

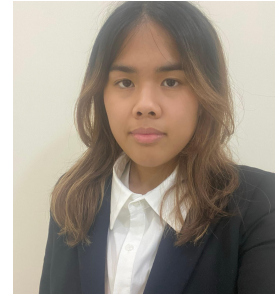


Forum: SDG 3 - Good Health and Well-being

Issue: Improving emergency response coordination for Natural Disasters and Health Crises

Student Officer: Hermione Buncalan

Position: Head Chair



Natural disasters and health crises have been around for hundreds, even thousands of years. As our population increases, the risks following a disaster rise exponentially too. Now with 8 billion people on the planet, the need to find ways to keep everyone safe is higher than ever. Human life cannot be valued, so it is imperative to protect everyone, regardless of what country they live in or their circumstances.

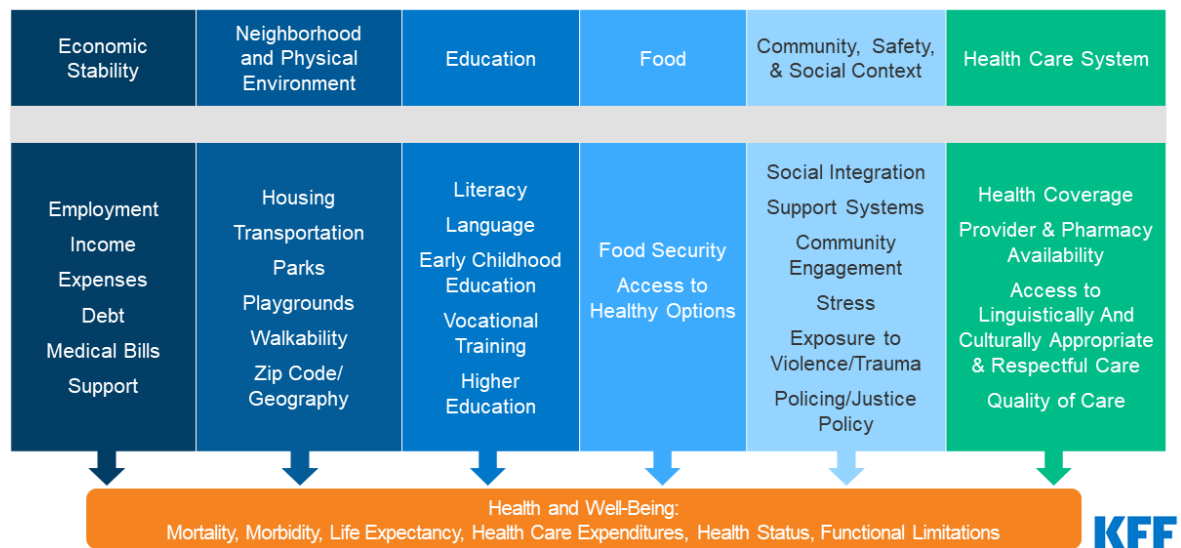
This report will cover factors contributing to the losses caused by natural disasters and health crises, the most vulnerable regions and why, past attempts to improve emergency response coordination, and further solutions. It is imperative to address the root causes behind the devastating effects of natural disasters and health crises to improve preparedness and prevention, as well as maximising lessons learned from past disasters.

PART 1 of the Research Report: Root Causes of the Issue

Social Factors



Social Determinants of Health



Drake, Patrick, and Robin Rudowitz. "Tracking Social Determinants of Health during the COVID-19 Pandemic." *KFF*, 21 Oct. 2021, www.kff.org/coronavirus-covid-19/issue-brief/tracking-social-determinants-of-health-during-the-covid-19-pandemic/

Education and Information

Being more educated and well-grounded on how to prepare for natural disasters or to prevent the spread of diseases can create several impacts like lessening casualties, as people would be better equipped to respond to emergency warnings and public announcements. Also, misinformation could hinder emergency response, as this will lead people to distrust major organisations such as WHO and fail to adhere to their advice.

Socioeconomic Status

Due to already limited sources, low-income communities are usually more vulnerable to disasters as they have less access to healthcare and do not have enough resources to repair damages to infrastructure. People who



leave their hometown to work in other places for their income could also bring the disease into the community. For example, the Philippines (the country with the highest level of risk in 2023) had 18% of its population in poverty in 2021, and has been at the highest risk of natural disasters since 2013.

Social Cohesion

If a community has strong support systems available to them, then their recovery from a disaster or disease could be faster. Strong bonds also enhance their resilience, which means the population is more determined to work together to minimise the harm done by disasters. If these bonds are weak, then individuals may ignore warnings to not go outside (for example, during the COVID-19 pandemic) or neglect to keep their neighbours updated on the newest announcements.

Compliance

Compliance is also affected by other factors, such as politics (e.g. trust in authorities) and how much they perceive the risk. The more a population complies with recommended health measures or preparedness for emergency disasters, the lower the casualties. For example, it is well-known to go underneath a table or hold onto a surface during an earthquake. If a population perceives an emergency as low-risk, then they are less likely to comply with measures they find too strict without

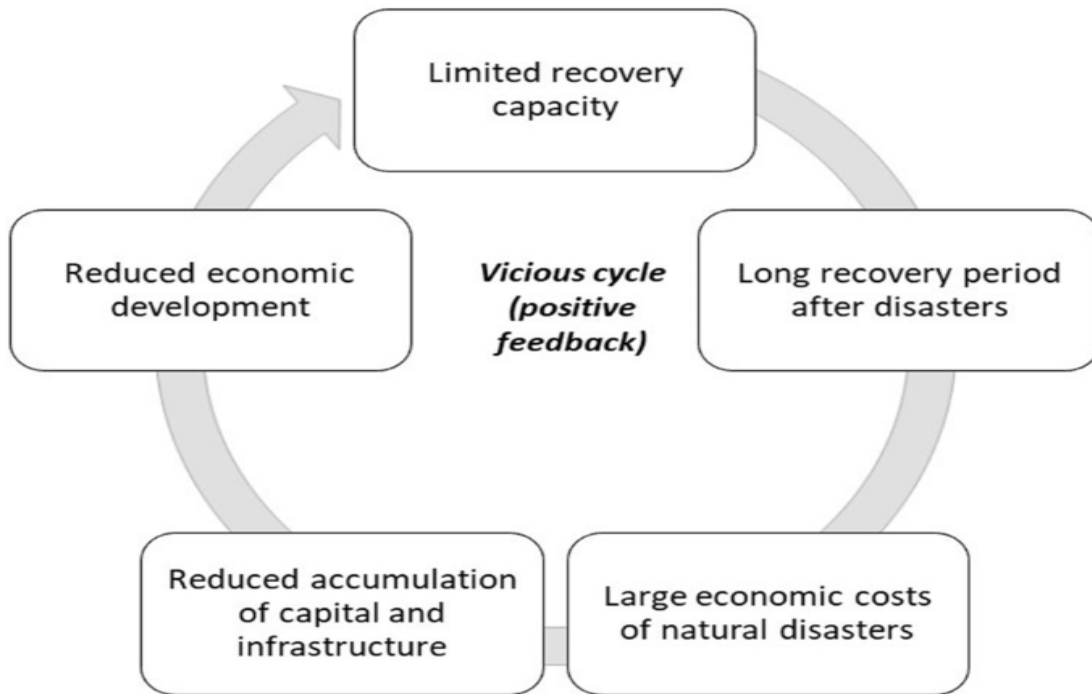


understanding the true dangers. For example, Malaysia adopted a timely and multi-faceted strategy at the beginning of the COVID-19 pandemic, and had a relatively low mortality rate of 1.29% and a high recovery rate of 93.1%, while the global average was 72.4%.

Minorities and Marginalised Groups

Minorities are often even more at risk of these disasters. Women, due to being less socially and economically independent as a result of social constructs. People with disabilities, due less mobility which leads to a higher risk of harm. Ethnic minorities as well, as they are often not prioritised in the healthcare system or when looking for financial compensation.

Economic Factors



Globalisation

International trade and travelling between countries could increase the spread of infectious diseases. The tourism and hospitality industries also suffer from a decline in revenue due to travel restrictions or fear of contracting a disease or facing a natural disaster. A disaster in one part of the world could affect global trade, as some countries will be unable to fund delivery of imports and exports.

Infrastructure Investment

Inadequate investment in sturdy infrastructure, such as dams and buildings, could increase economic losses during disasters, especially in areas which are highly hazard-prone. For example, infrastructure spending in the South Asia region increased from 4.7% of their GDP



in 1973 to 6.9% in 2009. Damage to infrastructure requires the government or people to invest large amounts of money into reparations, which cuts back on funds for other areas, such as healthcare.

Dependency on Industries

Areas which are heavily dependent on specific industries, such as agriculture and tourism, are likely to have more severe economic losses as their main source of income or resources becomes strained. For example, Indonesia, a major exporter of natural gas, lost a total of \$1.53 billion. Furthermore, one of India's most important industries is agriculture. Events such as floods and landslides resulted in a total loss of \$3.75 billion for farmers between 2016 and 2021.

Economic Disparities

Vulnerable and low-income communities usually have limited access to healthcare, unstable job security, and a lack of resources to cope with the aftermath of disasters and health crises. An area which was already highly vulnerable before disaster is unlikely to be given more funds, as it would be considered too much time and money to repair it or bring it to a better state.



Political Factors

Government Spending

The more resources a government has available to spend on reparations and public health responses, the lower the consequences for a nation. For example, during the COVID-19 pandemic, the United States of America provided over \$5 trillion to help the nation respond and recover. This went into healthcare, the Paycheck Protection Program, and global assistance, to name a few. Additionally, after an earthquake of magnitude 6.8 occurred in September 2023, Morocco constructed a \$11.7 billion five-year plan to help 4.2 million people in the most affected provinces.

International Cooperation

The relationship between nations could influence the information and resources exchanged in the face of a natural disaster or health crises. If nations are at odds with each other, then one nation may be reluctant to send financial relief or to give the newest relevant information. For example, a lack of imports from a nation with a good healthcare system could lead to higher vulnerability to a disease. For example, Iran offered 20 million barrels of oil as aid to the United States of America for Hurricane Katrina, but the USA refused due to Iran's perceived political motives.



Corruption and Governance

Corruption and weak governance can hinder the efficient distribution of aid, relief efforts, and the implementation of effective disaster management strategies. This is due to a lack of sufficient funds for emergency response efforts or weak relations with other countries. Additionally, the population will likely distrust the government and refuse to comply with public safety announcements, or will believe misinformation instead.

How long has this issue been a problem?

Natural disasters and health crises have been around since animals and the Earth existed. For example, the eruption of Mount Vesuvius occurred in the city of Pompeii in 79 AD, and the infamous San Francisco Earthquake in 1906 . However, one of the first examples of a government proactively addressing a local disaster is the Congressional Act of 1803 in the United States of America.

Why is this issue a problem? Why does it need to be solved at all?

This issue has existed for a vast amount of time due to Earth's nature of developing, climate change, and a plethora of other factors. Essentially, it can save lives, for example, planning out evacuation routes ensure that people are not trapped in dangerous places and know where to go in case of an



emergency, and having a plan to restrict travelling could reduce the rate of spread of an infectious disease. Furthermore, building infrastructure specifically to withstand natural disasters means less casualties and damages are likely to occur.

In the aftermath, it can also speed up the recovery of a nation given that losses are minimal and clear plans are made to address the consequences of a disaster in its aftermath.

Which organisations benefit from the status quo?

The occurrence of natural disasters and health crises often cause people to panic-buy materials, so suppliers of things such as sanitary products, first-aid kits and emergency food supplies (i.e. canned food) would benefit. For example, the UnitedHealth Group is a health insurance company with revenue rounding to \$313.1 billion, as well as My Patriot Supply - an emergency food company which provides 25 year shelf-life food. Due to the destruction of property caused by natural disasters, the construction industry would also experience an influx of demands for new infrastructure to be built. Hospitals will also receive more patients as a result, but in large-scale disasters they are easily overwhelmed.

How do countries benefit from the status quo?

Countries with good healthcare systems, such as Sweden, Canada, and Finland, are capable of faster recovery than other nations due to their well-developed



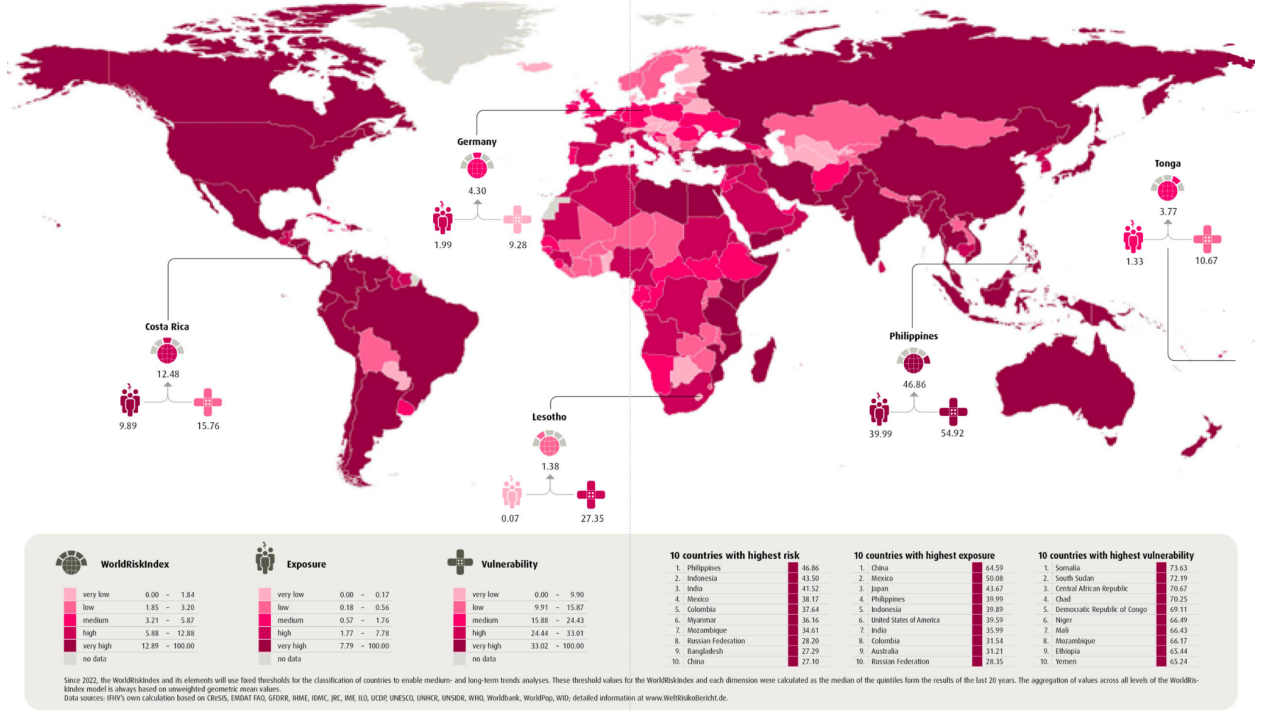
public health systems. Countries with a high quality of infrastructure, such as Germany, Japan, and Spain, are also less susceptible to property damage due to the sturdiness of their infrastructure, which overall means less reparation costs need to be paid and less casualties occur. Other countries can also learn from past natural disasters and health crises, for example the earthquake in Haiti in 2008 encouraged several countries to establish stronger frameworks, such as the development of the Global Health Security Agenda (GHSA).

Which countries influence this issue the most?

Countries with the high levels of vulnerability and large populations should be the most concerned about coordinating emergency response efforts. The top five countries with the highest risk of natural disasters are the Philippines, Indonesia, India, Mexico, and Colombia. They are mostly based in Asia and the Americas, and are at high risk mostly due to their geographical location. Additionally, the top five countries with the highest levels of vulnerability are Somalia, South Sudan, Central African Republic, Chad and the Democratic Republic of Congo. Countries in the African region should focus on developing coping strategies and improving adaptability in the case of a crisis.

Which countries/groups are the most impacted by this issue?

WorldRiskIndex 2023



In 2023, the Americas is the continent with the highest disaster risk, followed by Asia, Africa, Oceania and Europe. In particular, the countries with the highest disaster risk are the Philippines, Indonesia and India. However, the countries with the highest vulnerability are Somalia, South Sudan, and the Central African Republic - this is calculated through the country's susceptibility, lack of coping strategies and lack of adaptive capacity.



Which countries/groups should take the lead in solving this issue?

The Americas and Southeast Asia are the regions at the highest risk of both natural disasters and health crises, often due to their geographical location. For example, the Philippines and Colombia were within the top 10 countries with the highest disaster risks in 2022. Japan is also affected by many different types of natural disasters (e.g. tsunamis, earthquakes and typhoons).

Because of their high populations and high susceptibility, they should focus more investments into emergency response preparedness and efforts. More economically developed countries (MEDCs) should support LEDCs by providing humanitarian assistance to minimise suffering and financial resources to improve their infrastructure.

PART 2 of the Research Report: UN Treaties/Policies/Resolutions

Timeline of Events

Date	Description of Event
20 October 2000	The International Charter on Space and Major Disasters was founded. It was formed to provide satellite resources to rescue authorities when human or natural disasters occur.
26 December 2004	The third largest earthquake in the world



	with a magnitude of 9.1 occurred off the coast of an Indonesian island in the Indian Ocean. Over 300,000 people died and 1.2 million were displaced.
22 January 2005	The Hyogo Framework for Action was a global plan (spanning from 2005-2015) that was created to reduce disaster risks by 168 Member States of the United Nations at the World Conference.
15 June 2007	The International Health Regulations (IHR) was adopted in 2005 and was put into effect in June 2007. It was legally binding on 194 World Health Organisation (WHO) Member States.
15 April 2009	The first case of H1N1 influenza virus was detected in California. Ten days later, the swine flu was declared a pandemic and ended on 12 March 2010. Over 60 million cases have been estimated by the CDC as of March 2023.
12 January 2010	An earthquake of magnitude 7.0 hit Haiti, and an estimated 300,000 deaths occurred as a result.
23 March 2014	The first cases of history's largest Ebola epidemic were reported by the WHO in West Africa. Over 28,000 cases total were reported in Guinea, Liberia and Sierra Leone.
18 March 2015	The Sendai Framework was also adopted in 2015 at the third UN World Conference as a continuation to the Hyogo Framework by 187 UN Member States. The framework is effective from 2015-2030.
23 May 2017	The first Multi-Hazard Early Warning Conference was hosted by Mexico in Cancun. The meeting's key aim was to help upgrade early warning systems for LEDCs.



11 March 2020	After over 118,000 cases, the WHO declared the COVID-19 a pandemic.
1 March 2022	Member States in the Intergovernmental Negotiating Body (INB) started developing the Pandemic Accord. The final draft will be submitted to the 77th World Health Assembly in May 2024.

Relevant Resolutions:

- United Nations Platform for Space-based Information for Disaster Management and Emergency Response, [A/RES/61/110](#) (15 January 2007)
- International Strategy for Disaster Reduction, [A/RES/61/198](#) (16 February 2007)
- United Nations Mission for Ebola Emergency Response, [A/RES/69/3](#) (14 October 2014)
- Sendai Framework for Disaster Risk Reduction 2015-2030, [A/RES/69/283](#) (23 June 2015)
- International cooperation on humanitarian assistance in the field of natural disasters, from relief to development, [A/RES/78/120](#) (13 December 2023)
- Strengthening of the coordination of emergency humanitarian assistance of the United Nations, [A/RES/78/119](#) (13 December 2023)
- Disaster risk reduction, [A/RES/78/152](#) (21 December 2023)

Past Attempts at Solving the Issue

Stafford Disaster Relief

The United States passed the Stafford Disaster Relief and Emergency Assistance Act in 1988, which encourages the use of insurance coverage to compensate for



any financial losses and provides assistance programs for other losses which occurred due to a disaster.

OSHA's Revised National Emphasis Program for COVID-19

The Occupational Safety and Health Administration (OSHA) is a part of the United States Department of Labour. OSHA created a program on 7 July 2021 to reduce the exposure of workers to COVID-19, particularly to control health hazards in industries and worksites where workers were highly exposed. This was done through inspections, reaching out to employers, and compliance assistance to ensure that the workplace minimised exposure to COVID-19. By July 2022, the total penalties issued tallied to \$7.2 million, and over \$5 million was given to over 400 employees who filed coronavirus retaliation claims against employers. The program is no longer sustained as the COVID-19 pandemic was declared over on 5 May 2023 by WHO.

Multi-Hazard Early Warning Conference

The Multi-Hazard Early Warning Conference (MHEWC) is a preparatory event for the UN Global Platform for Disaster Risk Reduction (GP/DRR) to stress the importance of early warning systems in reducing disaster risks. The purpose of MHEWCs are to highlight the role of national governance in implementing early warning systems, as well as ensuring the warnings are received, understood and actionable. There have been three MHEWCs so far; the third and latest one took place from 23-24 May 2022 in Indonesia. Since 2015, 95 out of the 120 countries



which reported progress for Sendai Target G (increasing the availability and access to multi-hazard early warning systems) indicated they had an early warning system in place, however, less than 50% of LEDCs reported having one. Participants in the conference, especially from the African region, referred to their lack of good observation networks, which is an essential component in establishing an early warning system.

Hyogo Framework for Action

A ten-year framework within 2005-2015 which developed policies, strategies and knowledge, signed by 168 Member States. It raised public and institutional awareness and encouraged political commitment. Since 2005, 121 countries enacted laws and policies, and 85 countries established National Platforms. However, the lack of regulation and incentives for investing in disaster risk reduction, especially in Less Economically Developed Countries (LEDCs) - such as Bangladesh, Uganda and Yemen - signalled the need for a more developed plan which was more accessible, inclusive, and multi-sectoral.

The Sendai Framework for Disaster Risk Reduction

The continuation of the Hyogo Framework, but within the timeframe of 2015-2030. This new framework was made to fill in the gaps of the Hyogo Framework, such as the lack of focus on extensive risks, low impact on a local



level, and a shortage of accountability as there were no systems to measure disaster losses. The Sendai Framework aims to reduce global disaster mortality by 100,000 (compared to 2005-2015), reduce economic loss of Gross Domestic Product (GDP), and reduce damage to infrastructure. It also aims to increase the number of countries with risk reduction strategies and improve coordination and support given to Less Economically Developed Countries (LEDCs) by 2030. So far, the global disaster mortality rate per 100,000 people has decreased from 1.60 (in 2005-2014) to 1.15 (in 2013-2022). The number of countries with national strategies for disaster risk reduction increased from 55 in 2015 to 126 in 2022. However, the number of people affected by disasters per 100,000 people increased from 1,092 to 2,034, and the total GDP loss rose from 0.37% to 0.83%.

PART 3 of the Research Report: Possible Solutions

Emergency Action Plan (EAP)

Encourage the development of an EAP for all buildings, including workplaces and residences. This could be done through monetary incentives or imposing fines if a plan is not made. An EAP contains procedures for reporting emergencies, evacuation, accounting for all employees, an alarm system, and training for evacuation and medical emergencies.

Pros

- Rapid response
- Provides clear response to emergency



- Defines roles and responsibilities clearly
- Efficient resource allocation
- Adaptability to many kinds of disasters
- Can be updated after learning from mistakes
- Insurance - some insurance providers offer better rates to organisations with robust EAPs
- Minimises downtime - quicker recovery process

Cons

- Employees may resist changes in routine or responsibilities
- Could be too long or complex to understand and implement
- Resource constraints
- Too much focus on documentation of plan instead of implementation
- Sets unrealistic expectations in unforeseen situations
- Inadequate testing
- Hard to maintain legal compliance
- Language barriers - instructions may be difficult to understand
- Employees can become desensitised to importance of preparedness due to false alarms and frequent training

Accords

For example, the Pandemic Accord - an accord being drafted by the Member States of the World Health Organisation (WHO) which is representative of a global commitment to pandemic prevention. The drafting process started in 2022.



The accord aims to support prevention, detection, and responses to potential pandemic outbreaks, and make pandemic countermeasures accessible to all countries. If agreed on by WHO Member States, the proposed accord could address gaps highlighted by the COVID-19 pandemic, such as global preparedness and emergency response arrangements. The final draft will be presented in May 2024.

Pros

- Facilitates international collaboration
- Efficient resource allocation
- Collective expertise
- Faster response time
- Improve political relationships
- Shared financial burden
- Increased preparedness
- Developed research
- Efficient humanitarian aid
- Crisis information sharing
- Provides ethical and diverse guidelines

Cons

- Slow decision-making
- Time-consuming development
- Unequal contributions from countries or organisations
- May be influenced by politics



- Lack of effective enforcement mechanisms
- Inflexible due to unpredictability of disasters
- Dependence on resources may increase vulnerability if expected aid is delayed
- Limited inclusivity

New Laws

In the aftermath of a natural disaster or health crises, governments often realise that changes to existing policies or new laws have to be made to minimise any harm done. As a response to the COVID-19 pandemic, the United States of America passed a Paycheck Protection Program and Health Care Enhancement Act, which provided \$321 billion to help small businesses retain customers, \$75 billion to hospitals, and \$25 billion to further virus testing.

Pros

- Provide a clear legal framework - avoids confusion and maintains consistency
- Enables immediate response without long legislative processes
- Clearly sorts allocation of resources
- Provides legal protection for people and organisations involved (such as liability protection for healthcare providers)
- Can provide legal basis for international collaboration
- Health authorities can implement public health measures efficiently



- Establishes accountability to improve future responses
- Protects minorities and marginalised groups

Cons

- Time-consuming - can hinder immediate responses
- Inflexible - challenging to adapt to changing circumstances
- Legal gaps - some situations may not have been anticipated
- Potential abuse of power by authorities
- Lack of public compliance if strict measures are enforced
- Can slow down allocation of resources
- Lack of enforcement if public do not believe the laws are fair
- Can be influenced by politics

Raising Awareness

To improve preparedness for natural disasters and health crises on a local, national, and global scale, the population needs to learn about safety precautions, how to read early warning signs, and how to prevent danger in the first place. This can be done through inclusion in school curriculums, holding events, and social media.

Pros

- Youth learns young
- More time to prepare



- Better evacuation plans
- Better supplied
- Promotes development of protocols
- Reduces panic

Cons

- Overwhelming - excessive information to youth
- Takes away resources from actual preparation
- People may be indifferent/resistant
- Dependence on technology - limited access for LEDCs and if technical failure occurs, effectiveness may be lowered

PART 4 of the Research Report: Bibliography

United Nations Office for Disaster Risk Reduction . “What Is the Sendai Framework?”

Wwww.undrr.org, UNDRR, 2015,

www.undrr.org/implementing-sendai-framework/what-sendai-framework



“International Health Regulations - PAHO/WHO | Pan American Health Organization.”

Wwww.paho.org, 28 May 2016, www.paho.org/en/topics/international-health-regulations

“Multi-Hazard Early Warning Conference Feeds into the 2017 Global Platform for Disaster Risk Reduc.” *W*[www.crisis-Response.com](http://www.crisis-response.com), 20 May 2017,

crisis-response.com/Articles/594768/Multi_Hazard_Early.aspx

“Marginalized and Minority Groups Consideration in NDRA | UNDRR.” *W*www.undrr.org, 9 Mar. 2018, www.undrr.org/publication/marginalized-and-minority-groups-consideration-ndra

CDC. “2014 Ebola Outbreak in West Africa Epidemic Curves Error Processing SSI File .” *CDC*, 2019, www.cdc.gov/vhf/ebola/history/2014-2016-outbreak/cumulative-cases-graphs.html

“The UN and Early Warning | UN-SPIDER Knowledge Portal.” *UN-Spider*, 2019, www.un-spider.org/risks-and-disasters/un-and-early-warning#no-back

“Pandemic Prevention, Preparedness and Response Accord.” *W*www.who.int, 28 June 2020, www.who.int/news-room/questions-and-answers/item/pandemic-prevention--preparedness-and-response-accord#:~:text=In%20light%20of%20the%20impact



Passeri, Andrea. “Malaysia’s Success Story in Curbing the COVID-19 Pandemic.” *IAI Istituto Affari Internazionali*, 6 Nov. 2020,

www.iai.it/en/pubblicazioni/malaysias-success-story-curbing-covid-19-pandemic

FEMA. “History of FEMA.” *Www.fema.gov*, 4 Jan. 2021, www.fema.gov/about/history

International Monetary Fund. “Policy Responses to COVID19.” *International Monetary Fund*, 2 July 2021, www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#U

“Revised National Emphasis Program – Coronavirus Disease 2019 (COVID-19) | Occupational Safety and Health Administration.” *Osha.gov*, 7 July 2021,

www.osha.gov/enforcement/directives/dir-2021-03cpl-03

“The Pandemic Fund.” *World Bank*, 2021,

fiftrustee.worldbank.org/en/about/unit/dfi/fiftrustee/fund-detail/pppr

“3rd Multi-Hazard Early Warning Conference Outcome Statement | UNW WRD Knowledge Hub.” *Wrd.unwomen.org*, 24 May 2022,

wrd.unwomen.org/practice/resources/3rd-multi-hazard-early-warning-conference-outcome-statement

“OSHA Extends Emphasis Program on COVID-19 | 2022-07-06 | Safety+Health.”

Www.safetyandhealthmagazine.com, 7 July 2022,



www.safetyandhealthmagazine.com/articles/22770-osha-extends-emphasis-program-on-covid-19

“Contributions of UN Organisations Mid-Term Review of the Sendai Framework for Disaster Risk Reduction - World | ReliefWeb.” *Reliefweb.int*, 20 Feb. 2023,

reliefweb.int/report/world/contributions-un-organisations-mid-term-review-sendai-framework-disaster-risk-reduction

“H1N1 Influenza Pandemic Response.” *Www.cdc.gov*, 29 Mar. 2023,

www.cdc.gov/orr/timeline/events/h1n1.html

“DRR and UNDRR’s History | UNDRR.” *Www.undrr.org*, 17 May 2023,

www.undrr.org/our-work/history

Dyvik, Einar. “Countries with the Most Natural Disasters in 2018.” *Statista*, 29 Aug. 2023,

www.statista.com/statistics/269652/countries-with-the-most-natural-disasters/

Lake, Timothy. “6 of the World’s Deadliest Natural Disasters | Britannica.” *Www.britannica.com*, 1 Sept. 2023, www.britannica.com/list/6-of-the-worlds-deadliest-natural-disasters

“The WorldRiskReport 2023 – Disaster Risk and Diversity - World | ReliefWeb.” *Reliefweb.int*, 20 Sept. 2023,

reliefweb.int/report/world/worldriskreport-2023-disaster-risk-and-diversity



“International Charter Space and Major Disasters - Earth Online.” *Earth.esa.int*, 13 Oct. 2023,

earth.esa.int/eogateway/activities/international-charter-space-and-major-disasters