



NATIONAL
PREPAREDNESS
COMMISSION



Strategic Issues

A discussion paper

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**This paper has been prepared for
the first meeting of the
National Preparedness Commission
by Professor Brian Collins CB,
incorporating contributions and
ideas from
Professor John Beckford,
Dr Tom Dolan, Professor Liz Varga
and others. It seeks to set out some
of the key issues that the new
Commission needs to bear in mind
in its future work.**



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CONTEXT – WHY NOW?

These are difficult times. The current COVID-19 crisis will precipitate or accelerate long-term changes in society. It has also highlighted the importance of ensuring that our society is better prepared to withstand and recover from major shocks in the future.

Already it is clear that our way of life and much of our societal organisation will be very different as we go forward. Not only will we be in the midst of a major economic downturn, but longer-term trends in the ways that we work and how our society functions will have been accelerated. Some societal norms will have changed permanently. International relations will have been transformed, as will the balance between citizens and their governments.

What is more the impact of these changes will fall hardest on the most economically disadvantaged citizens and those from black and minority ethnic communities. There is a real risk that social divisions will intensify and community tensions will increase.

It is the duty of the state to build resilient communities, so that the weakest and most vulnerable members of society are not affected disproportionately by crises and major shocks. This is part of the social contract between the citizen and the state. If that social contract breaks down or if citizens no longer feel they can trust their government, this undermines faith in democracy and democratic structures.

The dramatic impact of COVID-19 demonstrates why nationally and internationally we need to be better prepared to withstand and recover from major shocks. It is clear that societal structures - along with our economic and financial systems - need to be strengthened so that we can cope with such events in the future.

Pandemic disease has occurred traumatically throughout history and it has been widely recognised as a serious threat in recent years. Indeed, pandemic flu was uniquely in the top tier of the UK's National Risk Register since it was first published a decade ago. The latest (2017) edition showed it as having the highest impact severity and in the highest category of likelihood in the "Hazards, diseases, accidents, and societal risks" matrix. Yet the UK, like many other nations, struggled to respond rapidly and effectively to a new emerging illness like COVID-19.

However, there are many other serious risks on that National Risk Register: these include widespread power failure; flooding; adverse terrestrial and space weather; terrorist attacks on crowded places or transport; cyber attacks on infrastructure or services; chemical, biological and radiological attacks; and so on. Whilst response plans for these various hazards will exist, as the recent experience shows these may prove inadequate when faced with the real event.

Moreover, the UK, like any other nation, needs to be better prepared to deal with unexpected or unprecedented shocks. This will mean investing in resilience and preparedness and recognising a shift from a "just in time" philosophy to one of "just in case".

CONTEXT – GLOBAL TRENDS

There are a series of major trends, many of which interact with each other, that are occurring across the world which add an urgency and timeliness to the agenda facing the Commission. Taken together, these changes will create massive social issues and a series of pressure-cooker-like political tensions whose outlet is likely to be terrorist violence and serious security concerns.

These trends include:

- **Demographic changes triggered by climate change.** There is now an overwhelming scientific consensus that the Earth's climate is warming. This will mean that future weather events that are more extreme than those of today and with floods, droughts, storms, heatwaves, and heavy rainfall becoming more intense and more frequent. Some parts of the world will become increasingly uninhabitable or subject to extreme shortages of fresh water. Traditional agricultural patterns will change dramatically. Complex migration patterns will be a result and huge movements of economic refugees will lead to intense competition for natural resources. This will produce political tensions and instability which will spill over into other nations and their supply chains. The UK will not be exempt from this.
- **Competition for natural resources and insecurity in supply.** Resource security is becoming an increasingly significant issue for many countries, including ourselves. Global energy demand is continuing to grow and much of the supply will have to come from fossil fuels where the reserves are located in politically unstable areas or will have to be sourced in increasingly challenging environments, such as the polar regions or in the deep ocean. The control of resources will give political leverage to those with that control. Access to minerals – and in particular rare earth elements – necessary for some technologies will become more and more significant. The countries that have control of those stocks will have a strangle-hold on those technologies used throughout the world. At the same time there is the growing internationalisation of markets for goods, services and labour. However, this will lead to local markets and economies being increasingly exposed to destabilising fluctuations of the global economy.
- **Rapid urbanisation in many countries.** It is estimated that within 25 years, not only will the world's population have risen significantly, but 60% will be living in urban areas. This rapid expansion will lead to greater pressure to develop land in areas prone to environmental hazards, such as flooding and landslides.
- **Rising numbers of disaffected young people in some parts of the world while others have an aging population.** The trend will be towards an increasingly aging population in developed nations, while there will be an increasingly youthful population in much of the developing world who will be facing poorer employment prospects and unfulfilled expectations. The consequence is likely to be concentrations of disaffected frustrated urban youth in decaying urban centres – a recipe for the growth in violent extremism.

- **Changing world order.** This is a time of geo-political change, as US pre-eminence gives way to a multi-polar world with China, and India (and perhaps also others like Brazil or Indonesia) emerging as major economic powers; with Russia using 'hybrid' means to maximise its influence; and at the same time, there will be increasingly powerful non-state actors, engaging in illicit trade and international crime; there will be more ungoverned spaces; and CBRN capacity will proliferate.
- **Growing complexity of systems.** Society itself – even in the most developed and apparently stable nations such as our own – will become more vulnerable through its increasing reliance on ever more complex and interconnected systems. Most critical systems are now internet based and many have been built up over time with new systems overlaid on top of legacy systems in a way which in some cases is now almost impossible to disentangle and beyond the experience of many of those responsible for running and maintaining them. This creates its own risks, even before you consider the possibility of external threats. Like other nations, the UK is facing a growing criticality of services, particularly in complex supply networks, for health care, digital electronic components, robotics and manufacturing materials where indigenous capacity and capability is observably insufficient. The just in time approach to supply networks that are optimized for financial efficiency will be severely stressed by any extreme events unless they have been better prepared for such emergencies.
- **Vulnerability of existing and aging critical infrastructure.** In many parts of the world, including the UK, the critical infrastructure is aging with decades of under-investment and often inadequate maintenance and replacement regimes. This will be exacerbated by the impact of exogenous factors, such as climate change. This requires new ways of working and sets new challenges for regulatory systems, and methods of production and service delivery, possibly creating novel inherent vulnerabilities. Examples are infrastructures such as railways, roads, pumping stations that are specified to function within ambient temperature ranges and rainfall volumes that will be more often exceeded, and cause failures and knock-on effects with nationally significant consequences.
- **Secularism and commercialism vs rigid belief systems.** Around the world, there is developing an inherent conflict between secularism and commercialism on one side and rigid belief systems on the other. That conflict will help the radicalisers and the gap between aspiration and reality or between rich and poor will provide the pool of disaffected to be radicalised.
- **Communications and loss of trust in democratic institutions.** The speed of communication and the impact of migration and personal mobility will mean that what is happening in one part of the world will be played out amongst the diaspora and via virtual communities in every other continent. Conflicts taking place half a world away may be – indeed are being – visited on the streets on the opposite side of the globe. Rapid global communication is a two-edged sword. As the quality of formal news sources decline, they are being replaced by unofficial information sources and these are not necessarily benign influences. Trust in democratic institutions is being eroded by misinformation and disinformation. Faith in the leadership and competence of public administration is weakening and this undermines the social contract with citizens undermining community preparedness.

The combined effect of all of this is that we are living in a world that is increasingly volatile and unstable meaning that as a nation we need to strengthen our resilience and preparedness against the shocks that are likely as a consequence.

THE NATURE OF PREPAREDNESS

Preparedness refers to a very concrete evidence-based set of actions that are taken as precautionary measures in anticipation of potential crises or disasters. These actions can include both physical preparations (such as depots for emergency supplies, adapting buildings to survive earthquakes and so on) and training for emergency action. Preparedness is an important quality in achieving sustainable goals and in avoiding and mitigating negative outcomes.

There are different types of preparedness, such as public health preparedness and local emergency planning. Disaster preparedness is defined by the UN as involving “forecasting and taking precautionary measures before an imminent threat when warnings are possible”. This includes not only natural disasters, but all kinds of severe damage caused in a relatively short period, including warfare.

This concept, however, presupposes to a greater or lesser extent a scenario or set of scenarios that are plausible and defined. The preparedness that is developed is accordingly limited. Yet, the presupposition may not always be valid. One should be ready for the unexpected as well. Indeed, only being prepared for situations that have been imagined or previously experienced will limit the utility of the state of preparedness – and the extent to which this is the case will only be discovered when the unexpected occurs.

This suggests that a systems approach will be needed. Indeed, this may be more efficient as often what is needed to be better prepared for many shocks is the same whatever the initiating crisis or incident.

An example of such an approach might be the consideration of how to protect the provision of food supplies in the UK, when changes in global demographics cause more food in the large exporting nations to be consumed at home in turn raising the costs of imports to the UK, combined with increases in the cost of global transportation and international action on climate change to reduce deforestation for food production. Taking a systems view of global food supplies in such a scenario would allow interventions to be examined that cause the UK to be better prepared than would otherwise be the case.

A second example might be the risk of a future volcanic eruption in Iceland, similar to but different from that in 2010. That eruption was unlike any that had occurred in the recent past. However, it had a considerable economic impact that was felt across the world and as a result a response had to be put in place quickly to deal with what had occurred. Incorporating lessons learnt from that eruption, whilst maintaining adaptability for any differences that might

occur in any future one, are vital characteristics of any preparedness system and associated organisational protocols.

Responsibility for national resilience and preparedness is coordinated through the Civil Contingencies Secretariat (CCS) in the Cabinet Office (although specific matters are dealt with elsewhere, for example, by the Centre for the Protection of National Infrastructure and the National Cyber Security Centre).

The basic guidance from CCS is encapsulated in the national risk register (an unclassified and classified version exists), which is summarised thus:

‘The National Risk Register of Civil Emergencies 2017 edition provides an updated government assessment of the likelihood and potential impact of a range of different civil emergency risks (including naturally and accidentally occurring hazards and malicious threats) that may directly affect the UK over the next 5 years.’

It is clear from recent events that the five year period for assessment is now inappropriate as some matters arise suddenly and need urgent action (volcanic eruption in Iceland for instance) whereas others such as sea level rise take effect over many decades but are equally significant.

There are many players in resilience and preparedness at national, local and organisational levels. Their roles and responsibilities overlap and intersect. It is not clear who is accountable for delivering all the various elements of preparedness and resilience. Perhaps even more significantly it is not apparent who is able to take an holistic view of preparedness both spatially and temporally. Such a view is necessary. Priorities for action need to be set, so that the likelihood is mitigated of failures and crises being propagated from one domain to another with unexpected and negative consequences.

PROBABILITY vs IMPACT

The National Risk Register places on a matrix a series of plausible emergency or hazardous scenarios and events, assigning each a probability and potential impact. Such assessments in many instances are a matter of judgement. For example, the impact of “New and Emerging Infectious Diseases” (which would have included COVID-19) was assessed as having a “low likelihood” of spreading to the UK and “the impact could be on the scale of the SARS outbreak in Toronto, Canada” with 251 cases over several months.

The Register does not – certainly in the published version – contain any assessment of whether the preparedness for any of the risks listed is already sufficient or not. This absence is notable: in any business the risk register would be accompanied by a statement of what steps are being taken to mitigate the various risks identified.

Significant analytic capability and substantial data sets exist in academia, notably UKCRIC, and within government agencies, such as the Met Office, British Geological Survey, Highways England etc. The Commission might wish to encourage the Government to make use of these, so that proper and informed consideration might be given to any corrective action and investment and to whom and by when any recommendation would be targeted.



SCALE AND SCOPE

Preparedness is not just a matter for the Government at national level. Indeed, it should encompass activities at each of the following levels:

- **International.** The UK is dependent on its trade with other nations for a significant proportion of its food, oil and many other essential imports. Disruption elsewhere in the world can affect vital supply chains. The finance system and the internet are also global.
- **National.** This is particularly in respect of the resilience of critical infrastructure (with especial reference to the economy and financial system on which everything else depends) and societal preparedness for a major crisis (eg a pandemic, natural disaster, or a cyber attack causing widespread life-threatening disruption).
- **Community.** Local and neighbourhood response is critical in many crises. The preparedness of local authorities and community networks will ensure, for example, that vulnerable individuals can be identified effectively, and that local knowledge is deployed in responding to any incident.
- **Organisational and company.** Every organisation and business (both large and small) needs to have assessed its own vulnerabilities and decided what is the appropriate response to mitigating their risks. They have a duty of care to their own employees and to their customers/service users, but they also have a wider responsibility to the communities in which they operate and the supply chains of which they are part.
- **Individual and household.** Societal preparedness has to be rooted in the extent to which individuals and households are themselves prepared for and know what to do in any emergency or crisis. Effective public communication is an essential component of this.

These different levels interact with each other and are mutually interdependent. Government functions, for example, may operate at a national level (defence and security, for example), but others may be delivered at regional or local level (eg policing and crime prevention) or may rely on local authorities to enforce or to supplement them. Some public services are both national and local (the NHS is one) and others have policy set at national level but with most of delivery being decentralised (for example, schools, colleges and universities). Major infrastructure services (energy, transport, water etc) may be delivered by private entities, but are subject to varying degrees of regulation. Other vital public necessities (for example, food retail and distribution) are entirely commercial with some consumer safety regulations set nationally but enforced locally.

The Commission might want to encourage an analysis by Government and academia in partnership to assess the baseline level of preparedness across the various elements of this complex landscape. Ideally this would populate a set of matrices with data that identifies the current situation and its scale on one axis and showing where it is satisfactory, not acceptable or dangerously weak in a range of contexts on the other. The resulting completed matrices will show where immediate action and priorities for investment could lie.

ISSUES FOR CONSIDERATION

Given this context, there are a number of over-arching issues that need to be addressed and should underpin any work conducted by the Commission.

These include the following:

1

What should we be preparing for?

- a. Should there be for planning purposes a set of plausible generalised emergency scenarios?
- b. What resources should be put into foresight analysis and horizon-scanning studies? Who should have oversight of this and be responsible for taking action in response to these?

3

How much preparedness is enough?

- a. Can it be valued financially?
- b. How is adequate preparedness accepted as a cultural norm?
- c. Are standards a barrier or a liberator for preparedness? Do they level up or down? Do they foster or stifle innovation?

2

Who should finance the investment in preparedness?

- a. Can it be mandated or required as a regulatory expectation? Would such an approach work in all sectors and contexts?
- b. What is the role of insurance? Insurance has often been the way that risk and lack of preparedness have been managed, but it does not finance preparedness as a positive activity. Should the insurance industry do more?
- c. Can the experience of safety investment in some sectors provide a model? What were the drivers for such investment? Was it a regulatory or legislative requirement? How was it policed?
- d. Cyber security investment is now becoming (at last) a visible activity. What can be learned from what made it viable now?

4

How do the interactions and dependencies between preparedness domains play out and who is responsible for them?

Interdependency and dependency between various activities in society are now being recognised as normal. Yet, overall preparedness requires an holistic view to be taken of how everything works together or is going to interact. Systems thinking is vital and this needs to be done through the whole life cycle and across sectoral and domain boundaries. However, such systems thinking is disincentivised by procurement, accounting and contractual structures.

- a. Who should take the holistic view and who should act on it?
- b. How do you deliver joined up preparedness, its fitness for purpose and proportionality?
- c. Who pays for systemic resilience?

5

How is preparedness stress tested and who sets the standards?

The finance industry set itself goals for stress testing in the banking sector following the 2007 crash.

- a. Is this experience transferable to other sectors?
- b. How dependent is such an approach dependent on a high level of external regulation?

6

Are there international benchmarks (UN, OECD, WHO etc)?

The UK trades and relates internationally and is dependent on what happens overseas. Is the UK being pro-active enough in ensuring that standards elsewhere in the world meet our own preparedness needs?

7

How do levels of competence get created and assessed?

Preparedness depends on several factors but without well-trained competent people, along with well-developed and tested processes, it will not happen.

- a. How do we generate sufficient skilled people to meet our preparedness needs?
- b. How do we ensure that those engaged to do the work are properly accredited so that those hiring them can have confidence in their skills?

8

How does preparedness interact with other priorities, such as safety and security, in services and systems?

The interaction between quality regimes can cause perverse outcomes in extreme conditions. (An example from the near past is the governance of the reaction to the leak of nuclear material from the Chernobyl Nuclear Power plant in 1986. In that case, responsibilities for safety, performance and scientific reputation were spread between local, state and central USSR organisations and this resulted in a chaotic response. Another example is the Grenfell Tower fire in the UK. This is the subject of a public inquiry. However, it is clear that one of the issues is who had ultimate responsibility for ensuring that the tower block cladding as actually installed met the appropriate standards. Different entities were responsible for setting building regulations, for awarding the building contracts and specifying what was required under them, for building control inspection, and for fire safety inspection. These organisations had conflicting priorities, and each made assumptions about what the others had done.) Generally, the issue is amongst such conflicting priorities which will have supremacy and how do we estimate, govern and manage the complexities that arise?

9

How is learning from insufficient preparedness embedded in future practice?

After any untoward event, lessons are supposedly learned, but often little changes or the previous failed practices reassert themselves.

- a. How do we institutionalise and disseminate learning processes?
- b. How do we encourage cultures in which mistakes are seen as a learning experience rather than something that will be covered up to avoid personal consequences?



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