Building a Resilient Government

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> **The pandemic won't be the last global crisis we face. Here are six principles public sector organizations should follow to prepare for future disruptions.**

The COVID-19 pandemic has brought into sharp relief the importance of government resilience—the capacity to absorb shocks, adapt, and then quickly thrive in an altered environment. As the virus spread around the globe last year, some governments managed the crisis relatively well, while others struggled to match the moment.

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This lack of resilience poses an increasing danger, and not just in terms of pandemic preparedness. There is a growing probability of future global crises, with disruptions more widespread and long lasting than in previous eras. Such shocks are nearly inevitable given how profoundly connected the world's economies and societies have become; as the pandemic has shown, disruptions in one region can spread rapidly to others. We are equally vulnerable from a technological standpoint—with so much of modern life dependent upon digital systems, the potential impact of a large-scale cyber attack is immense.

That's why governments should see the events of the last 18 months as a call to action to strengthen their resilience. No doubt, the pandemic has tested the private sector as well, with many companies demonstrating the ability to adapt to a new environment. But resilience is even more vital for public sector organizations. There are no alternatives to government, after all; when businesses fail consumers can turn to competitors, but when governments fail there is no backup. Governments that focus on their own resilience, on the other hand, will be able to support resilience more broadly in the economy and in society as a whole.

Based on our extensive work with private and public sector organizations, as well as the study of resilience in natural systems, we have identified six characteristics of resilient governments: prudence, modularity, redundancy, diversity, embeddedness, and adaptiveness. Certainly, governments must be proactive about averting crises when possible, including moving swiftly to drive decarbonization of their economies and head off the most severe impacts of climate change. But they must simultaneously incorporate these six characteristics into their organizations. Those

that do so will be well positioned to respond quickly and ensure the continued delivery of services and resources to their citizens when shocks occur.

PRUDENCE

Prudence, as we define it, is the ability of governments to anticipate and prepare for different scenarios—operating on the principle that if something can plausibly happen, it eventually will.

Governments can enhance this characteristic by conducting scenario-building and tabletop exercises to identify both high- and low-likelihood events. That risk identification process should involve experts both from within and outside the country, state, or city conducting the exercise as well as from a variety of domains, including health, economics, geopolitics, sciences, and sociology.

Governments should then plan and prepare for the most likely and high-impact events. Risk management efforts should be undertaken at all levels of government, from the offices of the president or prime minister to ministerial or cabinet-level offices and down to the state and local level. Central governments should also encourage collaboration and transparency across all levels of the public sector. They should, for example, support local governments in developing their own resilience by leading scenario exercises, sharing information and insights from those exercises with other local governments, and coordinating planning related to national, state, and local responses.

In recent years some governments have put a greater focus on risk management. The federal government in Australia, for example, conducted a scenario-planning exercise in 2018. The effort started with the identification of megatrends, including climate change and the rise of AI, and an analysis of those trends that had the greatest uncertainty in terms of direction, speed, and magnitude. From there the government identified potential scenarios, success factors for each scenario, and recommendations for how the government could close any gaps in preparedness that were uncovered. The work was part of an overall effort to strengthen Australian public service, and it has led to a number of changes. Among

them: the development of a new model for digital skills development and the creation of the Australian Public Service Academy to help employees develop necessary skills and expertise.

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MODULARITY

Modularity is a defining feature of a robust system—ensuring that its components are loosely connected to avoid turning risk to individual components into systemic threats.

Governments operate as complex systems, with thousands of individual actors across multiple agencies. Like most such systems, they can benefit from integration and interdependency between components. However, this can also amplify risk: seemingly localized shocks or disruptions can rapidly spread throughout a system in ways that are hard to predict. Conventional wisdom around the efficiency gains of cross-agency integration needs to be balanced against the importance of modularity for systemic resilience. Governments are better able to withstand shocks when the risk of component-level failure is contained by design.

Consider the disparate impact of the 2007-2008 financial crisis in the US and Canada. In the US, a "localized" shock to the subprime lending market spread catastrophically to the entire global financial system. In Canada, by contrast, banks emerged largely unscathed from the crisis in part because regulation mandated lower exposure to the type of complex financial instruments that created hidden connectivity across firms in the U.S.

REDUNDANCY

Redundancy involves the creation of buffers to cushion against unexpected shocks. Governments that build this expanded capacity in areas such as IT, infrastructure,

energy, and operations—including emergency stockpiles of, for example, food, medical devices, and communication tools as well as plans for expanded public transportation and housing solutions for displaced persons—will be better positioned to respond to shocks, whether local or systemic.

The Estonian government, a leader in moving the services it provides to citizens onto digital platforms, explored a number of options to create redundancy for those digital systems in the event of a physical or cyber attack. The solution: the government set up a "data embassy" in another country—Luxembourg. The embassy houses a high-security data center that holds backups of Estonia's most critical data and information.

Building redundancy into systems can be challenging for governments, which almost always face pressure to remain highly efficient on costs and spending. This can lead to "overoptimization," in which a government has little ability to expand capacity when it needs to. Many governments, for example, have winnowed the number of suppliers they use to ensure vendors are selling at scale and therefore at the best price. However, that makes their systems less resilient. The issue can be compounded if suppliers are concentrated outside a government's home country, exposing it to disruptions in supply chains due to natural disasters or trade wars.

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Given those pressures, governments should make the development of redundancy an explicit objective—and communicate that objective broadly throughout their organizations. That can help shift the mindset of their workforces and limit the incidence of short-sighted decisions to overoptimize systems, capacities, and costs.

Governments should also communicate this clearly to the public, explaining why redundancy is critical and where investments in excess capacity have been made. That will help prevent such investments from being characterized as waste—and therefore minimize the likelihood of political blowback from citizens and others in government. And as part of ongoing planning exercises, governments should identify resources that can be redeployed from lower priority areas to help absorb shocks elsewhere in their organizations.

DIVERSITY

Governments with diverse operations—in areas such as talent, locations, and types of contracts—have a variety of options when responding to a crisis. But resilience isn't just about responding well to crises. It's also about ongoing adaptability, which requires the kind of constant experimentation enabled by diversity.

Consider diversity in the area of talent. Governments should cultivate a diverse set of skillsets throughout their organizations as a whole and minimize hyperspecialization in their workforces. Hyperspecialization, with employees becoming skilled at a narrow set of tasks or processes, reduces the ability of workers to step into other roles as needed during a crisis. And diversity strengthens an organization's response mechanisms beyond the ability to redeploy operational capacity. Adaptation to rapidly changing environments requires a wide repertoire of emerging solutions from which to select and amplify—and the variety of such solutions depends on the underlying heterogeneity of the people, ideas, and skill sets involved.

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Resilience requires the kind of constant experimentation enabled by diversity.

Governments can also build diversity in skills, capabilities, and resources by drawing upon partners such as companies and foundations as well as citizens themselves. For example, deals can be struck with private clinics to provide surge capacity in the event of a health care crisis. And governments can train citizen volunteers who are able to provide support to civil servants, including those in health and defense departments, during a crisis.

To support these sorts of collaborations, governments should ensure that appropriate and agile legal frameworks are in place to allow them to strike flexible contracts with vendors, under which those suppliers can readily provide support if needed. In addition, governments should engage with and support community partners on an ongoing basis—not just during periods of crises when their assistance is needed.

The government of France was able to draw on both the private sector and the public during the COVID-19 pandemic. Not only did the government tap retired doctors and nurses to work in hospitals early in the crisis, but it also relied on the cooperation between public hospitals and the national railway company for developing a plan for managing peaks in demand for health care. The resulting plan involved outfitting high-speed trains to transport intensive care patients to regions in western France that were less affected by the pandemic and where hospitals had the capacity to treat them. Since March of 2020, more than 1,000 patients have been transported for treatment.

ADAPTIVENESS

Adaptiveness refers to the ability of a system to rapidly adjust to new circumstances. Resilient governments can quickly adjust programs and policies, deploy resources where they are needed, and scale quickly when necessary. In short, adaptive governments need to be able to become truly iterative learners that intentionally pursue what natural selection does in nature: create variations, conduct experiments, and amplify the successes.

Governments should cultivate adaptiveness across a variety of activities:

- They should ensure they are adaptive in policymaking—particularly in economic and social areas—and able to make changes quickly in response to fluctuating macro events. This adaptiveness requires robust and timely data to identify the most impactful measures.

- They should also build adaptiveness into budgeting so they can make rapid shifts in the allocation of funds. This, of course, can be challenging given that government budgets are set annually and typically have limited flexibility. Still, the COVID-19 crisis demonstrated that many governments were able to pass stimulus aid packages swiftly—adjusting budgetary rules and processes in some cases—to limit the economic hit of lockdowns.

- They need flexible human resources contracts, rules, and processes for managing and deploying talent. For example, HR rules should allow staff with transferrable skills who are willing to move to be quickly redeployed during a crisis, while encouraging the development of a diverse talent pipeline for the future.

- Finally, governments should actively pursue an agenda of policy and program experimentation, piloting new models and ideas from which to learn, iterate, and amplify. And mechanisms should be established to ensure that lessons and best practices are shared in a way that enables the scaling of successful programs or efforts across different jurisdictions.

Many public sector organizations were successful in adapting to the dramatically altered environment in the months after COVID-19 first erupted. In May of 2020, for example, Texas established Operation Connectivity, a task force to assess and identify solutions for addressing the digital divide among the state's students in the wake of the shift to remote instruction. Based on insight from that task force, the state moved quickly to deploy $900 million of combined funding from the CARES Act and state and local education agencies, executing a bulk order of roughly 4.5 million devices for remote instruction. The devices not only helped students learn remotely during the pandemic but will also be used post-COVID to support student instruction.

At the same time, many countries in Asia adjusted their policies and plans in 2020 based on lessons learned from the SARS, H1N1, and MERS outbreaks. Japan and South Korea, for instance, revised emergency legal frameworks related to pandemics and clarified responsibilities for central and local governments during such emergencies.

Ultimately, true adaptiveness is not merely about surviving an individual crisis. It's about learning from that crisis to better respond to the next one. As the pandemic recedes, governments face the challenge of capturing and codifying lessons for the future.

EMBEDDEDNESS

Embeddedness is the alignment of a government's goals and activities with those of the broader economic or social systems they inhabit. Individual government agencies sit within a wider system of government; a government operates within a nation's economy and society, which in turn operate within the global economy and society as well as the natural environment. All of this makes it critical for government organizations to ensure that their own long-term goals with respect to resilience are harmonized with those of the broader systems within which they operate.

Creating alignment within government requires finding opportunities for win-win collaborations among different public organizations. When a crisis hits, governments therefore can swiftly bring together an effective team from the ministries or departments that need to lead the response. For example, even before the first COVID-19 case was confirmed in Singapore, its central government established a dedicated taskforce that included the ministries of Health, National Development, Communications and Information, Trade and Industry, Environment and Water, Education, Home Affairs, Social and Family Development, and Transport. Central governments also should coordinate and align with leaders in major cities, many of whom have extensively studied and prepared for a number of potential shocks. (See "Building a Resilient City.")

BUILDING A RESILIENT CITY —

City leaders are increasingly focused on resilience—and for good reason. First, cities that have honed their resilience will be better positioned to respond to increasingly frequent natural disasters. Second, efforts to improve resilience also tend to reduce the strain on urban infrastructure and resources. Third, investments in resilience will minimize the economic hit to a city from a crisis.

Tokyo, for example, refocused on its resilience in the wake of the 2011 earthquake and tsunami. The city has deployed antiseismic devices, floodgates, and levees to reduce the risk of catastrophic flooding, funded in part by the central government. The city now boasts the world's tallest shock-absorbing broadcast tower to transmit information in the event of a disaster, and it has deployed an advance rain-measurement system to provide early warning of potential flooding issues.

Rotterdam, meanwhile, has taken steps to enhance the resilience of its large port related to both physical and cyber events. The city created nine "water plazas" to soak up excess rainfall, and it has developed digital systems to monitor sea levels hourly and shut floodgates as needed. Rotterdam has also partnered with the private sector, including Microsoft, to reinforce the port's cyber defenses.

The success of cities like Tokyo and Rotterdam in enhancing resilience has revealed a few valuable lessons. First, bringing in other government players, including central government stakeholders, increases the odds of success. Second, cities that invest in early warning systems to spot potential events early will be able to respond quickly and effectively. Finally, R&D partnerships with the private sector can create customized, high-impact resilience solutions.

Alignment beyond the confines of government is just as critical. Public sector leaders must find ways to cultivate strong, trust-based relationships with the private

sector and other societal players—from organizations with a global reach, such as NGOs and foundations, to smaller groups such as local citizens' associations—ties that should cultivated over time and not just during moments of crisis. Meanwhile, government can strengthen the overall resilience of the public by promoting civic engagement, social cohesion, education, and the overall preparedness of citizens to respond to a crisis. Research by Daniel P. Aldrich, a professor at Northeastern University, found that social cohesion and social networks helped communities in Thailand, Japan, and New Zealand recover quickly from natural disasters.

FIVE STEPS TO BUILDING GOVERNMENT RESILIENCE

Government leaders typically invest time and energy into improving policies, programs, and processes with an eye toward delivering maximum value to the public. But many have not spent enough time thinking about resilience. Governments now have an opportunity to change that—to take stock of their organizations' capacity to absorb shocks, learn from their performance during the pandemic, and build more capacity—so they can thrive in the face of new disruptions.

There are five basic steps to this journey:

1. **Assess Resilience**. Governments should determine their overall level of resilience and identify the most critical gaps.

2. **Build a Resilience Roadmap**. With an understanding of where action is needed, governments can build a plan for how to bolster resilience—a plan that should include a prioritization of initiatives and clear governance.

3. **Integrate Resilience in Critical Areas**. Based on the roadmap, government can launch a select number of high-priority initiatives and begin to generate early wins.

4. **Expand Resilience Across Government**. With early successes to demonstrate the power of resilience, governments can push new initiatives more broadly across their organizations.

5. **Go Beyond Mitigation to Reimagine the Future.** While resilience requires survival and adaptation, the accelerating pace of disruption makes it critical for governments to become imagination machines—organizations that can harness the power of imagination to redefine the art of the possible and flourish in new, fast-evolving circumstances.

As these resilience initiatives gain traction, governments will begin to drive a fundamental change in mindset—one that is focused on preparing for unexpected events based on an understanding of the systems within which they operate. Such a shift will enable governments to better protect and support their citizens in an era of rising disruption.

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