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Polycentric governance, epistocracy and the limits of policing knowledge in preparing for the climate crisis

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ABSTRACT

The last two decades have seen an increase in the intensity and frequency of extreme weather events, placing complex demands on police and emergency services in the UK. Despite the growing recognition of the cascading and multidimensional threats, there is limited understanding of how policing and local governance actors are preparing for the climate crisis. In this paper, we argue that polycentric governance approaches, such as the Local Resilience Forums (LRFs), provide an essential focal point for emergency planning and disaster response activity that is rooted in localised contexts. However, while the LRFs are designed to benefit from the inclusion of a broad range of actors, dominant mentalities, knowledge hierarchies and powerful actors may limit their epistemic potential. We propose that a pathway towards a resilient and adaptive policing agenda for the Anthropocene necessitates acknowledging the limits of policing knowledge, expertise and traditional command-and-control mentalities. We draw on the notion of epistocracy to propose a policy and research agenda for police and partner agencies to harness the epistemic potential of LRFs. By adopting approaches to leverage pluralised forms of knowledge and identifying strategies for co-opting community-based actors in emergency planning and response activities, police and partner agencies can strengthen local capacity-building and better promote local resilience and adaptation efforts.

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Introduction

While the effects of the changing climate vary considerably across spacio-temporal contexts, it is widely accepted that human-induced climate change poses 'severe, interconnected and irreversible risks' to ecosystems, biodiversity and human societies (IPCC 2022, p. 5). Over the last two decades, the intensity and frequency of extreme weather events have increased in the UK with indications that torrential rains, winter storms, coastal flooding due to rising sea levels, inland flooding and heat-waves will continue to increase (Kendon *et al.* 2023). In recent years, the severity of extreme weather events has had significant impacts on local communities, infrastructure and police and emergency responders. In the summer of 2022, various cities across England endured sustained periods of heat-waves resulting in approximately 2,985 deaths (UKSHA 2023) and exacerbated other health risks such as heat exhaustion and heatstroke, particularly for vulnerable populations like the elderly and those with chronic illnesses (Ravishankar and Howarth 2024). The heatwaves were followed

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by a period of heavy rainfall from September 2023 to April 2024. During this time span, several regions of the UK experienced at least 11 storms, marking the second wettest period in recorded history. The winter storms led to widespread flooding, causing tragic loss of life, damage to homes and infrastructure and widespread disruption to transport and power supply (Kew *et al.* 2024). These weather events have put a strain on police and partner resources, testing their capacities and capabilities. In response to Storm Arwen in 2021, local authorities sought assistance from military personnel due to limited resources, capacity and expertise among the police and local emergency responders (HM Government 2021). However, this is not perceived as a sustainable solution by either central or local government (House of Commons 2022) particularly as evidence from across the globe points to further complex and cascading threats linked to the changing climate (Maczak and Bergh 2023, Blaustein *et al.* 2024).

Governance of security scholarship has begun to recognise the need for a better understanding of policing of protracted risks and harms in the Anthropocene (Harrington and Shearing 2017) – characterised as a geological epoch where human activities have begun to have a significant impact on the planet's climate and ecosystems. Driven by concerns about the uncertainties and complexities of the Anthropogenic risks and harms (Berg and Shearing 2018, Maczak and Bergh 2023), Mutongwizo *et al.* (2021, p. 611) have put forward a framework for 'resilience policing' calling for the police to 'act as facilitators and enablers in community capacity-building' and adopting a joined-up approach to crime prevention in partnership with communities. A growing body of evidence emerging from Australia has shown that due to their ubiquity, the public police possess the capability to coordinate and facilitate emergency response and disaster recovery activity (Blaustein *et al.* 2023). Considering the absorptive capacity of the police, coupled with the scale, unpredictability and uncertainty of the multidimensional threats and challenges posed by climate change, calls have been made for an adaptive and a transformative agenda for policing (Blaustein *et al.* 2024). This necessitates a change of mentalities and a broadening out of policing functions, shifting beyond the day-to-day response role towards emergency planning for the climate crisis and aligning these efforts with broader societal initiatives (Blaustein *et al.* 2024). In this paper, in pursuance of the calls for a 'resilience' or 'adaptive' and transformative policing agenda, we argue that the polycentric approaches such as Local Resilience Forums¹ (LRFs) provide a much more useful and joined-up approach to tackling the complex and multidimensional harms linked to the changing climate. LRFs include 'category 1' emergency first responders including police, fire, ambulance, local authorities, the NHS and the Environment Agency and a broad range of 'category 2' partners including utility companies, third sector organisations and community-based groups. These local and regional resilience partnerships are the UK's primary response to civil emergencies. The LRFs are not a legal entity and rely on police and partner agencies to collectively plan, prepare for and respond to emergencies. In policy terms, the LRFs are envisaged as polycentric networks and they are required to draw on a diverse range of knowledges and expertise, rather than relying on the knowledge and expertise of a single organisation (Cabinet Office 2013). We frame the policy aspirations of the LRFs as an example of epistocracy – a notion adapted by Malik (2024) to conceptualise police governance arrangements that are underpinned by pluralised forms of knowledge and epistemic decision-making. However, the geographical organisation of LRFs along police boundaries, and the responsibility on the police to chair the Strategic Co-ordination Group (SCP) of the LRFs in response to emergencies, places the police at the centre of these arrangements. Consequently, this raises the spectre of a police-centric approach to emergency planning and disaster response activity with the potential to undermine other knowledges and expertise. Recent studies into the role of LRFs during the Covid-19 pandemic in some areas highlight concerns about the propensity of the police to revert to traditional command-and-control and incident-response mindsets, where a joined-up public health approach would have been more desirable (Radburn *et al.* 2023). These concerns are consistent with the weaknesses of polycentric governance arrangements where dominant mentalities disempower certain groups and undermine certain knowledges (Yar 2011, Berg and Shearing 2020b). We suggest that Malik's conceptualisation of epistocracy aligns with the broader policy aspirations of the LRFs. This is

exemplified by the way some LRFs have coalesced around multiple knowledge formations and co-opting community expertise in emergency planning and disaster response activity. In the context of the UK, we propose a pathway towards a more resilient and adaptive policing agenda could be achieved through a realignment towards the police role (Crawford 2024, Muir 2024), coupled with an acknowledgement of the limits and constraints of traditional policing knowledges and police-centric approaches. By embracing a pluralised form of epistocracy, police and partner agencies may harness the epistemic potential of the LRFs to better plan and prepare for the complex and unpredictable challenges posed by the climate crisis.

Climate change, 'harmscapes' and harm-reduction paradigm

The amplification of risk to security and social cohesion due to climate-induced disruptions, displacement and violent conflict is acknowledged by governments and international security agencies (HM Government 2023, p. 104). The connections between the climate crisis, migration, conflict and war are well-established (Ouweneel *et al.* 2023, p. 24), as are the threats of social disorder and civil unrest arising from climate disasters and resource shortages (Thomas and Warner 2019). Climate change poses a threat to critical infrastructure and key assets, including transportation networks, energy facilities and water resources. According to the International Energy Agency, cyber-attacks targeting energy grids and utilities, including gas and water, have increased (IEA 2023). These may converge with, or act as a 'risk multiplier' to, pre-existing issues such as infrastructural deficits associated with state institutional (in)capacities (energy crises, water supply deficits and the like) (Ouweneel *et al.* 2023, p. 24). These 'new landscapes of [converging] local and global harms' or 'harmscapes' (Berg and Shearing 2018, p. 75) associated with climate risks are 'characterised by both radical uncertainty and unpredictability' (Mutongwizo *et al.* 2021, p. 607); and they may form discrete events or may constitute an ongoing and new normal. Yet these climatic harms are not subject to conventional, 'crime-ising responses' (Berg and Shearing 2018, p. 75). In other words, there has been a questioning of the role of the police in engaging with these harms given the available toolbox of responses at their disposal, much of which is aligned to a 'governing-through crime' paradigm of engagement (see Simon 2013). Even where the police have begun to adapt to ongoing climate harms, questions remain as whether they do not simply 'continue to rely on traditional policing mentalities and activities which are of questionable utility when it comes to promoting community safety in the context of environmental crises' (Mutongwizo *et al.* forthcoming, n.p.). In this vein, calls have been made for different police responses, for instance, one of which is the call to 'resilience policing', a means by which the police and policing entities can better respond to climate harmscapes predominantly through shifts in thinking or mentalities as well as having a 'polycentric' underpinning (Mutongwizo *et al.* 2021). We agree with this but would like to take this approach forward through reflecting more on the role of polycentric governance and the ways in which it can be better operationalised in engaging with climate harmscapes. The underlying premise which informs this approach is that of a harms-focussed or 'governing-through-harm' approach which recognises that criminal law framings, human-centric paradigms and a 'punishment-orientated' mentality are not always appropriate or adequate, and in fact may undermine the public good (Berg and Shearing 2018, p. 72, Johnston and Shearing 2003).

We argue, as do many others, that a harms-focused approach is more aligned to a public good (Muncie 2000, Clear 2007, Hillyard and Tombs 2007, Pemberton 2007, O'Malley 2009, Hulsman 2013). A harms-focussed approach is also one which engages in problem-solving and as John Braithwaite (2002, p. x) reminds us '... the crucial tension in all areas of regulation [or governance] is between being punishment-orientated and being problem-orientated' (Braithwaite 2002, p. x). Therefore, to address this tension and to ensure the best chance for a harms-based approach by mitigating the dominance of punishment-orientated and crime-ised paradigms of engaging with non-human harmscapes there is a necessity to incorporate those with a better or at least more diverse sets of knowledges and mentalities to be brought to bear on dealing with complex and unpredictable climatic harmscapes.

Polycentric governance

'Polycentric' governance, as the name suggests, refers to multiple centres of decision-making. Its very first usage by Michael Polanyi (1951) was as a critique of the idea of monocentric governance, a single governing entity – that this was 'administratively impossible' and that the only way for this entity to function was if it had a 'Universal Mind' (Polanyi 1951, p. 126). Its later and most recognised usage is the work of Vincent and Elinor Ostrom furthering the development of this concept over several decades. The most important developments in the polycentric governance scholarship are the recognition that this form of governance is the norm in political and state systems – from metropolitan areas to federal government for instance (see Ostrom *et al.* 1961, p. 831, Ostrom 1987) and that polycentric systems are the best means by which to deal with complex problems.

Reliance upon any single authority for all matters of government presents serious difficulties for coping with increasingly complex patterns of interdependency in contemporary societies (Ostrom 1987, p. 210).

The strength of polycentric governance is exactly that no entity has power or authority over the whole system – no one entity monopolises authority – power (and by implication knowledge) is dispersed throughout the system (Aligica and Tarko 2012). Polycentric systems may be composed of a range of independent entities which may also operate at different scales and constitute varying degrees of specialisation (Ostrom 2005, Andersson and Ostrom 2008). How then is the system driven forward if there is no single central authority? In its original framing, the answer to this was through an overarching set of rules and the ability of the entities in the system to 'order their relationships with one another' (Ostrom 1991, p. 227). It has also been argued that polycentric systems are *more* democratic than monocentric ones since the multiplicity of governing entities will 'check on [each] other' (Ostrom 1987, p. 37). This has already been shown to some extent within policing arrangements, where Berg and Shearing's (2020a, p. 9) research on how accountability works in polycentric policing systems, demonstrated the complex system of horizontal and circular accountability that evolved in the 'daily transactional relationships between nodes'. However, in this context, the state police were not necessarily dominant (due to lower levels of legitimacy), allowing for other entities as repositories of knowledge and resources (such as private security) to be at the centre of networks in some instances. Furthermore, it was found by Berg and Shearing (2020a) that a complex system of mutual incentives and need evolved over time which was intertwined with the low legitimacy experienced by most of the entities involved in the network. That is, in the mutual quest for legitimacy, complex systems of 'checking on each other' developed amongst these nodes and allowed for a diversity of knowledges to be brought to bear on various problems – including more problem-solving or governing-through-harm responses. In other words, several conditions needed to be present for a polycentric policing system to positively develop – conditions not necessarily present in all contexts. In fact, arguably one of the conditions for polycentric governance having worked in the context described by Berg and Shearing (2020b, p. 159) is the fact that 'centralised state policing has long been regarded less favourably [in this context] than it has been in the Global North, such as the UK.' In light of the above considerations, a significant challenge arises where the police holds a dominant symbolic position (Loader 2000, Crawford 2006) and commands a significantly higher level of legitimacy. This dominance potentially positions the police perpetually at the centre of these networks, which could create a hierarchy of knowledge and expertise, hindering the overall effectiveness of a polycentric approach.

Recognising the limits of policing knowledge and police-centric approaches

Policing systems in most Anglophone societies are fundamentally rooted in, and routinely draw from, various forms of knowledge. This includes knowledge of risk (Ericson 1994), experiential knowledge or the policing 'craft' (Fleming and Rhodes 2018), knowledge generated through networked-

forms of policing and security governance (Brodeur and Dupont 2008), membership of numerous multiagency and community safety partnerships (Henry and Mackenzie 2012, Crawford and L'Hoiry 2017) and through police-academic initiatives (Fyfe and Wilson 2012, Crawford 2017, Lumsden and Goode 2018, Henry 2021). In the context of policing priorities and resource allocation, policing leaders have also long recognised the benefits of intelligence-led policing (Ratcliffe 2008) and 'what works' under the auspices of evidence-based policing (Sherman 2013). In England and Wales, the successful implementation of the Police Education Qualifications Framework (PEQF) and the accredited degree entry routes (Lumsden, 2017; Holdaway 2017, Wood 2020) has facilitated access to social science research and other disciplines such as Law, Business Management, Data Analytics and Cybercrime. The College of Policing's Authorised Professional Practice (APP) repository covers an impressive range of topics including emergency planning, critical incident management, major and complex investigations, risk and public order and public safety (College of Policing, n.d.). Despite a gradual expansion of networked, pluralised and private forms of policing in the UK, the public police have continued to expand (albeit police organisations, like other public services, have not been immune to the 2010 Coalition Government's austerity agenda, see for instance, O'Neill 2014, Loveday 2015, Hales 2020). The recent Police Uplift Programme has delivered a Conservative Party manifesto promise to recruit an additional 20,000 officers to 'reduce crime' among other tasks (NPCC 2019). The continued expansion of the public police not only represents their moral and symbolic authority, as an extension of the state in a Weberian sense (see for example, Bittner 1970), but it also expresses the prevailing trust in *the police* as experts and 'information brokers' by central and local governments and private entities (Crawford 2006, p. 463). The police's technical expertise, specialist skills and the authority and legitimacy derived from operational experience have frequently placed them at the centre of multiagency partnerships and networked-governance approaches (Crawford 2006). This asymmetry in power dynamics is further compounded by the tendency of external actors to defer to the police's superior knowledge claims (Malik 2024). Critical scholarship has raised concerns about the evidence and expertise used by the police to justify decision-making as a means to validate what has already been decided (Hope 2021, p. 179). Others have argued that such imbalances in power create knowledge hierarchies which often exclude politics, values and the public 'as agents in knowledge production' (Crawford 2017, p. 11). The 'we know best' attitude has been described by some as one of the major factors for internal organisational failures within large police organisations (Casey 2023, Malik 2024).

The police-centric approach has another notable disadvantage. In situations where other emergency and public services have lacked the necessary capacity, capability or expertise, the police have often had to step in. This role creep can occur due to the limitations of other public services or be driven proactively by the action and mission-orientated aspects of the police role (Reiner 2010). The consequence of this is the routine crossing of organisational and experiential boundaries (Crawford and L'Hoiry 2017) and an expansion of the police work into areas of public health and complex social harms and vulnerabilities (Thacher 2022, Watson and El-Sabawai 2023, Crawford 2024). While this speaks to the adaptive capacity of the police during emergencies and disaster recovery in some contexts (Blaustein, *et al.* 2023), there are renewed calls for a realignment of the police role and priorities in other contexts. In the US, driven primarily by concerns regarding the over-policing of marginalised and minoritised black communities, some have called for the end of policing (Vitale 2017) or the defunding of the police (Cuneen 2023). At the other extreme end of the spectrum, populist politicians in the UK have called for the retrenchment of the role and mandate of the public police to focus on crime-fighting. They have issued ideological and partisan directives calling for 'measuring the police on outputs such as public response times, crimes solved, and criminals captured'. The aim is to free up officer time for 'proper police work' (Home Office 2023). The more measured voices have pointed to the limited capacity and capability of the local police forces. They highlight the absence of a centralised steering mechanism for sharing specialist resources as the main drivers for situating the police in a fully developed system that aims to prevent harm and crime (Muir 2024). This realignment necessitates that other public services are

not only equipped to coordinate such efforts, but also their knowledge, skills and expertise are harnessed and leveraged to tackle the cascading and complex risks and vulnerabilities linked to the changing climate.

The normative appeal of epistocracy

In political philosophy, the proponents of epistocracy (*knowledge-based rule*), and critics of representative democracy alike, point to the normative potential of epistemic decision-making by minimising partisan influences, and promoting policies for the public good that are grounded in evidence, knowledge and expertise (Estlund 2008, Urbinati 2014, Achen and Bartels 2016, Brennan 2022). Malik (2024) has adapted this notion and reframed it in the context of policing as knowledge-based governance to conceptualise the role of diverse forms of knowledge and expertise as a check against narrow and self-referential knowledge dominating policing priorities, resource allocation and organisational policies. Furthermore, the spectre of partisan interference in policing (such as the repeated calls for the police to focus on crime-fighting), internal organisational failures (such as the acknowledgement of institutional racism, misogyny and homophobia within policing), and accountability deficits due to the opacity of police organisations have led to calls for a structured integration of diverse forms of knowledge, expertise and experience in police governance processes to proactively inform, steer and scrutinise policing policies (Malik 2024). This normative standpoint mirrors broader debates within criminology on the role of expertise and epistemic decision-making and participatory democracy in formulating crime and security policy (Loader and Sparks 2013, 2017, Daems and Pleysier 2021). The concept of epistocracy, as opposed to other approaches to knowledge utilisation, for instance Wenger's (1998) notion of communities of practice, is important in the context of polycentric governance because it incorporates some form of decision-making authority. Epistocracy defers from 'technocracy' – the rule of technocrats or technical experts because it adapts a broad definition of knowledge and expertise (Malik 2024). Rather than being dispassionate and apolitical, it recognises the 'complexity and value-ladenness of policy problems' (Hall 2021, p. 105) and the social implications of knowledge-based decision-making.

Critics of evidence-based policy (Cairney 2019, Boswell, 2019), epistocracy (Estlund 2008, Gunn 2019, Hall 2021) and polycentric governance (Yar 2011) converge on the issue of whose knowledge matters? This question is often discussed in tandem with the questions of power – which manifests in dominant actors interpreting knowledge to suit their own objectives and interests (Estlund 200, Clement 2022, also Boswell 2009, Carrozza 2015, Cairney 2019). Polycentric systems – if the conditions are *not* right – may perpetuate the dominance of certain knowledges. They may perpetuate the very problem they have been lauded to solve and this is highly context-specific, as argued above. Powerful nodes may dominate, they may not align to the public interest, they may disempower certain groups and undermine certain knowledges, and competing mentalities or sensibilities amongst nodes may result in all-round ineffectiveness (Berg and Shearing 2020b, p. 158). Furthermore, knowledge-making and decision-making are interwoven. Some have argued that there are 'substantial bidirectional feedback loops between political decision-making and expert knowledge-making' (Lucky 2024, p. 440). Political contestations and conflicts often result in the production of more expertise as means to justify political choices (Miller and Munoz-Erickson 2018).

We recognise that policing does not operate in a political or social vacuum. The topics of 'research for the police' are often driven by immediate concerns and short-term goals. External experts are also often co-opted to defend and justify policing decisions that are otherwise politically contentious (such as Police Scotland's decision to justify the use of stop and search against children, see Murray 2017, Malik 2022). Here, we do not propose that the fallacies of evidence-based policy and policing are replicated or that decision-making powers are relegated to a few experts with technical know-how or dominant mentalities. We call for polycentric networks to adopt a pluralised form of epistocracy underpinned by broad knowledge compositions embedding cognitive diversity (Landemore 2013, Malik 2024) across multiple spatial (global, transnational, national, regional,

local and communal) and temporal scales (focusing on the day-to-day, the emergent and the long-term, Crawford 2018). The knowledge complexities of the climate crisis are described by some as ‘post normal science ... where facts are uncertain, values in dispute, stakes high and decisions urgent’ (Funtowicz and Ravetz 1993, p. 744). As we discuss in later sections, polycentric networks such as the LRFs are better situated than police-centric approaches to facilitate a joined-up approach to emergency planning and preparedness for the climate crisis. In this context, policing expertise and knowledge can complement (rather than dominate) other diverse forms of expertise, knowledge and skills within a broader harm-based paradigm.

Local resilience forums: from security paradigm to whole-of-society approach to resilience

The concept of ‘resilience’ entered the UK policymaking lexicon following concerns regarding global terrorism after 9/11 (Coaffee 2006). Since then, it has become a ubiquitous metaphor for emergency planning and preparedness (Walker and Cooper 2011), security governance and urban development and local planning (Coaffee 2013). The narrow adoption of resilience as a policy-solution to emergency planning and disaster management corresponds to the desire of policymakers to reinstate the status-quo following a catastrophic event. Critics of this approach have argued that this often transpires in a ‘selective transformation’ of urban spaces (for instance, following Hurricane Katrina in the US) which neglects already marginalised and deprived communities (Walker and Cooper 2011, p. 154). Despite its appeal with policymakers, resilience remains a contested concept. We align our understanding of resilience as ‘the ability to withstand shocks and stressors, it is about more than just effectively responding to risks. It is also about evolving to better capture future rewards and cope with change’ (Roberts 2023, p. 124). Change and adaptation are key components of this definition which speak to the need for shifting policing and security mentalities and a reorientation of existing partnerships towards a whole-of-society policing agenda (Blaustein *et al.* 2024). The UK Government’s Resilience Framework (HM Government 2022, p. 76) defines resilience as:

The UK’s ability to anticipate, assess, prevent, mitigate, respond to, and recover from natural hazards, deliberate attacks, geopolitical instability, disease outbreaks, and other disruptive events, civil emergencies or threats to our way of life.

The UK’s approach to emergency planning and resilience has its roots in earlier attempts to build national resilience in response to the global terrorist threat during the mid-2000s. It was felt by the then Labour Government that a ‘powerful state-driven’ resilience approach was needed, which culminated in the National Resilience Capabilities Programme and the subsequent creation of the LRFs (see for instance, Coaffee and Fussey 2015, p. 90). The statutory framework for the LRFs is provided under the Civil Contingencies Act (CCA) 2004 and the Cabinet Office (2023) defines their role as follows:

The LRFs aim to plan and prepare for localised incidents and catastrophic emergencies. They work to identify potential risks and produce emergency plans to either prevent or mitigate the impact of any incident on their local communities.

Recent research into the role of LRFs in response to the Covid-19 pandemic (Davidson *et al.* 2021, Hill *et al.* 2021, Radburn *et al.* 2023) and the subsequent policy discourse on the UK climate change adaptation (House of Commons 2022) has identified tensions and disconnects. At a ‘horizontal’ level these include limited expertise and knowledge, inadequate flow of information, a lack of clarity over roles and responsibilities of partner agencies and lack of institutional capacity (House of Commons 2022). At a ‘vertical’ level, the tensions relate to central government control over funding, limited access to national information and intelligence, and unrealistic and wide-ranging expectations of the LRFs (Davidson *et al.* 2021, Hill *et al.* 2021, LGA 2021, House of Commons 2022). Some of the

problems identified by local actors have included limited understanding of partner roles and responsibilities, a lack of funding and resource, and an expansive and wide-ranging mandate with no central government support (House of Commons 2022, also, LGA 2021). The UK Government's own review of the LRFs points to gaps in accountability 'for multiagency preparedness activities' and the need for 'maintaining effective cross-agency planning' (House of Commons 2022, p. 40). Some LRF representatives have cautioned against unrealistic expectations placed upon them as a 'default tasking mechanism' for anything falling outside the scope of central government responsibilities (House of Commons 2022, p. 39).

The leadership of the LRFs shifts among local and regional agencies based on the nature of the response required – an important strength of polycentric governance as we have argued above. However, as noted by Coaffee and Fussey (2015), at the time the CCA 2004 came into effect, the primary drivers for a national resilience policy stemmed from a preoccupation with security and counter-terrorism concerns. Unsurprisingly, a police-centric approach became the *modus operandi* for the way LRFs have traditionally been organised, structured and operationalised with the police and security agencies playing a dominant role as specialists in security governance. The UK's Joint Emergency Services Interoperability Principles (JESIP) propose that the police should typically preside over the Strategic Co-ordinating Group (SCG) in response to an emergency declared as an incident, and coordinate activities with other partners. The CCA 2004 requires the SCG to 'liaise with other tiers of government and to lead the response and recovery activities' (Cabinet Office 2013, pp. 19–20). This situates the police at the centre of the polycentric setting of the LRFs. However, assuming leadership in strategic emergency response and recovery efforts does not necessarily imply the need for, or desirability of, a police-centric approach. During the pandemic, some partner agencies resisted a police-centric 'command and control' approach in favour of a broader public health response (Radburn *et al.* 2023, p. 124). The UK Government has increasingly begun to recognise the potential for LRFs to act as a vehicle for a whole-of-society approach to tackling complex future harms. An Integrated Review (Cabinet Office 2021) of security, defence, development and the UK's role in the global stage called for 'a whole-of-society approach to resilience ... to address challenges such as climate change and global health risks'. Following the Integrated Review, the Department for Levelling Up Housing and Communities (DLUHC) provided £7.5 million of funding to LRFs for a pilot project to strengthen their capacity and capability. By their own admission, this represented the first-time central government had provided direct funding to LRFs outside of funding for specific events (DLUHC 2023a). In September 2023, the DLUHC announced a further £1.35 million as part of a competitive LRF Innovation Fund. The fund was 'designed to allow LRFs in England to develop and test new and innovative ways of working' and foster efficient collaboration and knowledge exchange between public, private and community-based actors, with the aim of strengthening and promoting a 'whole of society approach to resilience' (DLUHC 2023b). As previously noted, the police, due to their experience in incident management and institutional mindset, are well-positioned to provide strategic leadership for emergency response and recovery efforts during emergencies. However, this does not imply that a police-centric approach, or the dominance of policing knowledge and mentality, is necessary. In pursuit of a more 'resilience'-focused agenda (Mutongwizo *et al.* 2021) and acknowledging the need for a realignment of the police's role and purpose (Crawford 2024, Muir 2024), the police can strategically enhance the epistemic potential of the LRFs. This can be achieved by acknowledging the limitations of police-centric approaches (for e.g. the command-and-control driven responses during the pandemic) and harnessing and leveraging diverse forms of knowledge, experience and expertise to foster a polycentric approach to emergency preparation and response.

Harnessing the epistemic potential of the LRFs

LRFs are inherently designed to draw on a broad range of external knowledges, expertise and skills. The UK Government's National Risk Register (NRR) informs the localised Community Risk Registers

(CRRs), which are developed by local authorities in partnership with LRF partner agencies and community-based groups (HM Government 2023). The CRRs form the basis of local emergency planning. The Community Resilience Development Framework (CRDP) places a duty on all statutory and non-statutory actors involved in local emergency planning to adopt a participatory approach to emergency management. In conjunction with the CCA 2004, the CRDP places a duty on local authorities to facilitate and enable community networks and voluntary organisations to take an active role in emergency planning. The College of Policing guidance on emergency command, control and coordination recommends that the SCG seek ‘timely scientific and technical advice’ during a major incident and promotes the establishment of local scientific and technical advice cells during complex emergencies (College of Policing 2024). In this regard, national expert bodies such as the Police Science Council can play an instrumental role in translating complex technical and social scientific knowledge within a policing and emergency planning and response context. Recognising the importance of external knowledge and expertise during the emergency planning phase may serve to keep dominant mentalities in check. Police governance scholarship has identified the value of ‘negotiated agreement’, particularly where there are contestations between powerful actors (typically politicians and police organisations) about policing priorities, resourcing and strategy (Bayley and Stenning 2016). Even where hierarchical boundaries are blurred, external governance bodies have been shown to use a range of tools to negotiate influence, often by reframing their relationship with the police as a collaborating partner (Malik 2024). Recent research into the LRF response to the Covid-19 pandemic emphasises the utility of the Social Identity Approach (SIA) when responding to complex and protracted crises. The SIA is a social psychological framework that seeks to understand individual psychology and behaviour and how it is shaped by membership of various groups and partnerships (Davidson *et al.* 2021, Radburn *et al.* 2023). The SIA informs a shared sense of identity at a ‘superordinate level’ inclusive of actors across institutional and organisational boundaries (Radburn *et al.* 2023, p. 123). This ‘facilitates the emergence of a new identity, with shared norms, values and goals and enhances the partners’ ability to work together to overcome challenges’ (Radburn *et al.* 2023, p. 123). A shared sense of ‘social’ identity among police and LRF partner agencies can be further strengthened by acquiring knowledge specifically in relation to emergency management, planning and resilience – fostering a shared sense of ‘professional’ identity. The UK Government’s Emergency Planning College (EPC) can play an important role in this regard. The EPC serves as a hub for inter-agency seminars, workshops and accredited learning and development courses in crisis management and emergency planning. The EPC also conducts exercises to evaluate the effectiveness of teams (across institutional boundaries) in responding to various incidents, emergencies and crises. Police and LRF partner agencies can facilitate front-line staff and emergency first responders in gaining external accreditation, thereby contributing to a shared sense of professional identity. This can potentially provide a pathway to a more joined-up approach to emergency planning, limiting the influence of traditional institutional mentalities. Some LRFs have also started to develop innovative ways of pooling knowledge and resources. For instance, a Multi-Agency Information Cell (MAIC) has been set up for the analysis of information and intelligence and dissemination of information during local emergencies. An evaluation has found that this approach has improved the flow of information and intelligence locally, and it has paved the way for local planning to be based on ‘information and expertise from many sources rather than a single organisation’ (DLUHC 2023a).

National emergency and resilience training providers such as the EPC, and expert networks including the Police Science Council and the UK Government’s Scientific Advisory Group for Emergencies (SAGE) provide access to knowledge, technical expertise and scientific forecasting which can bolster the epistemic decision-making of LRFs, particularly when planning for emergencies across multiple spatial and temporal scales. However, the urgency of emergency response often necessitates that those ‘on the ground’ with situational awareness, simply may not have the time or the capacity to access or translate scientific or technical knowledge. This challenge was particularly felt by some LRFs during the pandemic (Hill *et al.* 2021). Therefore, local and community

emergency plans, along with local community networks, should play an integral role in shaping local responses. An over-reliance on the expertise of ‘professionals’ and internal knowledge (generated through, and between, LRF partner agencies) may not be sufficient for the kind of pluralistic epistocracy we propose here. Such knowledge compositions will lack the pre-requisite knowledge of communities most affected by the impacts of climate change or already marginalised and minoritised communities. The pursuit of knowledge co-production as a ‘shared goal’ can help avoid the pitfalls of knowledge hierarchies that tend to favour scientific or technical knowledge or dominant mentalities. Knowledge co-production involves ‘iterative and collaborative processes involving diverse types of expertise, knowledge and actors to produce context-specific knowledge’ (Norström *et al.* 2020, p. 183). This collaborative approach has the potential to foster a sense of shared ownership (between LRF partner agencies and between LRFs and local communities), and collaborative and iterative methodologies. To that extent, co-production is ‘rooted in relationships’ and ‘demands’ flexibility’ (Crawford 2017, p. 19). Specifically in relation to knowledge hierarchies, co-production can also act as a check against dominant actors and prioritises engagement, reflection and trust (Crawford 2017). In essence, knowledge co-production is symbiotic with the normative value of epistocracy within polycentric governance settings, placing an emphasis on knowledge collected in distributed, fluid and iterative ways. Research on the effectiveness of knowledge co-production initiatives, specifically in relation to climate change adaptation, points to a disconnect between theoretical underpinnings (an ideal starting point) and the outcomes of such initiatives (what is achievable in practice) (Jagannathan *et al.* 2020). While pragmatic initiatives focusing on ‘actionable’ knowledge tend to produce better outcomes in practice, co-production has the potential to play a more transformative role in relation to norms and structures and long-term changes in behaviour (Jagannathan *et al.* 2020, p. 15). Police-academic partnerships such as the N8 Policing Partnership and the Vulnerability and Policing Futures Research Centre (VPRC) have increasingly underlined the importance of context-specific and place-based research to tackle complex challenges in collaboration with police and partner agencies. The latter has shone a distinct spotlight on the notion of ‘vulnerability’, how it is produced and exacerbated by broader social and governance structural failings, and the whole of society approach needed to mitigate it. In such constellations, police can play but a limited role as part of a broader harm-reduction paradigm (Berg and Shearing 2018, Crawford 2024, Muir 2024). One of the projects funded by the VPRC seeks to examine how police *and* LRFs understand climate vulnerability and how they prepare and respond to extreme weather events and climate disasters (VPRC 2024).

Police and LRF partner agencies can also enhance their own capacity and capability by recognising and harnessing the knowledge and expertise of community-based actors. The inclusion of community resilience actors, formally co-opted as LRF members, can provide a ‘lay’ dimension and cognitive diversity. There is a broad body of work in public management, expert compositions in police governance and deliberative forums that supports the notion that cognitive, experiential and visible diversity improves outcomes and decision-making (Landemore 2013, Malik 2024). Community volunteer networks and charities such as ACTion with Communities in Cumbria and Communities Prepared, in other cities of England and Wales, have galvanised community volunteers and equipped them with the knowledge and skills to provide emergency and disaster response support to local communities. These networks can bolster the capacity and capability of emergency first responders, including the police, and their knowledge of local communities, and vulnerable persons can strengthen the epistemic credentials of LRF emergency planning and preparation efforts. Specialist volunteer groups, such as Mountain Rescue England and Wales and the Royal National Lifeboat Institution, have established track records in providing emergency rescue services during extreme weather conditions. Their technical skills, knowledge of local routes (during flooding or heavy snowstorms) and specialist equipment can prove crucial during emergencies, particularly when police and partner resources are stretched. However, it is worth noting that integrating community-based actors and volunteers into civil contingency planning can be challenging due to the reliability and availability of volunteers (Skar *et al.* 2016, Krogh and Lo 2023). Nevertheless, for a pluralistic epistocracy to effectively anchor polycentric settings, it is essential to recognise and integrate

these diverse forms of knowledge into emergency planning activities. A study evaluating the emergency response to the Summer 2022 heatwaves in English cities found that strong collaboration between emergency first responders and local networks facilitated a rapid response to protect vulnerable individuals. These individuals had been previously identified by local community networks during the Covid-19 pandemic (Howarth *et al.* 2024).

The formal integration of various community networks' knowledge, expertise and know-how may not only enhance the capacity of the LRFs, but may also enrich the cognitive diversity in decision-making processes. Such amalgamations of knowledge partnerships at various spatial and temporal scales – communal, local, regional and national – are vital components of a pluralised epistocracy. The police, due to their ubiquity, knowledge and experience of incident management and absorptive capacity (Blaustein *et al.* 2023, 2024) may well have a significant role to play in leveraging and harnessing the potential of polycentric networks like the LRFs to prepare for and better adapt to the climate crisis. The pluralised form of epistocracy we have proposed here provides a pathway to achieve this.

Conclusion

Extreme weather events and climate disasters are becoming increasingly severe and frequent, impacting local communities and emergency services in the UK. The complexities and uncertainties of the changing climate suggest that the stakes are too high for a monocentric or police-centric approach to emergency planning and response. There are calls for a 'resilient' and 'adaptive' transformative agenda for policing (Blaustein *et al.* 2024). This mirrors the growing need for a realignment of the role of the police and embedding policing institutions within a broader harm-reduction, whole-of-society paradigm (Crawford 2024, Muir 2024). The UK Government has recognised the crucial role the LRFs can play in this regard, particularly in the context of emergency planning, response and recovery. However, polycentric networks present their own challenges. Dominant mentalities and knowledge hierarchies can undermine and disempower other forms of knowledge and expertise. Our vision for a pluralised form of epistocracy aligns closely with the policy aspirations of the LRFs. It renews calls for LRFs to embed diverse forms of knowledge, expertise and skills in their emergency planning, preparation and response activities. Identifying and adopting approaches to include community-based actors, and placing the knowledge of those affected by extreme weather on equal terms with other technical, scientific and professional forms of knowledge, may prove to be a crucial factor in tackling the pervasive and escalating effects of climate change. Future policy and research agendas could suggest ways in which scientific, technical and social scientific knowledge might be integrated into LRF decision-making. Furthermore, learning from place-based and context-specific initiatives may highlight ways in which police and LRF partner agencies can access and harness intergenerational knowledge within communities to inform community-led initiatives towards climate resilience and adaptation.

Note

1. In Scotland, these approaches are known as Regional Resilience Partnerships.

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