climate impacts. Much of the destruction from high impact events such as cyclones, floods and fires in recent years has been especially felt in the less developed countries, and the less developed regions of the world, where adaptation and harm prevention has been less available due to costs and geography. These regions also have variable capacity, depending upon national and local resources, to meet people's needs in the aftermath of such events (for example, access to medical staff, hospitals, and emergency services) (Intergovernmental Panel on Climate Change, 2024). Much the same applies to residents and workers in rural locations generally, where responding to climate harms is hindered by remoteness, infrastructure development and population numbers.

Taking a global perspective, issues of food security and population displacement due to climate variability and extreme weather are substantial and growing. Again, the effects are disproportionately affecting those in less developed countries, as noted by the World Meteorological Organization:

> Between 2006 and 2016, agriculture (crops, livestock, forestry, fisheries and aquaculture) in developing countries accounted for an estimated 26% of total loss and damage incurred during medium- and large-scale climate-related disasters. While about two-thirds of loss of and damage to crops was associated with floods, almost 90% of loss and damage in the livestock sector was attributable to drought.' (World Meteorological Organization, 2020a: 28)

It has been pointed out that the key risks to the United Nations Sustainable Development Goals include rising poverty, food insecurity, health issues, water scarcity, damaged infrastructure, rising inequalities, displacement, ecosystem collapse, biodiversity loss and conflict – all of which are in some way associated with or compounded by climate change (World Meteorological Organization, 2020b). For example, the phenomenon of ocean acidification has implications for fishing and therefore the food supply for many peoples worldwide reliant upon sea-derived protein. Rises in sea levels affect many organisms and ecosystem services, threatening food security by endangering fisheries and aquaculture. It also affects coastal protection by weakening coral reefs, which shield coastlines.

Human vulnerability to climate harms is related to location and the absence of preventive measures (such as dikes or levies to protect against flooding), the resources available to respond to both disaster events and longer-term harms such as drought, and the ability or resilience of landscape and populations to withstand adverse impacts. Climate-exposed sectors such as agriculture, forestry, fishery, energy and tourism are often located in rural and remote areas and thus suffer disproportionately from damages from climate change (Intergovernmental Panel on Climate Change, 2024: 6). The longer-term effects of global warming include pressures on freshwater availability, thereby impacting crop production, animal and livestock health and productivity, and fisheries yields. Altered watershed

hydrology and water biogeochemistry in the Arctic, for example, correlates with declines in macroinvertebrate diversity and fish abundance, affecting drinking water and subsistence fisheries in rural Alaska (Ripple et al., 2024: 8). The loss of ecosystem and their services has cascading and long-term impacts on people globally, especially for Indigenous Peoples and local communities which are directly dependent on ecosystems to meet basic needs.

The magnitude and scope of the crises facing humanity have been described using the language of *harmscape*. This refers to intersecting and interacting harms, of which climate change is the exemplar: 'Climate change harms play out at multiple spatial and temporal scales: spatially, harms range from localised to global scales, and temporally, some harms are immediate, others are delayed, and others again are, from any meaningful human perspective, effectively permanent' (Berg & Shearing, 2018: 75; see also Holley, Phelan & Shearing, 2021). The impacts and contributing causes of climate change are uneven and dispersed. They are also becoming increasingly complex and more difficult to manage (Intergovernmental Panel on Climate Change, 2022: 18).

There is thus great uncertainty, ambiguity, and complexity in studying and responding to climate change as a novel harmscape. The spectrum of disasters, their frequencies and consequences, differ. For example, they can be anticipated or unexpected, and the magnitude and scope of disasters will vary. These distinctions are important because they impact community, government, and practitioner responses. It has been observed that:

> If current trends continue, the number of disasters per year globally may increase from around 400 in 2015 to 560 per year by 2030….For droughts, there is a large year-on-year variation, but current trends indicate a likely increase of more than 30% between 2000 and 2030 (from an average of 16 drought events per year during 2001-2010 to 21 per year by 2030)…The number of extreme weather events per year is also increasing, and based on current trends will almost triple between 2001 and 2030. (United Nations Office for Disaster Risk Reduction, 2022)

While affecting everyone everywhere, disasters are nonetheless unequal in consequence. For example, subsistence and family farming are suffering because of climate change, and great shifts in human populations and in resource use are taking place worldwide. These farming communities, usually set in non-urban locations, are beset by intense weather events such as droughts, floods, storms, bushfires and cyclones but without the urban infrastructure of police and emergency services, hospitals and medical staff, rapid transit systems and logistical support. Prolonged drought may be linked to algae blooms that directly threaten irrigation systems and potable drinking water. Fires and fire smoke can kill stock as well as native endemic animals. Projections about human vulnerability include the observation that vulnerability in these areas is heighted by high emigration as well high reliance on climate-sensitive livelihoods (Intergovernmental Panel on Climate Change, 2022).

Law Enforcement and Climate Change

The concept of harm has been translated into a law enforcement context via the concept of harm-focussed policing (Ratcliff, 2015). This refers to refocussing policing efforts with greater emphasis on the individual and community impacts of negative events. The idea is not to de-emphasise crime but to include with it a wide range of other issues that are concerns of the community.

Specifically applied to climate change, harm-focussed policing places greater attention on reducing community harm related to climate events, risks, and harms. This means extending the concept of harm, not only beyond that of crime, but also beyond those generally referred to in a conventional harm-focused policing approach (e.g., analysis of harmful places defined in terms of hotspots featuring detrimental behaviours that damage community life). This implies a significant shift in police focus and associated with this, skill development and knowledge base. The emphasis thus needs to be on how police enrol and enable communities and other actors in developing strategies for adapting and surviving broader societal shocks and harms. Foremost among these is responding to climate-related disruption.

This requires anticipation and considerable strategic planning involving not only the police but allied agencies (such as fire departments, ambulance services, and state emergency services) working in conjunction with local authorities, communities and private businesses (not the least of which, insurance companies). Working to prevent climate-related risks and harms demands a whole-of-community approach supported by government policy and budget allocations. Not learning from past events has proven to be extremely costly, as the bushfire experience in Australia demonstrates. The failure of governments to put in place adequate infrastructure, social and physical, in the light of expert knowledge and systematic retroactive evaluations has been described as criminal (Walters, 2001).

Law enforcement agencies ideally can and should play a major role in coordinating pre-disaster planning (e.g., evacuation processes and routes) as well as being first responders in the actual event. The extent to which this occurs is related to political dynamics, financial resources, staff capabilities, institutional priorities and availability of expertise. On a global scale, these factors are further affected by structural inequalities and political instabilities which means that some countries simply do not have the capacity to enact law enforcement initiatives of this sort (e.g., civil war in Sudan and armed conflict in the Republic of the Congo inhibit adoption of such measures). While organisations such as Interpol and the United Nations Office on Drugs and Crime provide support and training for law enforcement services around the globe, greater sharing of resources and information at the international level is needed (UNODC, 2024).

Many challenges face law enforcement officials and the performance of enforcement-related tasks as the climate crisis continues to unfold. For law enforcement officials attention must simultaneously be focused on matters pertaining to crime fighting (efforts to prevent, disrupt and stop crime), responding to extreme weather events (quick and effective

management of stressful situations) and seeking solutions to emergent social problems (in conjunction with other agencies, for example, dealing with dislocation and trauma) before the latter re-surface in the form of interpersonal crimes and conflicts. These organisational challenges occur in the context of great personal challenges. For example, for police, other law enforcement officers (e.g., conservation officers, parks and wildlife officers, border control officers) and emergency personnel (e.g., ambulance staff, medical staff such as doctors and nurses, fire fighters, state emergency services) living and working in rural and remote areas, the personal risks and threats are real and immediate. It is their families, their community livelihoods, and their neighbours who are impacted.

With disaster and slow-onset crises like drought there are also movements of people in and out of the regional areas. This may take the form of migration of young people to the cities in search of gainful employment (Harkness & White, 2022). However, it also includes the rapid response of other police and emergency services, including army personnel, when event disasters do strike. The mix of 'insiders' and 'outsiders' is enforced thereby by circumstance and necessity. This can affect community cohesion and potentially contribute to social disorganisation in that members of the local community may feel that they are no longer in control of their own local affairs.

Given the increasing prevalence of climate disruption associated with global warming the tasks of ordinary policing are made that much more complicated and difficult. Typically, policing tasks include law enforcement including detection, investigation, apprehension and prosecution of offenders, crime prevention, maintaining public order, social services such as searching for lost children, and traffic management including responding to road accidents (White, Perrone & Howes, 2019). Disaster response and emergency services include first responder interventions, evacuations and controlling access and exit points. It also may include post-mortem identification of disaster victims and maintaining order in civil conflict situations arising from disasters.

A strategic institutional shift is occurring due to these changing circumstances, one that is reshaping contemporary responses to the law enforcement tasks and mandate. This has major ramifications for how law enforcement work is carried out, the resources needed to do so, and the collaborations required across agencies and between community and government. Crime fighting, too, is changing as the world rapidly changes due to climate change. For example, climate-related crimes are manifesting in various ways and include crimes contributing to climate change (e.g., illegal logging and deforestation), crimes affected by climate change (e.g., drought and water theft), and cross-over crimes (e.g., disaster-related fraud and insurance scams) (UNODC, 2024). Combating these crimes will bring into play a wide range of law enforcement officials, from police to border control personnel, and environmental protection officers to parks and wildlife rangers. Criminal prosecution and regulatory infraction overlap in various ways, further increasing the need for cross-institutional collaboration (Pink & White, 2016).

A change in and new type of pluralisation of police roles is occurring, in which greater attention is being devoted to matters such as climate change mitigation, reduction of

climate-related crime and first responder work on the frontline of environmental disasters. Law enforcement agencies (and allied services such as the military) are facing major shifts in roles and tasks foisted upon them by the exigencies and contingencies of climate change. Accompanying this, is the practical necessity of engaging in multi-agency collaboration and close and positive community engagement. These changes to task are not a matter of choice but driven by circumstance.

> Due to the intensifying impact of climate change, police officers will have to develop new skills and capabilities to fulfil additional and non-traditional policing roles and functions. In addition to fulfilling the traditional role of the police as enforcer of the rule of law (including new climate change-related legislation), police officers may also have to act as first responders to crises ranging from asylum centres becoming full to civil unrest and floods. Involvement in humanitarian emergency will require the police to shift from the 'cop' to a 'care mindset' of a first responder. (Matczak & Bergh, 2023: 5)

This kind of shift in duties, also implies a significant shift in mindset. While police agencies in some countries have adopted relevant policies, reflected for example in their training plans and agendas in their police academies (Netherlands Police, 2023), there is much yet to do in the global context.

For example, there are a multitude of stakeholders and agencies with which law enforcement must engage and collaborate with, with numerous tensions and opportunities evident at the grassroots level with regard to state-community relations. An over-arching challenge, therefore, is to uplift the present capacities and capabilities of law enforcement agencies, particularly in rural locations. While there may be rising interest and need for greater law enforcement intervention arising from climate-related events and trends, at present there is generally insufficient capacity to meet the challenges of either crime fighting or disaster and emergency management (Europol, 2022; Faroque & South, 2022; Abbott, 2008).

Dr Detlef Schroder, former Executive Director of the European Union Agency for Law Enforcement Training (CEPOL) has pointed out that law enforcement is not ready for this, its greatest challenge – climate change.

> …when climate change is mentioned in European law enforcement circles, it is often in reference to the management of environmental protests or even workplace policies, but rarely law enforcement's direct role in climate change mitigation and the reduction of climate crime. Of course, law enforcement does already play a substantive role on the frontline of environmental disasters, but these responses are often seen as "above and beyond" the normal course of duty. However, climate change will also affect the way we deal with routine emergencies, making environmental fall-out a part of the day-to-day remit of law enforcement. (Schroder, 2023: 1)

These sentiments have been echoed in academic commentary that stresses the need for greater preparedness in responding to new challenges for law enforcement, including changes in the rates and types of crime, demands for border security and responding to natural disasters (Abbott, 2008; Matczak & Bergh, 2023).

Strategic thinking requires climate literacy and climate-related preparedness. New, old, and cross-over crimes related to climate change – from illegal fishing to water theft to carbon emission trading fraud – demands enhanced intelligence, collaborations, and skill development (UNODC, 2024). Intense and more frequent storms, floods, droughts and extreme weather events mean that first responders will be constantly challenged, and disaster management is becoming an integral part of law enforcement. Horizon scanning should be guided by climate experts working in conjunction with state emergency services, ambulance staff, fire fighters, police, and medical staff on a continuous basis. Additional resources will be required in regards basic equipment; for example, everything from weather-relevant uniforms to specialist protective gear, sophisticated information management systems that incorporate data from diverse sectors and services, communications technologies that operate during periods of energy outages, surveillance drones, water planes – the list goes on.

Similarly, collaborative arrangements between agencies need to evolve to suit the times. This collaboration can take multiple forms, from permanent strategic bodies to ad hoc task forces, but there needs to be organisational agility so as to be able to respond to situations and events quickly and efficiently. Criminal work should be led by the police. Disaster work should be collaborative but led by the agency with the most expertise in specific situations (e.g., fire services addressing fires; police coordinating evacuations). In all cases there is a need to extend and maintain a social licence in order to ensure public support and contributions to safety and community protection. This involves transparency, community-level engagement and dealing with the contradictions of government policy. An example of the latter is excessive policing of environmental protestors who are tackling the causes of the climate crisis on the one hand versus police trying to recruit young people into policing as well as playing a central role in dealing with disasters arising from global warming (Netherlands Police, 2023).

Policing priorities must and will change as the climate crisis deepens. The demands of responding to climate-related crimes such as water theft and to climate-related disasters such as floods will occupy more and more police time. This is exhausting, requires a re-orientation of tasks and training, and strategically, there is the problem that dealing with crises today may overwhelm the capacity to project into the future (Interpol Innovation Centre, 2022).

Meanwhile, trauma, both observed and experienced, will continue to be a major workplace issue for law enforcement officers. Police responding to disasters (as well as crime) are dealing with life-and-death situations in which people sometimes die and get maimed. Part of the task also involves disaster victim identification. On top of this, working in emergency situations – such as floods and fires – is extremely tiring as well as dangerous. With low overall numbers generally, police services rely on long hours being performed by their members, in personally and professionally challenging circumstances. They deal with

traumatised individuals, families and communities. They deal with colleagues who are totally exhausted, mentally and physically. They also have their own families and friends to think about. All up, responding to the increased frequency of trauma-inducing events is itself traumatising for many first responders. And police services are not always very good at supporting their own when it comes to self-care, Post Traumatic Stress Disorder (PTSD), rostering, and granting adequate stress leave (and pay) up to and including early retirement (Drew, Sargeant & Martin, 2024; Eikenberry et al., 2023).

Enhancing law enforcement resources, staff levels, training and education, and career progression is part of the overall picture of needed capacity development. For example, in regards to community capacity, a robust response to climate-related crime and disaster events hinges to a large extent on the strength and resilience provided by the community and non-government organisations working in conjunction with state authorities. For example, measures may include heightened community activism against corruption, deployment of citizen scientists, creation of surveillance and enforcement partnerships, and establishment of local community disaster planning and response teams. Organisational capacity can be improved by acquiring the specialist equipment and technologies required in the fight against climate-related crimes and in responding to disasters and emergencies. Ideally, given the scale of the problem these need to be shared out at the global through to local scale. Likewise, information management systems are essential aspects of infrastructure and are crucial to both combating climate-related crimes as well as predicting and responding to climate-related disasters and their short- and long-term social and environmental consequences.

In developing human resources further, it is vital that multi-agency and multi-disciplinary teams and forums be provided that bring together in a coordinated fashion the knowledge, expertise and experience of a wide range of practitioners. The emphasis must be on preparedness and rapid mobilisation of human and technical resources. This needs to occur across discrete areas of endeavour and be fit for purpose depending on social, political and environmental context. For example, consider policing in Pakistan.

> Climate change has significantly impacted law enforcement and policing functions. It has led to the need for enhanced policing capabilities. The police are increasingly required to perform roles that are distinct from their typical daily duties when responding to climate-induced disasters[…] Recent police engagements during the unfolding climate crisis in Pakistan can be classified in four main categories: a) supporting the local administration in responding to the increasing frequency of climate disasters such as floods, heatwaves, droughts, landslides and snowstorms; b) assisting the government in enforcing environment and climate-related laws by coordinating with the concerned departments; c) managing changes in the incidence and types of crimes, due to large-scale climate-induced disasters; and d) responding to land mafias and criminal groups that cause environmental damage by illegally exploiting public goods and natural resources such as communal lands, forests, parks,

> riverbanks and sand-mining in riverbeds and mining and stone-crushing in mountains (Sheikh, 2023: n.p.)

Translate these tasks into rural and remote locations, which typically are under-resourced compared to their urban counterparts, and the challenges seem daunting indeed, if not overwhelming. Responses are possible but will require considerable thought and much more in the way of additional resources.

What needs to happen immediately in terms of investment and the pivoting of priorities and strategies by law enforcement to mitigate problems is clear. Billions need to be spent on social infrastructure to bolster resilience at the local community level as well as on equipment, professional training, information management systems, and science-led analysis of the climate crisis (UNODC, 2024). Indeed, a wide range of strategic action is needed if law enforcement capabilities are to be enhanced (see Table 1).

Table 1:

Strategic Actions for Environment and Climate-Related Law Enforcement

Strategy	Implementation	Required
Developing climate literacy	Pre-service and In-service training and education around climate science and policy and its implications for enforcement practices	Educators, materials, workshops
Technological applications for law enforcement	Sharing of expertise, technologies, equipment to meet specific local and regional requirements	Transfer of technologies to the most vulnerable regions and to law enforcement services where most needed
Horizon scanning and future planning	Establishment of knowledge hubs and specialist expertise	Development of climate change operations teams, infrastructure
Collaborations involving multiple stakeholders at various level of scale	Establishment of permanent authoritative bodies comprised of cross-sector agencies including civil society	Secretariat to coordinate national, regional, and international bodies
Rapid response capabilities	Based on analyses of impact of geography, local community engagement and enforcement resources relative to crimes, events and problems	Specialist task forces, flying squads, community initiatives

Strategy	Implementation	Required
Staff care and wellbeing	Recognising and responding to the physical, mental, emotional, and spiritual challenges and exhaustion facing law enforcement members	Workforce planning involving recruitment, retention, leave, and exit strategies, provision of trauma-informed care for front-line staff
Leadership	Ability to pivot toward climate-related issues as these pertain to policy, resources, practices, and innovations	Climate literacy and strategic planning workshops for senior executive, cross-sector exchange of ideas and personnel
Finances and staffing	Substantially increased budgets, staff allocations for recruitment and training, technology and equipment, and prioritisation of environmental and climate-related work tasks	Lobbying of governments, revenue generation via proceeds of crime confiscations, transfers of resources between nations
Ethics and sustainability considerations	Adherence to UN policies and declarations such as SDGs	Planning processes, policy development and education/training undertaken in the light of humanitarian considerations

Source: UNODC (2024)

There is a need to learn from recent experiences that crime-centric policing must also embrace the crisis contingencies imposed on urban and rural law enforcement and emergency service providers because of climate change. This signals a significant shift in strategic planning and work tasks. It also means that law enforcement officers need to be prepared for these new contingencies and new, ongoing, and intensifying roles. In a study of Australian bushfire responses, a senior police officer explained to the researchers that:

> When an emergency happens, police tend to drop that stuff and focus on the emergency, but it's a break from BAU [business as usual], from the normally business as usual type roles, and so there are very few people that are trained to a high level in emergency management and that's just in addition to what they do as a role, so it's a bit different. We ask a lot from some of our people in certain roles when they're not really well skilled or drilled in it. (Blaustein et al., 2023: 11)

Provision of generalist training and education to coincide with the new demands of general duties officers is therefore a necessity.

Engagement in plural activities stemming from climate change necessarily changes the overall focus of law enforcement work. It also carries with it particular work-related challenges and dilemmas. Specifically, it adds extra burdens, personal and organisational, for those at the frontline. As mentioned above, many police already suffer from exhaustion and work overload, not to mention the effects of bad publicity and accountability challenges from counter-policing movements (e.g., abolish the police, Black Lives Matter). To this can be

added the strains of roster systems, heat stress, extreme hours and long shifts, and trauma-related incident responses to school and other public space shootings (USA) and other kinds of mass deaths (Morocco earthquake, Libya flood). These pressures are the cause of occupational stress, anxiety, depression, work-related burnouts, and suicidal ideation among law enforcement workers (Osofsky et al., 2011).

Disasters can be especially troubling and problematic, both in the moment and in the future. For example, Hurricane Katrina was deeply traumatising for all involved, including victims and first responders. Significant numbers of first responders from police, fire, emergency medical services and city workers revealed posttraumatic stress symptoms, depression, increased alcohol use and conflict with partner.

> Results suggest that the severity of the traumas experienced from both the impact of Hurricane Katrina and the subsequent recovery has important mental health implications for first responders…These findings highlight the importance of not only providing mental health services for first responders but also having adequate plans in place before natural or technological disasters strike. (Osofsky et al., 2011: S218)

Similar observations have been made with respect to police personnel involved in bushfire disasters in Australia.

> In Ruralton, officers from other towns and policing areas provided temporary relief, but the task of managing the disruptive effects of the crisis and working to restore the community's absorptive and adaptive capacities in anticipation of future bushfire disasters inevitably fell to local officers and their counterparts from other agencies. The sustainability of this resilience policing model thus depended on their individual and collective ability to 'bounce back' (absorb shocks) and 'bounce forward'
>
> (adapt) from the crisis (Blaustein et al., 2023: 11)

Those at the frontline not only include 'evacuation' and 'rescue' teams, but professionals who deal with the aftermath of disasters, such as forensic scientists. Disaster victim identification involves a wide variety of staff, including forensic experts in areas such as DNA analysis, fingerprint examiners, forensic odontologists, forensic pathologists and mortuary technicians. The logistics of working disaster zones, within country as well as part of external aid contributions are enormous. So are the psychological and physical costs of being in extremely stressful and sensitive situations for prolonged periods of time (Adamovic et al., 2023).

Conclusion

Climate change is and will continue to have major consequences for the core tasks and activities of law enforcement personnel and agencies operating in rural and remote locations. There is much to do in regard to preparing for the impacts of climate change, of which enhancing the capacities and capabilities of law enforcement is an essential part. This needs to happen at both the global level, given the differences in financial situation,

pertaining to rural and remote locations, and those places geographically particularly at risk of climate-related events such as droughts and rising seas).

Law enforcement officials occupy the frontline, but to do so ably, they need substantial funding support and favourable relations with multiple communities, both professional and community-based. Climate change is intensifying and accelerating, and the risks and harms are multiplying and compounding. The more precise the analysis of causes and consequences, and the more inclusive of those affected by climate change in pursuing answers and solutions, the more able the community is to collectively respond to these, the greatest challenges facing humanity. The contribution of law enforcement is a vital part of these social processes.

References

Abbott, C. (2008). *An Uncertain Future: Law Enforcement, National Security and Climate Change*. Oxford Research Group Briefing Paper. January 2008. London: Oxford Research Group.

Adamovic, N., Howes, L., White, R. & Julian, R. (2023). 'Understanding the challenges of disaster victim identification: perspectives of Australian forensic practitioners', *Forensic Sciences Research, 8*: 114-122. https://doi.org/10.1093/fsr/owad020

Berg, J. & Shearing, C. (2018). 'Governing-through-harm and public goods policing', *Annals of the American Academy of Political and Social Science*, *679*(1): 72-85. https://doi.org/10.1177/0002716218778540

Blaustein, J., Miccelli, M., Hendy, R., & Burns, K. (2023). 'Resilience Policing and Disaster Management during Australia's Black Summer Bushfire Crisis', *International Journal of Disaster Risk Reduction*, *95*. https://doi.org/10.1016/j.ijdrr.2023.103848

Drew, J., Sargeant, E. & Martin, S. (2024). 'Why do police consider leaving the profession?: The interplay between job demand stress, burnout, psychological distress, and commitment', *Policing: A Journal of Policy and Practice, 18*. https://doi.org/10.1093/police/paae036

Eikenberry, J., Mancini, M., Linhorst, D., Schafer, J., & Brown, J. (2023). 'Stress and trauma among police officers: Implications for social work research and practice', *Qualitative Social Work*, *23*(4): 682-704. https://doi.org/10.1177/14733250231214512

Europol (2022). *Environmental Crime in an Age of Climate Change – Threat Assessment*. The Hague: Europol.

Faroque, S. & South, N. (2022). 'Law-Enforcement Challenges, Responses and Collaborations Concerning Environmental Crimes and Harms in Bangladesh', *International Journal of Offender Therapy and Comparative Criminology*, *66*(4): 389-406. https://doi.org/10.1177/0306624X20969938

Harkness, A. & White, R. (2021). 'Rural Crime at the Crossroads', in A. Harkness & R. White (eds) *Crossroads of Rural Crime: Representations and Realities of Transgression in the Australian Countryside*. London: Emerald Publishing. https://doi.org/10.1108/9781800436442

Holley, C., Phelan, L., & Shearing, C. (2021). *Criminology and Climate: Insurance, Finance and the Regulation of Harmscapes*. London: Routledge. https://doi.org/10.4324/9780429201172

Intergovernmental Panel on Climate Change (2022). *Climate Change 2022: Impacts, Adaptation and Vulnerability. Summary for Policymakers*. IPCC, Geneva. https://doi.org/10.1017/9781009325844

Intergovernmental Panel on Climate Change (2024). *Climate Change 2023 Synthesis Report: Summary for Policymakers.* IPCC, Geneva.

Interpol Innovation Centre (2022). *Crime, Law Enforcement and Climate Change. Background paper*. Lyon: Interpol.

Matczak, C. & Bergh, S. (2023). 'A review of the (potential) implications of climate change for policing practice worldwide', *Policing: A Journal of Policy and Practice, 17*: 1-8. https://doi.org/10.1093/police/paad062

Netherlands Police (2023). *Climate resilient policing. A sustainable step forward*. The Hague: Netherlands Police.

Osofsky, H., Osofsky, J., Arey, J., Kronenberg, M., Hansel, T. & Many, M. (2011). 'Hurricane Katrina's First Responders: The Struggle to Protect and Serve in the Aftermath of the Disaster', *Disaster Medicine and Public Health Preparedness*, *5*: S214-S219, at p.S218. https://doi.org/10.1001/dmp.2011.53

Pink, G. & White, R. (eds) (2016). *Environmental Crime and Collaborative State Intervention*. London: Palgrave Macmillan. https://doi.org/10.1007/978-1-137-56257-9

Portner, H., Scholes, R., Agard, J, Archer, E., Ameth, A., Bai, X., Ngo, H., et al. (2021). IPBES-IPCC co-sponsored workshop report on biodiversity and climate change. *IPBES and IPCC*. https://doi.org/10.5281/zenodo.4782538

Ratcliffle, J. (2015). 'Harm-Focused Policing', *Ideas in American Policing*, No.19, September 2015. Washington, DC: Police Foundation.

Ripple, W., Wolf, C., Gregg, J., Rockstrom, J. Mann, M., …..Crowther, T. (2024). 'The 2024 state of the climate report: Perilous times on planet Earth', *BioScience*, *0*, 1-13 https://doi.org/10.1093/biosci/biae087

Schroder, D. (2023). 'Law enforcement is not ready for its greatest challenge yet – climate change', *Euronews*, 26 May 2023.

Sheikh, A. (2023). 'Policing climate change', *Dawn* [Pakistan], 23 March 2023, [n.p.].

Stoett, P. & White, R. (2024). 'Collapse: The Climate Endgame', in C. Butler (ed) *Climate Change and Global Health*. CABI. https://doi.org/10.1079/9781800620025.0025

United Nations Environment Programme (2024). *Emissions Gap Report 2024: No more hot air … please!* Geneva: UNEP.

United Nations Office for Disaster Risk Reduction (2022). *Our World at Risk: Transforming Governance for a Resilient Future: Summary for Policymakers*. Geneva: UNODRR.

United Nations Office on Drugs and Crime. (2024). *Global Law Enforcement in the Harm Landscapes of Climate Change.* Vienna: UNODC.

Walters, R. (2023). 'Ecocide, Climate Criminals and the Politics of Bushfires', *The British Journal of Criminology*, *63* (1): 283-303. https://doi.org/10.1093/bjc/azac018

White, R. (2018). *Climate Change Criminology*. Bristol: Bristol University Press. https://doi.org/10.1332/policypress/9781529203950.001.0001

White, R., Perrone, S., & Howes, L. (2019). *Crime, Criminality and Criminal Justice* [3rd edition]. Melbourne: Oxford University Press.

World Meteorological Organization (2020a). *WMO Provisional Statement on the State of the Global Climate in 2019*. Geneva: WMO.

World Meteorological Organization. (2020b). *State of the Global Climate 2020.* Geneva: WMO.

World Meteorological Organization. (2025). *State of the Global Climate 2024*. Geneva: WMO.