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GLOBAL SHIELD INSTITUTE

POLICY BRIEF

How governments can better govern global catastrophic risk



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EXECUTIVE SUMMARY

Reducing risk to a nation, including from global catastrophic risk, requires strategic risk management. For most governments, however, the basic foundation for risk management – risk governance – is missing. Risk governance encompasses the organizational functions of government that guide, coordinate and oversee risk reduction efforts. It ensures that actions to protect the country are conducted in a strategic and coordinated way, supports the government's objectives and effectively reduces risk from the gravest threats.

To govern global catastrophic risk, policymakers can take 11 policy actions across five areas.

Policy guidance and strategic planning

1. Specify global catastrophic risk as a government priority
2. Develop a national risk strategy
3. Develop a risk management process for agencies to manage national risk within their portfolio

Architecture and institutional design

4. Appoint a 'National Chief Risk Officer' to lead whole-of-government national risk efforts
5. Create independent oversight over national risk efforts

Decision-making processes

6. Establish mechanisms to coordinate and decide on national and global risk policy
7. Assess impact of new policy on national and global risk

Risk financing and budgeting

8. Dedicate government finance towards risk management efforts
9. Incorporate risk analysis into the role of budget and treasury offices

Personnel and culture

10. Train policy-makers around risk
11. Support innovation and creativity in risk management practices

This report provides specific options across each of these policy actions. It provides the first comprehensive policy report on how governments can govern global catastrophic risk. Any government that takes these actions will be extremely well-positioned for reducing threats to the nation, including from global catastrophic risk.

THE POLICY CONTEXT

Global catastrophic risk (GCR) has the potential to inflict significant harm to human wellbeing on a global scale. In the most extreme case, humanity could be at threat from extinction or permanent collapse.

Governments around the world have not adequately developed policies that reduce GCR. The concrete actions required would ensure that the government can better understand, prevent and prepare for GCR. To the extent that governments are attempting to reduce GCR, their efforts are focused on specific threats, such as asteroid detection or pandemic preparedness.

As a result, governments do not look to reduce GCR with a strategic or holistic policy approach. Comprehensive global catastrophic risk reduction is not a priority, and there are no mechanisms to oversee, develop and implement GCR policy. Indeed, for most countries, national-level risk is not prioritized or managed in a strategic or holistic manner. **The basic foundation for risk management – risk governance – is missing.**

Risk governance is a standard part of any risk management program. The UN Office of Disaster Risk Reduction defines risk governance as "the system of institutions, mechanisms, policy and legal frameworks and other arrangements to guide, coordinate and oversee disaster risk reduction and related areas of policy." The US Department of Homeland Security defines it as "Actors, rules, practices, processes, and mechanisms concerned with how risk is analyzed, managed, and communicated".

In short, risk governance encompasses the organizational functions of government that guide, coordinate and oversee risk reduction efforts. It ensures that risk management across government is appropriately organized, structured, managed, resourced and delivered. It ensures that risk management is not just a siloed activity but a strategic and coordinated effort that supports the government's objectives.

Risk governance does not directly reduce risk. Ultimately, governments need to take steps that concretely prevent or prepare for risk. Rather, risk governance attempts to organize and steer the functions of government so that risk reduction efforts are more likely to succeed and maximize the risk reduced in accordance with national policy priorities.

Governance of national risk would serve as the foundation and critical enabler for GCR reduction efforts. By building on existing methods and best practice for national security, disaster risk and emergency management, governments can build holistic and all-hazards approach to risk governance,

Global catastrophic threats are those that could inflict significant harm to human wellbeing on a global scale.

Global catastrophic risk is the collective risk that arises from the set of global catastrophic threats.

The human species, as with other natural life, has always faced the risk of global catastrophe from natural hazards, such as supervolcanoes and asteroids. More recently, anthropogenic threats have emerged and probably represent greater risk than natural hazards. These global catastrophic threats include advanced artificial intelligence (AI), extreme climate change, nuclear winter and engineered pandemics.

THE POLICY VISION

A policy vision is an ideal state to which policymakers can aspire.

Governments should consider global catastrophic risk (GCR) as a priority. Policy makers should consider risk to the nation, including GCR, when developing and implementing policies on related issues. Policymakers should be incentivized to focus on the future or uncertain outcomes, including potential global crises and catastrophes.

Governments should have policymaking practices, both legislative and executive, that ensures positive social, economic and security outcomes that do not inadvertently increase GCR. Governments should have legislative and bureaucratic structures to manage GCR. The government should be adequately resourced and organized to manage GCR from an all-hazards and whole-of-government approach.

Political and public officials should have the adequate skills to deliver highly capable and effective policy implementation for GCR. Government officials should have the right guidance, frameworks, tools, capabilities and resources to manage national risk.

THE POLICY PROBLEM

The policy problem refers to those causes or reasons for why the policy vision has not been reached. Each national government will have their own unique circumstances. This policy problem attempts to articulate the most common policy problems faced by national governments.

National governments often struggle with governing risk of national significance, which extends to poor governance of global catastrophic risk. Five primary reasons drive poor risk governance.

First, **there is little political accountability for the future, especially for risk**. In democratic countries, political cycles, typically of three to five years, drive policy action that prioritizes short-term and visible gains. Autocratic countries might be less driven by political cycles, but authoritarian leaders are still likely to prioritize short-term benefits for a small group of key constituencies to retain power and legitimacy. For both governing models, policy action that benefits a wide constituency, including other countries or future generations, are unlikely to be prioritized.

Second, **political systems, and the government establishment that supports it, respond poorly to evolving, emerging or chronic risk and challenges**. Policies and resources are dedicated to current or clearly understood challenges and where there is a clear constituency. Governments tend to act late on risk, waiting until a major catastrophe occurs or where the call for action is politically undeniable, such as on climate change.



Third, **ownership of risk across government is often either lacking or unclear.** As with any policy issue, when no clear owner exists it can fall through the cracks and be unattended to. Risk ownership becomes lacking or unclear when the priorities are not articulated or assigned across government, and when there are insufficient accountability mechanisms. For some issues such as climate change or artificial intelligence, the impacts and responsibilities are so diffused across government that clarifying or maintaining ownership can be difficult. In a global risk context, risk ownership is diffused around the world. In essence, to governments and their officials, reducing global catastrophic risk sems the responsibility of others more senior, more capable or better positioned than them.

Fourth, **many countries, governments and government agencies lack a risk culture**, which are the innate attitudes, sensitivities and practices for managing risk. The parts of government that often deal with risk, such as national security or emergency management, often apply risk-based approaches, frameworks and expertise. However, managing risk with national level consequences – and certainly GCR – is not an ingrained element of policymaking across government. Inexperience with certain types of threats, such as from emerging technologies or those emanating from other countries, could lead governments to dismiss or undervalue the capabilities needed to deal with these types of challenges.

Fifth, **governments generally do not consider how legislation, policies, regulations and government practices might cause unintended consequences on national risk, including GCR**. Governments make decisions across their portfolio of policy issues for a variety of purposes, such as societal, economic or security benefits. However, little consideration is given to how these decisions might exacerbate GCR or reduce national capabilities needed to protect from GCR.



THE POLICY OPTIONS

Governments must establish risk governance to ensure that risk reduction, including prevention and preparedness, are maximally effective.

- **Policy guidance and strategic planning**: Governments must set a clear direction for reduction of national risk. This includes developing overarching policy frameworks and strategies that establish priorities, objectives and policies for managing global catastrophic risk.
- **Architecture and institutional design**: Governments must establish effective and empowered structures for managing national risk, including GCR. This involves creating oversight mechanisms and organizational structures across government agencies dedicated to managing national risk.
- **Decision-making processes**: Governments need to implement decision-making processes that enable quick and decisive action in the face of national risk and GCR. This includes setting up mechanisms and processes that ensure policymakers better consider policies that reduce GCR.
- **Risk financing and budgeting**: Governments must incentivize risk reduction and ensure risk reduction is adequately financed. This includes supporting risk reduction efforts with adequate financial resourcing and analysis.
- **Personnel and culture**: Governments should enhance the mindset and capabilities of policymakers towards risk reduction.

The policy options aim to address the policy problems. This set of policy options is not comprehensive nor necessarily relevant for every country. It represents a menu of options that policymakers can take and adapt to their own political and policy context.

Quick wins

Some policy efforts might require significant political, financial and bureaucratic capital. Where that capital is not available, governments can take 'quick wins', which represent small but meaningful actions to help governments on the path to more transformational change. Some options include to:

- Review national legislation to understand gaps and barriers inhibiting effective governance of national risk, including GCR.
- Conduct an audit of government programs that are contributing to national and global risk.
- Set global catastrophic risk as a national security community and intelligence priority through their respective strategies or tasking.
- Establish a 'Global Risk' unit in purview of the head of government that assesses and coordinates policy relating to global risk and GCR.
- Sponsor civil servants to study risk management and resilience.
- Launch an open innovation challenge or competition to receive innovative ideas and solutions for GCR management.

Policy guidance and strategic planning: setting a clear direction for reduction of national risk, including GCR

Policy action 1: Specify global catastrophic risk as a government priority

Simple option: Include consideration of global catastrophic risk within key strategic guidance or documents, such as national security and defense strategies.

The simple option is based on common practice to use national security, defense or intelligence strategies to articulate national priorities.

Advanced option: Develop legislation or a proclamation from the head of government that specifically outlines GCR as a government priority and tasks government agencies to consider GCR in their policymaking.

The advanced option is original to this report. This action is commonly used to commemorate symbolic days or notable individuals, but a similar process could be a powerful symbol for the nation and the world.

Policy action 2: Develop a national risk strategy

Simple option: Develop an overarching national risk framework and synthesize strategic policy documents (such as for security, defense, intelligence, health, the economy and foreign policy) within this framework, along with a plan to update the underpinning strategies in a coordinated manner.

The simple option is original to this report.

Advanced option: Develop an all-hazard national risk and resilience strategy, with a view to outlining the objectives for national risk reduction and whole-of-government direction for treating national risk, including GCR.

This advanced option is based on the idea that national security strategies are insufficient for modern global risk (see Case study 1)

Case study 1: National risk and resilience strategy

National governments employ various strategic documents to guide policy, set priorities and allocate resources to advance or protect national interests. For threats to the nation, governments typically develop documents such as national security strategies.

However, a national security strategy remains an awkward guiding policy when the threat or hazard comes from outside the traditional security domain. Policy-makers are increasingly recognizing that threats to national well-being and security can come from many non-traditional security sources, such as climate change, disease outbreaks, space weather, economic instability and demographic shifts. For example, the US National Security Strategy of 2022 has sections on climate and energy security, pandemics and biodefense, and food insecurity.

Developed by security, defense and intelligence agencies, these strategies suffer from a lack of expertise in areas like public health, the environment or economics. It therefore might undervalue or ignore the risk from those global threats. Security frameworks might also be biased towards certain actions, such as surveillance or use of force, that are illegal, inappropriate or counterproductive for addressing non-security threats.

A "national risk and resilience strategy" would consider all potential threats and hazards to national interest. Although no country has developed such a strategy, the UK's Integrated Review considered foreign policy, security, defense and development in a holistic manner. Published in March 2021, and refreshed in March 2023, it took a more holistic view to the UK's role in the world. It also committed the UK Government to a new National Resilience Strategy and National Resilience Framework, which aims to set out "the plan to 2030 to strengthen the frameworks, systems and capabilities which underpin the UK's resilience to all civil contingencies risks." Laudably, it sets out that, by 2030, "there will be clear ownership of all risks, including complex and catastrophic risks, underpinned by sharpened governance and accountability."

Policy action 3: Develop a risk management process for agencies to manage national risk within their portfolio

Simple option: Develop and implement an agency-level risk management process that covers risks to policy and programmatic delivery within the portfolio.

Advanced option: Develop a whole-of-government risk management framework.

The simple and advanced options are based on integrated risk frameworks in countries like Canada and the UK.

Architecture and institutional design: establishing effective and empowered structures for managing national risk, including GCR

Policy action 4: Appoint a 'National Chief Risk Officer' to lead whole-of-government national risk efforts

Simple option: Appoint a senior official as 'National Chief Risk Officer', supported by an organization that is responsible for conducting the national risk assessment process, commissioning and conducting analysis and early warning, overseeing that risk preparedness and resilience, and coordinating responses across government for national emergencies.

Advanced option: Appoint a Cabinet-level 'National Chief Risk Officer', who, in addition to the above, develops strategies to reduce and manage risk, coordinates responses across government when crises emerge, engages with civil society and industry, and leads a detailed risk review for major policy decisions.

The simple and advanced options are akin to, and advance, the National Security Advisor role. These ideas are based on proposals by risk experts over the past 15 years (see Case study 2).

Case study 2: National chief risk officer

Proposals to appoint a country risk officer role were made by multilateral financial institutions following the global financial crisis. The concept was based on Chief Risk Officer roles and Audit and Risk Management Committees in banking and financial services companies.

The World Economic Forum first introduced the idea of a country risk officer in its Global Risks 2007 report and delved deeper into the concept in its 2008 report. The OECD also discussed this concept in their Symposium on Managing Risk in the Public Sector. The World Bank, in its World Development Report 2014, suggested that every country establish a national risk board to analyze threats, assess risk management policies, define risk management priorities and make policy recommendations.

To date, it is not clear if any countries have implemented these proposals. However, establishing dedicated roles and structures for coordinating national risk efforts has garnered support in the UK. A 2021 House of Lords report titled "Preparing for Extreme Risks" advocated creating an Office for Preparedness and Resilience led by a Government Chief Risk Officer. This report also emphasized the need for enhanced parliamentary oversight, ministerial governance and specialized risk structures. The UK Government pushed back on this proposal because of the creation of a head of resilience role established in the Cabinet Office.

Policy action 5: Create independent oversight over national risk efforts

Simple option: Establish an independent oversight function for national risk efforts across government that functions in an advisory capacity, reviewing and assessing government policy on the degree to which it exacerbates or reduces national and global risk.

The simple option is original to this report.

Advanced option: Establish an independent auditory body, which provides impartial evaluations of government policy towards national risk, provides regular reporting to the legislature to ensure transparency in how the government is addressing national risk, and conducts continuous monitoring and evaluation of risk management policies and practices to identify gaps and areas for improvement.

The advanced option is original to this report, drawing lessons from existing efforts (see Case study 3).

Case study 3: Government oversight functions

A range of independent and impartial functions can hold government actions to account. These functions play an important role in ensuring accountability, transparency and efficiency in public sector operations. They can be standing institutions or ad-hoc arrangements, as well as sit within the legislative branch or executive branch.

Supreme audit functions are typically independent functions established by constitutional or legislative authority outside normal government operations. For example, the US's Government Accountability Office is an independent agency that works for Congress to audit federal spending and advise on how to improve government effectiveness and efficiency. National audit offices, such as in the UK, Canada and Australia, are tasked with auditing and evaluating government functions, and providing recommendations to enhance transparency and accountability.

On a more targeted or ad-hoc basis, commissions and investigations can be established, such as Congressional Commissions in the US and Royal Commissions in the Westminster systems. Commissions are typically established in response to specific circumstances, particularly when an in-depth, independent investigation is required, perhaps due to national crisis, government mismanagement or a call for reform for long-term systemic challenges.

In some instances, a specific individual is appointed to carry out investigations and maintain internal accountability. Inspectors General, for example, can serve as an internal control mechanism to help ensure that large or complex agencies operate with integrity and efficiency.

An independent oversight function for policy on national and global risk is required because governments are not inherently focused on long-term, complex or uncertain risk. Similar to the audit and risk committees of corporate boards, this function would serve as the last line of defense for global catastrophic risk, which is the most ignored or dismissed aspect of national risk. A somewhat analogous institution is the UK's Climate Change Authority, which provides specialized oversight and recommendations to mitigate the impact of climate change.



Decision-making processes: enabling quick and decisive action on national risk policy

Policy action 6: Establish mechanisms to coordinate and decide on national and global risk policy

Simple option: Create interagency policy coordination committees to lead the development, coordination and implementation of whole-of-government policy for each of the key emerging and catastrophic threats, such as nuclear risk, climate risk, pandemic risk or technological risk.

The simple option is based on the Interagency Policy Committees of the National Security Council in the US.

Advanced option: Establish a Catastrophic Risk subcommittee of Cabinet or National Security Committee, with the head or deputy head of government as chair of the committee, to direct government actions on all-hazards risk policy.

The advanced options are based on the National Security Council subcommittee on Resilience in the United Kingdom.

Policy action 7: Assess impact of new policy on national and global risk

Simple option: Require that new policies receive a "Risk Impact Assessment", which would evaluate the impact of major policy decisions on the likelihood or consequence of national and global risk, potentially conducted by the Chief Risk Officer.

The simple and advanced option is based on impact assessments for other national priorities, like Environmental Impact Assessments. See case study 5.

Advanced option: Legislate the need for a "Risk Impact Assessment" for all new legislation, potentially conducted by the independent risk oversight function.

The advanced option is original to this report, drawing lessons from existing efforts (see Case study 4).

Case study 4: Impact assessments

Governments around the world conduct impact assessment of policy decisions on various issues. With varying levels of enforcement, scope, detail and process, government agencies are tasked with evaluating the impact of new policy or actions on other government priorities, including social issues, health outcomes and gender equality.

The environmental impact assessment (EIA) is the most common and well-established type. EIAs are tools that most countries require, especially in regards to the impact of a physical development like infrastructure. Strategic environmental assessments (SEAs) require that the impacts of adopting a government program or policy on the environment is assessed. Almost all countries have legislated some form of EIA, and at least 40 countries have SEA systems in place, including all European Union members. These forms of assessment have varying degrees of effectiveness, depending on the application of the process and the mechanism for it to shape policy decisions.

A “Risk Impact Assessment” in the vein of the EIA or SEA would be a powerful tool to evaluate how new legislation, policy or government programs would contribute to national or global risk, including global catastrophic risk. The assessment would provide policymakers with a comprehensive understanding of how new policies might directly or indirectly influence risk to the nation, and provide a mechanism for the public to hold the government to account on its impact on global risk.

Legislating or mandating both the delivery of the assessment and the consideration of the assessment on policy will be critical to success. Otherwise, these types of assessments are likely to become ignored and poorly delivered.

Risk financing and budgeting: Incentivize risk reduction and ensure risk reduction is adequately financed

Policy action 8: Dedicate government finance towards risk management efforts

Simple option: Establish a fund which disburses a predetermined amount to risk reduction proposals put forward by federal agencies or state and local governments.

The simple option is inspired by Australia's Disaster Ready Fund, which disburses up to AU$200 million annually to disaster preparedness and response.

Advanced option: Dedicate a portion of each year's national budget to policies that reduce national and global risk, with specific percentages earmarked for risk prevention, preparedness, response and recovery efforts, and for global catastrophic risk in general.

The advanced option is original to this report.

Policy action 9: Incorporate risk analysis into the role of budget and treasury offices

Simple option: Conduct a long-term fiscal analysis that considers a range of shocks, crises and catastrophes.

The simple option is inspired by New Zealand's Long-term Fiscal Situation and the UK's Fiscal risks and sustainability report.

Advanced option: Use "Risk-Based Budgeting" for integrating risk considerations in the government budget cycle to inform budget planning, contingency funding, and infrastructure and investment decisions.

The advanced option is based on disaster risk-based budgeting, proposed by the World Bank and practiced in The Philippines (see Case study 5).

Case study 5: Disaster risk-based budgeting

Disaster risk-based budgeting (DRRB) is an emerging practice to incorporate disaster risk considerations during various stages of government budgeting processes. In general, governments have poor processes for managing the financial aspect of disaster response, let alone considering disasters across the budget cycle. For example, disasters should be considered when preparing budgets to identify and quantify costs, inform management of public assets, and forecast shocks to revenue. In managing budgets and government finances, mechanisms are needed to allocate, track and audit expenditure and disbursements.

The Philippine Disaster Risk Reduction and Management Act of 2010 created the National Disaster Risk Reduction and Management Fund (NDRRMF). It is funded annually under the General Appropriations Act (GAA) for the prevention, preparedness, recovery and reconstruction efforts of disasters, both natural or human-induced.

This concept could be broadened to apply to nationally significant risk, including global catastrophic risk. By integrating risk into government budgets, governments can better manage the economic and fiscal impacts of risk, ensure more efficient and transparent use of resources during and after disasters and crises, and incentivize government agencies and other actors to reduce risk. A more holistic approach to budgeting risk would better capture all the types of global crises that might severely impact national finances or require government support, including pandemics, supply chain breakdowns and conflict.

Personnel and culture: Enhance policymakers' mindsets and capabilities around risk reduction

Policy action 10: Train policy-makers around risk

Simple option: Create a 'risk management in public policy' course (covering broad risk management frameworks and approaches) which is delivered as mandatory training to all incoming civil servants.

The simple option is original to this report.

Advanced option: Create a "national risk college" that builds the knowledge of government officials at all levels on risk management and facilitates sharing of experiences, lessons learned and best practices across government.

The advanced option is based on the UK's Resilience Academy, an evolution of the Emergency Planning College, and similar to national defense colleges, which train military personnel in various aspects of defense and security..

Policy action 11: Support innovation and creativity in risk management practices

Advanced option: Develop a regulatory sandbox – to test and deploy solutions and technologies under relaxed regulatory oversight – for innovative risk management solutions provided from civil society, startups and innovators, and state and local governments.

The simple option is original to this report, based on regulatory sandbox concepts in other policy areas, particularly financial technology.

Advanced option: Establish a risk management incubator that serves as a focal point for driving innovation, research and solutions related to national risk, including GCR.

This advanced option is inspired by government incubators that traditionally support startups and innovative projects for economic growth.



About this report

This policy brief was developed by Global Shield's policy team, led by cofounder and Director of Policy, Rumtin Sepasspour. It is the second in a series on how governments can reduce global catastrophic risk. The first brief was on how governments can better understand global catastrophic risk. Other briefs in the series will cover how governments can better prevent and prepare for global catastrophic risk. The policy brief was first published in August 2024. The policy actions in this brief were identified and developed based on academic research, world's best practice, and Global Shield's internal policy research, development and diffusion (RDD) process.

About Global Shield

Global Shield is the world's first international advocacy organization devoted to reducing all-hazards global catastrophic risk (GCR). We work with governments worldwide to enact policies to better understand, prevent, prepare for, and respond to global catastrophes, regardless of the threat that may produce them. We believe an all-hazards policy approach to addressing GCR can ensure governments are effectively shielding all of us from global catastrophes. At Global Shield, we envision a world in which all governments have acted decisively to reduce and, where possible, eliminate global catastrophic risk.