COMMENTARY

Health and wellbeing in the face of crises associated with climate or conflict: how can knowledge from the humanities and social sciences help us respond to disasters?

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ABSTRACT

This commentary considers how SHAPE (Social-Sciences Humanities & the Arts for People and the Economy) disciplines contribute to interdisciplinarity, inclusiveness and international cooperation in work to address the challenges to health and wellbeing arising from crises and to inform strategies for crisis preparation, response and recovery. It reviews examples of strategies to address growing international concerns about the global challenges we face, given the increasing scale and frequency of crises arising due to geopolitical conflicts and climate change. In spring 2023, the British Academy, aided by funding from the Wellcome Trust, held three virtual workshops to discuss how we can protect and sustain good health during and after crises precipitated by extreme events associated with climate change or conflicts in various settings around the world. The discussion highlighted the need for Interdisciplinary perspectives, and how knowledge and experience from SHAPE disciplines can complement STEM (Science Technology Engineering and Mathematics) perspectives, helping to inform disaster response strategies and to develop more 'systemic' preparedness to protect health during crises. The significant roles of governmental agencies and non-governmental organisations, and the importance of international cooperation were acknowledged. The discussion also emphasised the need to acknowledge the importance of using effective means to engage with stakeholders in communities at the local scale, whose lived experience and knowledge, often embedded in cultures and traditions, can usefully inform 'joined-up' policy and practice. A case was also made for more inclusive strategies: for example, acknowledging the vital roles of women during and after disasters.

Keywords crisis preparation, crisis response, health and wellbeing, international cooperation, interdisciplinarity, inclusivity

Introduction and background

This commentary was prepared in the context of international concern about the global challenges we face due to the increasing scale and frequency of crises arising from events, including conflicts generated by increasing geopolitical

tensions and extreme weather events associated with rapid climate change. A United Nations Press Release (UN 2023) reports opening remarks to the Munich Security Conference in 2022 by the UN Secretary-General, summarising his concerns around six main themes relating to: growing and deepening geopolitical divides; proliferating crises which are increasingly internationalised and fragmented; threats of global terror; threats to security exacerbated by problems such as inequality; the climate crisis and the COVID-19 pandemic; digital technology enabling groups of people to harm each other (for example, using cyberattacks and artificial-intelligence-assisted weapons). Similar issues are also highlighted by the World Health Organization (WHO) as having significant effects on population health. For example, in the WHO *Operational Framework for Building Climate Resilient and Low Carbon Health Systems* (WHO 2023a: 30) it is stated that: 'Climate change is altering the incidence and distribution of several climate-related health outcomes, including the transmission of vector-, water- and food-borne diseases, and … [non-communicable diseases] … such as cardiovascular diseases, respiratory illnesses, and mental health conditions.' The WHO also states in its '*Roadmap' for the Global Health and Peace Initiative* (WHO 2023b: 3) that: 'The health of people living in fragile, conflict-affected and vulnerable settings is negatively affected by social determinants of health which aggravate existing inequalities and vulnerabilities. Addressing those factors is critical for achieving positive health outcomes globally.'

In spring 2023, the British Academy, aided by funding from the Wellcome Trust, held a series of virtual workshops discussing how we can protect and sustain good health during and after crises precipitated by extreme climatic events or by conflicts. This was considered in light of evidence gathered about such events occurring recently in various settings around the world. The focus was particularly on how knowledge and experience generated by research in Social-Sciences Humanities & the Arts for People and the Economy (SHAPE) disciplines can help to inform strategies for disaster preparedness, resilience and response. These strategies are activated before, during and after events, with the aim of protecting the health and wellbeing of the populations impacted by these events, and helping the survivors to recover by providing resources, including support by first responders and relief workers.

This commentary reflects upon the key points arising in the discussion and some of the sources of relevant activity and evidence that were referenced in summaries of the workshops (as recorded by the British Academy) and in subsequent discussion amongst the authors of this paper.

The workshops included more than thirty participants from a range of academic, governmental and non-governmental agencies. The discussion was conducted under the 'Chatham House rule', so that ideas raised in the workshops are not attributed specifically to the individual participants who put them forward. We do cite below several relevant published sources which were identified as providing useful background to the debate.

By focusing the initial discussions on two rather different causes of crises (conflicts and extreme weather events associated with climate change) and their
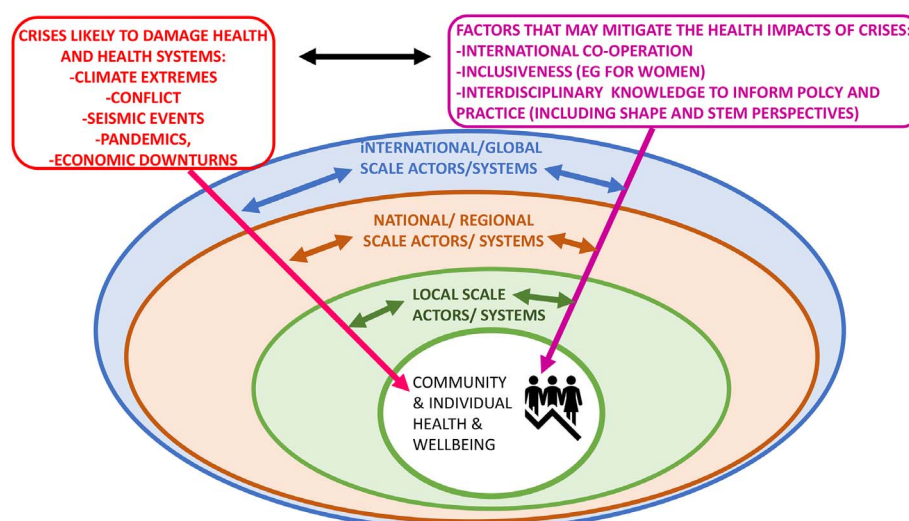
Figure 1. Diagram representing complex interactions between interdisciplinarity, inclusiveness and international co-operation to support disaster response and resilience relating to health of the populations affected.

impacts in different settings, it was possible to examine what might be common themes regarding the issues affecting health and wellbeing. These themes help to identify strategies to protect health and wellbeing which may be rather generally relevant for preparedness and response in respect of disasters provoked by diverse shocks. The workshops did identify several similar themes arising in discussion of crises caused by climate extremes and also in debate about crises arising from conflicts. These are the main focus of this commentary.

The framing of the workshop debates is summarised in the diagram shown in Figure 1. This emphasises how these factors were seen as a complex global system in which health and health care systems are at risk due to various crises, including those associated with climate change or conflicts (the particular focus of the workshops), and also crises such as seismic events, pandemics or economic downturns. The diagram illustrates how actors and organisational systems operating at various geographical scales (global, national/regional and local) are involved in the health impacts of these crises and may take actions mitigating (or exacerbating) the damage to health that may be caused. The diagram draws attention to the involvement of these actors at different scales in the development of interdisciplinary knowledge, inclusiveness and international co-operation relating to health impacts of crises.

We also suggest that readers should note that, beyond issues related to crises considered here, attention should also be focussed on the importance of a stable architecture and capacity of organisational systems such as health services. When these are weakened or unable to keep pace with demographic and other demands, the foundations for care of health and wellbeing are at risk. Recent global crises including COVID-19 have shown the consequences for human vulnerability to hazards of long-term failure to invest in health, social care and

wider basic infrastructure. There is limited value in addressing crisis risk management if fundamental assets and rights to health care and inclusive development are not supported. A focus only on investment in crisis response may perpetuate more 'routine' under-investment in fundamental provisions and 'normalise' human vulnerability and reliance on emergency or humanitarian response even for everyday and basic health services (Omand 2023).

Overall, it seemed that several aspects of the debate in the workshops could be viewed in terms of the contributions (and challenges) arising from some broad aspects of strategies for policy, practice and research relating to crisis preparation, response and recovery. It was suggested that, while these were not the only important issues, they were particularly relevant for consideration of how best to generate and disseminate useful knowledge and information to support effective strategies and action. It was argued that these might be labelled, using plain language which would be accessible for the various stakeholders involved, in terms of '*three I's*' representing:

- **Interdisciplinarity** of research and specialist advice which helps to inform the knowledge base for preparedness and response to crises;
- **Inclusiveness** for the various groups of actors who should be involved in knowledge production (including research), planning, response and resilience relating to health during crises;
- **International cooperation** and partnerships in knowledge sharing, research co-production, planning and action relating to health during crises.

We comment below on how these 'three I's' were addressed in the discussion and the ideas which emerged using this perspective. We also discuss below how consideration of the 'three I's' framework may lead us to anticipate the need for further work relating to these objectives. In this commentary, bearing in mind the aims of the *Journal of the British Academy* as a platform promoting interdisciplinary knowledge as a vital dimension of engagement with multiple audiences, we focus particularly on the potential of current and possible future research and research funding relating to:

- interdisciplinary approaches that realise the full value in this field of SHAPE disciplines;
- the significance of inclusiveness, with particular attention paid here to recognition of the roles of women in culturally diverse communities (although issues of inclusiveness are not limited to gender-based issues and attention also needs to be paid to other attributes of the people involved, such as age, ethnicity, disabilities, sources of livelihood, etc);
- the ways that international cooperation in knowledge production may be further developed in ways which promote resilience to crises and protect the health of the populations affected.

Interdisciplinary perspectives: realising the value of SHAPE disciplines

At several points during the workshops, attention was drawn to the ways that knowledge from research in SHAPE disciplines can complement that which is derived from STEM perspectives (Science Technology Engineering and Mathematics). Bringing knowledge from STEM and SHAPE disciplines together can help to frame planning and practice for crisis response and recovery in ways which take into account the complex nature of health systems, comprising physical, institutional and social infrastructures. Indeed, we would argue that some of the most powerful contributions of SHAPE to crisis research involve SHAPE and STEM researchers working together to jointly answer pressing questions.

For example, Curtis *et al.* (2017) discuss how, by reviewing evidence drawn from research in fields including Social Sciences, Architecture, Environmental Science and Engineering, it is possible to build an interdisciplinary perspective on how extreme weather events and climate change impact on health and social care systems in parts of the UK. Curtis *et al.* (2017: 23) argue that: 'Adaptation [to extreme weather events] will require changes to built infrastructure systems (including transport and utilities as well as individual care facilities) and also to institutional and social infrastructure supporting the health care system.'

Another example is reported by Taylor *et al.* (2020), showing how 'messy maps' combine information derived from:

- Geographical Information Systems;
- spatial modelling of statistical data on environmental and socio-demographic conditions;
- and 'maps that present an alternative construction of a space, which rarely become integrated within formal knowledge infrastructures', drawing on the 'body of work on participatory and crowdsourced mapping attempts to address ... issues of representing marginalised voices or processes missing from the official map' (Taylor *et al.* 2020: 2).

They emphasise how by integrating these different types of information, 'messy maps' can better represent the complex structures and processes operating at different scales which influence the outcomes of flood events on populations in African settings.

A further example of this joined-up research is the work by Few and colleagues (2013) studying the response to seasonal flooding in the Mekong Delta, Vietnam. They show that only by combining SHAPE and STEM elements was it possible to get a fuller understanding of the highly complex picture of the links between environment, health and seasonal changes. Also, the SHAPE research was able to provide a deeper understanding of people's beliefs about how to protect themselves, essential for implementing any intervention aimed at protecting public health.

Various other instances of the effective use of methods and perspectives drawing on SHAPE disciplines were considered. Amongst these were qualitative

interviews and focus groups carried out in person (e.g., Curtis *et al.* 2018; Wistow *et al.* 2017) or online (e.g., Martin-Kerry *et al.* 2023). Also, methods drawing from the creative arts were considered: for example, Marsh *et al.* (2020) reported on research based in Columbia in which participants were invited to share a piece of music or a song they valued to help them engage comfortably in the project and choose how to open up a conversation about their life stories, which for many victims of conflict or climate-related crises could otherwise be very stressful. 'Storylistening' has also been put forward as a technique by Dillon & Craig (2022: 22), who suggest that 'Stories may be the only way of collectively thinking through the potential behaviours of complex systems in some cases.' The use of qualitative systematic reviews was also noted as a useful methodology for compiling material from research in SHAPE fields (e.g., Hammer *et al.* 2018).

Studies that draw on theoretical perspectives from SHAPE disciplines can also help to frame our understanding of how socio-economic processes relate to preparedness and response to various crises. It was argued that learning from research on the COVID pandemic which drew on perspectives framed by conceptualisation of social contracts, assemblage theory and the politics of knowledge could also inform approaches to understanding about how crisis situations arising from extreme weather or conflict relate to health (e.g., Pelling *et al.* 2021). Also noted was the relevance of complexity theory for our interpretation of the risks we face and ways to address them (e.g., Curtis *et al.* 2018).

Anthropological theorising around 'structural violence' and 'precarity' has also been deployed helpfully in research on the COVID-19 pandemic in understanding how both disease transmission and external responses play into and can amplify socio-economic inequalities and livelihood challenges, requiring 'intersecting precarities' to be addressed (MacGregor *et al.* 2022). Likewise, social science and humanities perspectives on ethics, justice and care have proved crucial in reframing approaches to preparedness and response to pandemics. Such approaches have wider applicability to crises involving conflict and climate (IDS 2023).

We conclude that examples such as these show how SHAPE disciplines can be especially valuable in the following ways:

(1) **Analysing the local context** where a crisis occurs (including aspects such as social, historical, political and economic factors, citizen–state relations, trust), so that responses can be attuned to the places and communities impacted, rather than relying on a 'one-size-fits-all' approach.

(2) Understanding **socio-geographical disparities and inequalities** of the context, impacts and outcomes of crises. For example, these may include factors such as gender, ethnicity, class and place which are associated with varying risk of poor health outcomes or challenges in accessing health services, etc.

(3) **Engaging more effectively** with communities and individuals, by ensuring the use of language, discourse and imagery that resonate with the perceptions

and concerns of local people, and utilising familiar, trusted institutions to communicate public health information, risk and other matters in a way which will generate most traction.

It was argued that perspectives in SHAPE disciplines are particularly useful because they highlight the need to involve local stakeholders in communities affected by crises. The workshop participants also recognised the importance of governmental and non-governmental organisations, working at regional, national and international scale to respond to crises and address the impacts on health. We discussed the importance of collaboration between these sectors to share and enhance their skills, resources and capacity. Such collaboration should not only be active during crisis events, but should be part of an ongoing process to develop preparedness and resilience, as well as response and recovery when events occur. It also addresses the more persistent adversities faced in the UK, as well as other societies, arising from social and economic inequalities, and the need to establish more equitable, sustainable and healthy living conditions for the population as a whole.

One example of this approach within the UK is the Voluntary and Community Sector Emergencies Partnership (VCS Partnership, 2023), a network bringing together local, regional and national organisations to build preparedness, response and resilience to crises. Based in London, but with partners working in 'hubs' in various parts of the UK, the partnership has developed an interactive, web-based tool designed to help partners identify the risks they may face, which groups in the population might be most severely impacted and what resources can be drawn upon that will help them to target relevant and tailored preparedness activity where it is needed most. This group has developed an approach to resilience, response and recovery which works across boundaries between different governmental and non-governmental sectors and aims to tackle the problem of how impact of emergencies tends to reinforce social and economic inequalities.

In this commentary we argue that, to achieve these objectives, emphasis needs to be placed on the importance of people's everyday lived realities and local experience and knowledge for informing 'joined-up' thinking around health and disaster response in relation to both conflict and climate. This can be supported by using approaches from social sciences and the arts and humanities to gather and disseminate information and promote engagement among different stakeholders at the local scale. It was also noted that what has been learned from the past, and is embedded in cultural traditions, as well as present-day experience are essential resources, so that historical and anthropological perspectives are important.

By revealing the significance of the socio-political context through diverse theoretical and methodological approaches, SHAPE research is therefore well positioned to inform and develop strategies to protect and restore the health and wellbeing of the many different communities around the world that are being impacted by crisis events.

Inclusiveness of long and short term support systems: recognition of the roles of women

Both short and longer term impacts of crises on different communities and individuals depend on the extent to which social relationships, health systems and other aspects of social and structural systems are resilient and inclusive. It is important to be aware who is best placed on the ground to offer support and care that is needed before, during and after crisis events. For instance, the discussion in the BA workshops highlighted the significance of the following questions which need to be addressed.

- Who can speak on behalf of crisis victims and survivors and represent different social and ethnic groups in the impacted communities?
- Who do people in the communities impacted by crises feel they can trust to help them?
- What (and who) are the key reference points that survivors rely on for information and support?
- How can we move beyond assumptions of victimhood, to recognise and support the action, agency and resilience of diverse local community members in crisis situations?

There is potential for crucial information and support roles to be undertaken especially by women living in the communities impacted by crises. However, because women are often ignored, excluded or abused in crisis situations, this may not be realistic, or—worse—can involve adding to the burdens women are already facing without the support they may need. Such mistreatment may partly explain why trust in government agencies often declines among women following crisis events. This is especially true for women who carry the burden of additional marginality arising, for example, from economic poverty, citizenship status, ethnicity and/or disability. There is international agreement that systems supporting communities in disaster preparedness, response and recovery need to be more inclusive of actors and stakeholders in groups that differ in terms of gender, class, ethnicity or disability. This was alluded to, for example, in the United Nations *Sendai Framework 2015–2030* (UN 2015: 16) statement that 'Empowering women and persons with disabilities to publicly lead and promote gender equitable and universally accessible response, recovery, rehabilitation and reconstruction approaches is key.'

More attention is now being paid to the acknowledgement and inclusion of women as important actors in creating and sustaining local social networking and resilience upon which communities rely during various types of crisis associated with climate extremes or conflict, as well as other causes. Women often have connections and capacities, established over the life course, which are essential for effective local strategies relating to crises. This is underlined, for example, by an outreach project being conducted by the Institute of Hazard Risk and Resilience (IHRR) in collaboration with the National Society for Earthquake Technology in Nepal titled *Empowering Women Through Disaster*

Risk Reduction (IHRR 2023a); see Ruszczyk *et al.* (2020) for more information. This project aims to show how women can contribute to disaster risk reduction and represents new ways of working in Nepal, where women are not usually given a voice in decision-making. Shrestha (2023a, 2023b) has reported how women's needs are not adequately reflected in the response strategies that have been operated by the Nepalese government in response to recent earthquake events. Women's vital roles in community resilience and reconstruction after earthquakes were clear from her survey work in Nepal. However, government programmes to help communities in rebuilding their communities and developing their skills were often not well suited to women's needs and circumstances.

Another example is the work of the Pan American Health Organization (PAHO 2023), which supports local women by going door to door in informal settlements to meet with women living there and have discussions about women's health. This has led to the creation of a network with special capacity for responding to extreme and disaster events, as it includes known people who have an understanding of the social vulnerability and context of the households. This demonstrates the potential to bring together established community health systems and disaster risk management.

Viewing crisis response and recovery from the perspectives of women involved, in all their diversity, has helped to highlight issues which are important for various social groups, some of whom tend not to be fully included in the process of planning and delivering support. One such issue is the provision of essential equipment to all those who need it. The role of social media and communication technologies was mentioned in the discussions. It was stressed that these are important to those trying to cope during and after crises. However, there are issues of inequality of access and challenges caused by disruption of operative systems due to crises. Action may be needed to ensure that populations impacted continue to have access to the means of contact and communication with those such as family members and service providers, who are important for their health and wellbeing.

The significance of the physical and psychological nature of one's home was also emphasised as being very important for wellbeing, and may be especially significant during crises, particularly for women who often have the caring responsibilities for those around them. It was argued that this point deserves more attention in crisis planning and response. Many of those impacted by crises suffer from loss of their established home and need support and resources to provide short-term shelter and to reconstruct a beneficial home environment that is essential for good health and wellbeing.

Discussion of the role of women during crises may also lead to a wider awareness of the need to consider experience of crises among other groups in the population who are socially excluded and disadvantaged due to ethnic and cultural differences, disability and poverty. There was discussion about the need for effective use of all the relevant languages for communication within a community. Attention was also drawn to the importance of funding schemes that can be rapidly accessed in times of crisis and how to ensure that these are

targeted especially to those who need them most, who are likely to be among the more deprived and socially excluded groups in the population.

International cooperation to build and communicate information and advice for crisis reduction, response and recovery

It was also noted that it is important to provide advice before an event or crisis escalates as well as timely advice in response to crises, and that, in order to do so, it is essential that information is available in advance of, as well as during and after, these events. This can include formal academic publishing, though more directly useful are targeted information systems aimed at local actors, businesses or government and humanitarian agencies. The Famine Early Warnings Network (FEWS NET 2024) is an example where a famine early warning tool has been developed, using SHAPE science based on social and economic understanding of flood security by livelihood class in combination with statistical analysis, market and earth observation. There are important roles for knowledge from SHAPE disciplines to inform preparedness for crises; to feed into responses, including in real-time, and to inform reflection on recovery, long-term contexts and implications for the future. SHAPE disciplines can be especially important for helping visualise and imagine more positive and just future conditions. Although it is complex and uncertain, this objective can be approached through collective efforts to motivate actions in the short term that could help us to move towards such a future.

Most such work is very localised and context specific. However, there are opportunities for more reflective, critical and creative approaches to inform and respond to crises that are global in scale or impact. International collaboration can bring together knowledge from different settings across the world. This helps those involved in preparation for extreme events in particular settings to consider the impacts of crises and the responses that have been useful elsewhere, outside their own direct experience, and whether these might inform their plans in their own areas of residence, or areas for which they are responsible.

The Global Earthquake model (GEMF 2024), for example, is built on engineering science and geophysical science to provide high-resolution earthquake-risk maps for buildings and built infrastructure. Here, recognition of the importance of human behaviour, awareness and social assets in determining losses from earthquake events has brought an integration of SHAPE through quantitative economic and demographic data. The ability to include social data with high resolution is limited by availability. There are few countries where social data are routinely collected and can be associated with loss data to identify social determinants of risk—even in rich-world contexts.

Climate change science also attempts to integrate social and physical data at this scale. Shared Socioeconomic Pathway (SSP) analysis (e.g., O'Neill *et al.* 2017) is especially noteworthy in trying to bring social development framing to combined development and climate change modelling.

Such integrated work at international level can help those involved in preparation for extreme events in particular settings to consider the impacts of development on crises and consider options for risk reduction. Where these collaborations bring actors from different localities into direct conversation, such learnings can be especially rich and motivating—generating trans-local relationships as part of internationalisation.

Academic Institutions have a significant role to play in internationalising interdisciplinarity, since they are well placed to bring together networks of collaborators with relevant knowledge and experience. Academic researchers often also sit equally in international and local fora. They are viewed internationally as politically neutral actors, well placed to assess the scientific and ethical quality of information from a variety of sources. The Intergovernmental Panel on Climate Change is just one example of a multi-disciplinary international science project that seeks to draw on the full weight of science to describe and assess vulnerability, hazard, risk, loss and how these might be best managed in diverse contexts. They also have well developed mechanisms for communicating important knowledge to organisations involved in implementing policy and practice for crisis response and recovery. There are several academic institutions based in the UK specialising in research and action relating to crisis prediction, preparation, response and recovery, that have well-established international cooperation, with partners in countries around the world. For example: the Social Science and Humanitarian Action Platform (SSHAP 2023a), hosted by the Institute of Development Studies (IDS), University of Sussex; the Institute of Hazard, Risk and Resilience, Durham University (IHRR 2023b); Water Security Research Centre, University of East Anglia (2023); Institute for Risk and Disaster Reduction, University College London (UCL IRDR 2023).

Effective strategies employed by these (and other) institutions include building connections with researchers in relevant countries and setting up local projects to gather and communicate information. It is important that such strategies involve partnerships that are genuinely equitable, involving shared co-design. For example, the SSHAP network involves actions which respond to agencies working in the field and their requests for information, with SSHAP researchers based in regional hubs in East, Central and West Africa working with UK partners to gather and communicate socio-cultural knowledge relevant to local contexts. The SSHAP platform and portal provide access to produce relevant, easy-to-use briefs and dialogues, offering evidence from social science and humanities research and communicating it to responders in real-time, and in a form which they can easily use. Examples of recent work include responding to the 2022 Pakistan floods, where SSHAP explored what could be learned from previous floods and disasters in the region and good examples of joined-up working between state actors and civil society, such as the Pakistan Humanitarian Forum (Khan *et al.* 2022).

International collaboration to address climate-related disasters is also being carried out through the GCRF Living Deltas Hub (2023), which brings together participants including partners from eight universities in the UK and

communities in countries from around the world, focusing on three river deltas the Mekong (working in Thailand, Cambodia, Lao and Vietnam) the Red River (Vietnam) and Ganges–Brahmaputra–Meghna (Bangladesh and India). This programme of work will develop transdisciplinary and integrative social networks focusing on threats and solutions and explore the complex systems that are involved. The project also plans to raise awareness in relevant political and socio-cultural systems and develop cross-sectional partnerships to address the issues raised. This large network is working together with those that live on deltas, in a multidisciplinary way, to understand the 'complex relationships between people's heritages, how they live now, and the effect human activities and environmental change will have on these areas' (GCRF Living Deltas Hub 2023). The GCRF Hubs investment has been significant, with a similar approach and impacts being recorded also by Tomorrows Cities (2024), a hub that brings together an interdisciplinary team, including social and physical sciences and engineering, with practitioners to visualise and address risk-sensitive urban planning.

The significance for population health of international cooperation is also starkly evidenced when cooperation breaks down, during crises associated with political conflict. Conflict situations have significant impacts on the health of the population in the areas affected, not only due to injury amongst those involved in the fighting, but also resulting from the disruption of vital health care provision for the general population. For example, the SSHAP portal includes a website (SSHAP 2023b) focusing on the conflict which recently developed in Sudan, where it is reported that 'The fighting has amplified an already dire situation and created new interconnected crises including mass forced displacement, major disruption to the provision of health care and food insecurity.'

Perspectives from the political sciences also help to explain how the politicisation of health care may be used by opposing groups to gain power and influence in conflict situations. Beckerman (2022) discusses this issue, citing sources relating to the Palestinian conflict, showing how Hamas has been able to promote its legitimacy through internationally funded social programmes providing medical care, field hospitals and funerals during direct confrontations with Israel. Furthermore, because health care has symbolic value for societies, opposing sides in a conflict may try to promote their power and prestige by blocking health-care provision, even when there is no material benefit to them and the provision is being made by a politically neutral international agency. This was seen, for example, in the kidnapping of a health-care worker during a recent conflict in Mali (WHO 2023c). Steenkamp (2017) also draws attention to research showing that 'weakening state authority resulted in an absence or disintegration of a regulatory framework to control and ensure high standards in public healthcare'.

Conclusions

The discussions summarised above illustrated several examples of how knowledge that helps to address the health impacts of crises can be enhanced by

expanding inputs from research findings generated using SHAPE perspectives. These examples demonstrate how to offer viewpoints and information in ways which show how some local factors affecting risk and resilience are specific to certain communities, because of their social, cultural, political, historical and geographical experiences and contexts. This underlines the importance of framing policy and action in ways which are sensitive and well adjusted to these local factors.

However, it is also important to note how some factors seem to be more broadly relevant in various different settings and should probably be considered as '*basic principles*' to be included in policy and practice in most settings where crises occur. These include the scope for more *inclusive* strategies which are sensitive to the potential for governmental and non-governmental agencies to work more effectively with local communities. More attention should be paid to the need to develop effective inclusiveness for groups who are excluded due to their gender, ethnicity or economic status. In particular, there is a need for recognition of the significance of women's roles in disaster response and resilience, and for action to continue and expand international cooperation for knowledge exchange and less 'politicised' action in health-care provision. Also discussed was the potential to develop more effective modes of communication which draw on techniques applied in SHAPE disciplines to capture and transfer ideas and information in ways which are relevant, accessible and understandable. This is likely to be useful in practice for those involved in the local provision of health and social care, for policymakers in local, as well as national and international, agencies, and for members of the public in communities impacted by crises. It would also support enhanced 'ground-up' communication from local-level to higher-level agencies, which is needed to complement and balance 'top-down' transfers of advice and information before, during and after crisis events.

The need for central and local governmental agencies to work together more effectively is a recurrent issue in many crisis situations and has also been noted in relation to various crisis events in the UK. For example, Ham (2023) draws attention to this problem in a commentary on the response to the COVID-19 pandemic, arguing that 'central government should be more willing to trust and support local government in responding to crises'. Drawing on examples from Asia (Ruszczyk *et al.* 2022: 105) argue that, in urban settings, the COVID-19 pandemic compromised responses to climate related crises, underlining the need for 'nimble institutions to provide a range of responses … which operate beyond any one spatial scale'.

The discussion in these workshops also drew attention to the need for effective and timely ways to provide the resources necessary to collect and disseminate the data generated by SHAPE disciplines, in order to provide well-informed advice to support effective disaster planning and response. This implies the need for access to funds to support research in anticipation of future crisis events. In addition, effective procedures are required for the rapid processing of requests for resources to collect information during crisis events. This has implications for the ways that some research in SHAPE disciplines is

financed. One option is for funders to keep funds available that allow them to call for and commission rapid research when a disaster unfolds. The COVID pandemic provided a recent example, with many calls across biomedical, natural and social sciences. It is encouraging to note that UK Research and Innovation (funded by the UK Government's Department for Science, Innovation and Technology) has set up a funding programme titled *Maximising UK Adaptation to Climate Change Hub* (UKRI 2023) which aims to establish a transdisciplinary team of experts to inform UK adaptation to climate change, with an agenda including addressing threats to key government objectives for public health. The authors of this paper would advocate that the team who will be funded to lead this work should consider the issues discussed in this paper. More generally, as argued for example by Pelling *et al.* (2023), further resources and institutional support for work which crosses disciplinary and organisational boundaries will also be needed in future. It is essential to support new research and public collaborative engagement that brings together and disseminates multidisciplinary knowledge, generated from research combining SHAPE and STEM perspectives, that is relevant for resilience to crises in different settings,

Overall, therefore, the examples considered in this commentary make the case for further action on a very topical and significant body of knowledge relating to how we can protect health during crises (and in the face of more continuous challenges that place population health at risk). We have underlined the value of work being developed in the UK and internationally and involving networking and collaboration amongst a broad and inclusive body of partners in academia, governmental and non-governmental agencies and the wider public. Institutions such as the British Academy have an important role to play, in collaboration with other partners, in helping to promote such activity. We would particularly emphasise the value of SHAPE disciplines in generating a wider range of knowledge and information that is important for policy and practice and disseminating it across social and geographical 'borders' in order to promote ways of working which are more inclusive and effective in tackling crisis events and their impacts.

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