Building National Resilience

What does a resilient Scotland look like and how do we prepare for this?

RSE Post-Covid-19
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THE ROYAL SOCIETY OF EDINBURGH

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Executive Summary – Key Learnings

There is a need to increase understanding of resilience at all scales and across all sectors of society. This includes government, business, institutions, communities and individuals.

Resilience is often seen as somebody's else's problem. Everybody and every organisation has a role to play in building systemic resilience.

Resilience needs to be built into the physical and administrative structures of society from supply chains to communications and power networks. This includes ensuring reserve capacity of critical capability (such as intensive care beds) and being clear on where the responsibilities and accountabilities for delivering this lies.

The potential trade-off between efficiency and resilience needs to be addressed. Many key markets, including energy and food, and services have been specifically designed to minimise costs, but they have not necessarily been designed with resilience in mind. Society needs to fundamentally consider and challenge ourselves on what it is we truly value and what is required to achieve that.

Understanding risk is the first step to creating resilience. The Government needs to develop its foresighting and risk assessment capabilities to ensure that, as a nation, we are aware of the level of risk we carry and of how to cost that risk.

There is a need to develop an inclusive and collaborative approach to decision-making on resilience. Government needs to communicate and discuss national risks openly and honestly. Widespread public debate is needed so that the public is involved in resilience decision making and understand their own role in the creation of resilience.

Inequality weakens resilience. Social policies need to focus on the power, agency and justice of those who are most disadvantaged, thereby helping build resilience at both an individual and community level.

The relationship between humans and nature is crucial to resilience. We need to shift from a model where we continually extract from nature, depleting it and its capacity to support itself and human life, to one where we support nature in a restorative and regenerating economy.

What is Resilience?

Resilience means being able to sustain functionality and to adapt quickly while an external stress is being applied. Making resilience "systemic" means that all elements, natural and human, and all parts of society, large or small, individual or institutional, need to have the properties of resilience. Resilience is a process of adaptive change to alleviate stress.

The young people we spoke with neatly and insightfully summed-up resilience as: The ability to adapt and change; to keep going in a different way; and to re-evaluate as we go.

Key Attributes of Resilience

The working group identified the following key attributes of resilience.

Diversity

Systems which deliver the same outcome via many different routes are much less likely to succumb to failure if one or more of their key components is compromised when the system is stressed. Diversity refers to everything from institutional structures and businesses to supply chains, the natural world and people.

Reserve Capacity

This means designing systems that can flex in response to stress. This includes creating strategic reserves and sufficient stocks to buffer against supply shortages. Loss of reserve capacity is typified by just-in-time methods.

Connectivity

Well-designed and securely implemented connectivity which enhances reserve capacity and diversity within and between systems creates buffering against localised stresses. This is illustrated in energy supply grids which have trans-national interconnectors that can allow power to flow between different national grids thus allowing them greater localised resilience to cope with short-term power shortages.

Inclusiveness, Equality and Fairness

Social policies which sustain but also value those in the most vulnerable communities need to focus on the power, agency and justice of those who are most disadvantaged, thereby helping build resilience at both an individual and community level.

Adaptive Learning

Resilience requires rapid adaptation to changes when they happen to reduce adverse impacts. We can only become resilient if we learn lessons from the experiences of a system being stressed. Adaptive management needs to be a central principle of a resilient nation.

The rapid adoption of new technologies and especially digital resources has been a key feature of adaptation in response to the pandemic. We cannot, however, lose sight of the digitally vulnerable – those who run the risk of exclusion or exploitation due to society's increasing dependence on technology.

Culture of Preparedness

This relies on proactive management of resilience in the face of known and unknown risks involving the allocation of responsibilities between national governments, markets, businesses, institutions and individuals. This includes assessing the likelihood of future failure so that adaptation can be introduced to minimise adverse impacts. This requires robust governance structures which promote leadership and policy learning. Cultural and contextual differences among nations and communities mean that there will be diverse approaches to resilience preparedness.

Key Learnings

Preparedness and Adaptation

The global Covid-19 pandemic has highlighted low levels of resilience in nations across the world. The Covid-19 pandemic was a predictable event, even if the timing and exact nature of the event could not be foreseen. However, pandemics are just one of many high impact low likelihood risks which any nation is faced with managing. Building resilience is therefore key to planning for and managing a multitude of risks.

We need to learn to live with the idea that we can never make ourselves completely safe from disasters. Resilience is less about preventing change; it is more about allowing rapid adaptation to changes when they happen to reduce the impact, and learning from experiences that challenge resilience. Experience of failure is what makes systems resilient. Adaptive management needs to be a central principle of a resilient nation.

In our extensive engagement with a diverse range of businesses, we heard from many business leaders that while they were not prepared for the pandemic, they used the experience to adapt quickly and embrace the opportunity for change, including establishing new business models and product lines.

Key conditions to support business resilience and adaptation, include: access to infrastructure, including digital connectivity; access to skilled labour; understanding the connection between business and local and regional communities; developing diverse supply and distribution lines; access to government and financial support, including the need for enhanced communication and collaboration between business and government; and leadership, including distributed leadership which increases diversity, inclusivity and creativity in decision making.

Humans and Nature

The relationship between humans and nature is crucial to resilience. While many and varied, the general pattern associated with ecosystem collapse is one of simplification of ecosystems to maximise production of a specific benefit e.g. food or timber. The removal of 'redundant' features leaves ecosystems vulnerable to natural shocks, such as floods or drought; while the loss of biodiversity through human activity has been identified as a key driver of emerging infectious diseases and pandemic risk. We need to shift from a model where we continually extract from nature, depleting it and its capacity to support itself and human life, to one where we support nature in a restorative and regenerating economy.

Joined-up thinking

Resilience is a complex issue which is hard to track and measure. This emphasises the importance of joined-up thinking and action across national and local government, businesses, voluntary organisations and citizens to ensure coordinated approaches that help build resilience. Scotland's National Performance Framework has a vital role to play in supporting a systemic commitment to resilience.

Identifying and assessing risk

National risk registers and assessments need to be continuously reviewed. They should consider the aggregate and interdependent risk to a nation. It is not enough to consider only risks individually. Only by understanding the totality of the collective risk can we gauge the national risk.

Increasing our understanding of resilience at all levels

There is a need to increase understanding of resilience at all scales and across all sectors of society, including government, business, institutions, communities and individuals. As a contribution to this, consideration needs to be given to how Scotland's education system, including lifelong learning opportunities can be harnessed to support citizens' understanding of and, engagement in, risk and resilience preparedness.

Covid-19 has caused immense harm and distress. The pandemic and the responses to it have, however, highlighted the importance of resilience thinking. Resilience is often seen as "nice-to-have" rather than as a high priority, and it is often regarded as somebody else's problem. There is a tendency towards "optimism bias" where events which are far off in the future, which is often the case for low-frequency events even if they are likely to have high impact, are discounted both socially and financially, meaning they attract little investment resulting in low resilience. Changing these perceptions of resilience is therefore very important and requires long-term action, leadership and communication across all parts of society.

The preceding points link to the need to develop a culture of preparedness where resilience is proactively considered at all scales in the face of both known and unknown risks. It requires risk awareness, "what if" thinking, and practising what it takes to respond, adapt and recover effectively.

As an interconnected society, everybody and every organisation, has a role to play in supporting resilience in order to build systemic resilience. Resilience needs to comprise both top-down and bottom-up approaches. Government needs to set the overarching framework and conditions to support resilience. This includes putting in place strategies, policies, infrastructure, incentives, regulation and finance so that people and organisations are able to cope with adversity and find solutions to problems.

Learning from others

There is an opportunity to learn from other nations in relation to how they have sought to embed resilience in to the national psyche. In New Zealand, for example, natural disasters, especially those caused by earthquakes, are a way of life. Here, the government actively warns people to be aware and be prepared. Much of the success of New Zealand's national response to Covid-19 may be down to its experience of planning for general disasters, its scale, geographical isolation and mainstreaming of the concept of resilience to the extent that it flows through from the level of households to national institutions.

Communicating risk and decision making on resilience

There is a need for government to communicate and discuss national risks openly and honestly. Too often, national risk registers and assessments are restricted to specialists and are not the subject of national debate. This calls for transparency and widespread public debate about risk identification and risk management so that the public is well informed and can play its part in supporting resilience.

There is a need to develop an inclusive, collaborative and trustful approach to decision making on resilience. This will help to challenge assumptions and to ensure that there is respectful understanding of and, coherence across, the roles and responsibilities of different actors. This approach is also needed to ensure equity in decision making.

> Diverse views need to be sought out, listened to and respected. We heard from community groups and third sector representatives that while they were expected to support their communities during the pandemic, they had little voice or influence in community planning decision-making structures. It is critical that community representatives are seen as key and valued contributors to decision-making processes, especially those impacting on the communities that they serve. Community representation as part of a feedback loop on building resilience will be invaluable.

Inequalities

The impacts of Covid-19 have been felt disproportionately by certain parts of society, including among different ethnic minority groups and by women, and it has highlighted existing structural inequalities. Where we go from now will have profound implications for society. Our responses to the pandemic can either help to address discriminatory practices or they will embed further existing inequalities.

Organisations and institutions we spoke with highlighted the crucially important role played by support staff in ensuring the operation of organisations during the pandemic. These staff tend to be lower-paid and previously their value to organisations was often overlooked. The experience of the pandemic has highlighted existing structural inequalities and the need to consider how, as a society, we value and reward workers.

Preventative interventions

Social policies which sustain but also value those in the most vulnerable communities need to focus on the power, agency and justice of those who are most disadvantaged, thereby supporting them to become more resilient. Preventative approaches and early intervention should be adopted wherever possible to support individuals, particularly the most vulnerable in our communities. In doing so, lessons could be learned from Scotland's preventative public health approach.

The rapid adoption of new technologies and especially digital resources has been one of the key features of the response to the Covid-19 pandemic. In adopting and maintaining these technological solutions, we cannot, however, lose sight of the digitally vulnerable – those who run the risk of exclusion or exploitation due to society's increasing dependence on technology.

Determining desired levels of resilience

A key question which needs to be addressed is whether there is an unavoidable trade-off between efficiency and resilience. In many human social systems the market is designed specifically to drive up efficiency through competition and this is apparent within many critical markets, such as energy, food and services. These kinds of markets and economic models have been specifically designed to minimise the price paid by consumers, but they have not necessarily been designed with a policy of resilience in mind. A lack of reserve capacity is typified by 'just-in-time' methods of supply. Building a more resilient nation will therefore require us, as a society, to fundamentally consider and challenge ourselves on what it is we truly value and how we can put in place mechanisms to achieve that.

Public input and buy-in is crucial to decision making processes aimed at determining desired levels of resilience and in balancing potential trade-offs between different options. The Citizens Assembly model could be adopted and sustained to help secure broader public input on risk and resilience issues, although this should not detract from the need for government to engage with the public at large on matters of national importance.

Valuing expertise

The response to the pandemic has demonstrated the public's interest in hearing from and engaging with experts on issues of national importance and in areas where the science is uncertain and our understanding is provisional. Engagement between experts and the public on issues of societal interest needs to be sustained. Researchers and experts should be given greater recognition for their engagement with the public in return for the public funding that they receive.