

CRISIS, HAZARD, AND DISASTER MANAGEMENT: A STUDY OF REGULATORY FORMULATION AND INSTITUTIONAL COORDINATION

Dwi Tjahja K. Wardhono,^a Retno Muhardini,^b
Dian Puji Nugraha Simatupang,^c Nadhia Shalehanti^d

^{abd} Bank Indonesia Institute, Bank Indonesia, Jakarta, Indonesia

^c Faculty of Law, Universitas Indonesia, Indonesia

*e-mail: donny@bi.go.id (corresponding author); rmdini@bi.go.id; diansimatupang21@gmail.com;
nadhiashalehanti@gmail.com*

Submitted: 5 July 2023 - Last revised: 20 August 2023 - Accepted: 31 August 2023

Abstract

Management crises, hazards, and disasters should be carried out with an integrated and patterned approach through the formulation of clear regulations and efficient coordination of disaster management institutions. Both will provide effective management in responding to crises, averting hazards, and managing disasters that have the potential to occur across various countries. In developed countries where regulations are well structured, using mitigation protocols, all parties have understood their duties, functions, and responsibilities in dealing with these risks. However, in countries where *unstructured regulation is unstructured*, there are complexities and multiple interpretations of regulations and there are intersections of institutional authority, which creates vulnerabilities in dealing with risk. This study concludes the importance of an integrated risk mitigation system, both in terms of rules and regulatory formulation as well as coordination of institutions in one container. In addition to these factors, economic, sociological, and demographic characteristics in a country are also structural conditions that determine the optimal implementation of regulations and institutional coordination.

Keywords: *Crisis, Hazard, Disaster, Coordination, Institutional*

I. INTRODUCTION

Crises, hazards, and disasters are risks in human life that should be managed systematically in order to avoid large losses to the sustainability of life. Crises, hazards, and disasters are categorised as potential risks that pose a challenge to the government and affected communities, testing the government's ability to act effectively and accountably, while the affected communities are tested to swiftly support and live the risks together. The existence of two interests between the government and the community in overcoming crisis, hazard, and disaster is intended as an order in building an integrated system for overcoming

risks that occur based on mutual trust, honesty, and wisdom and mutual help which is then named as *social capital*.¹

Further, a crisis is a certain condition that lays bare the failure to carry out its functions and roles effectively and efficiently, which is indicated by the deterioration of various factors. Meanwhile, hazard is a potentially threatening condition that is likely to cause loss, injury, or death. On the other hand, disasters are events or series of events that have threatened and disrupted people's lives either by natural and/or non-natural factors and human factors resulting in casualties, environmental damage, property losses, and psychological impacts.²

In other words, crises, hazards, and disasters are risks that cause vulnerability not only to citizens, but also to government institutions, invoking risk mitigation systems. This is because crises, hazards, and disasters are not only natural and non-natural problems, but problems of human actions that differ in understanding aspects of social, economic, and cultural life, giving rise to these three risks.³

The vulnerability of the government in management crises, hazards, and disasters can manifest in the form of slow policy arrangements, unclear formulation of regulations, and unharmonious inter-agency relations. This has resulted in reconstruction and transition efforts for management rehabilitation that require high costs and are ineffective from the government side, making it counterproductive in efforts to mitigate risks quickly.

Risk occurs from crisis conditions where there are abnormalities in certain situations, which if the impact and level are not handled can cause dangerous conditions for society and the environment. This if not handled properly will have a wider impact on human life and will eventually lead to greater disaster impact.

Based on data from the Emergency Event Database (EM-DAT), during 2021 there had been 432 disaster events related to natural disasters around the world. This data increased from the previous year where from 2001-2020 there were an average of 357 disasters that occurred each year. Overall, disasters in 2021 caused 10,492 deaths, affected 101.8 million people, and caused economic losses of around US\$252.1 billion.⁴

Asia is the worst affected continent, with 40% of disasters occurring in Asia and accounting for 49% of the total number of deaths and 66% of the total

¹ Francis Fukuyama, "The Great Disruption: Human Nature and the Reconstitution of Social Order," *Simon & Schuster New York* (June 2016).

² Ben Wisner, Piers Blaikie, Terry Cannon, and Ian Davis, "At Risk: Natural Hazards, People's Vulnerability and disasters," *London and New York: Routledge* Second Edition (2003).

³ *Ibid.*

⁴ Centre for Research on the Epidemiology of Disasters [CRED]. "2021 Disasters in numbers, p.2" April 29, 2022.

number of people affected. Not only in Asia, but America also experienced an economically detrimental disaster in 2021 of US\$112.5 billion.⁵ This shows that management crises, hazards, and disasters greatly affects economic growth, so that good management will create stable economic growth.

This research looks at the causes and effects of management crises, hazards, and disasters that affect economic growth, so that good management will create stable economic growth, while poor management encourages economic growth instability. In times of crisis, hazard, and disaster, management that is a priority and influences policy is a choice in addressing economic needs or social needs first.⁶

In some advanced economies, crisis conditions, hazards, and disasters are anticipated by meeting social needs first, which are expected to encourage economic activity, while in developing countries, management prioritizes economic needs by neglecting social needs that should be addressed first, so that economic needs are partially handled, and social needs are ignored. As a result, the economic costs increase as a result of social life not being addressed first.⁷⁸

One of the things that needs to be addressed in the risk of crises, hazards, and disasters are to allocate all resources to be able to handle the impacts that occur optimally, thus having implications for the economy. Effective allocation can only occur if there is an integrative system in risk management, so that management is not carried out individually by the government, community, or business actors. This will realize the concept of integration in the form of planning and coordination among institutions to overcome systemic weaknesses as a result of crises, hazards, and disasters.⁹

In some developed countries, generally have a responsive risk management character, with an integration system that is realized by implementing crisis policy protocols such as the Disaster Management Framework (DMF) or Disaster Management Risk (DMR). DMF and DMR then act as guidelines for other countries to deal with crises, hazards, and disasters. Meanwhile, in developing countries such as Venezuela, the management of crises, hazards, and disasters had been¹⁰ mis-management due to government policies that

⁵ *Ibid.*

⁶ Sumitro Djojohadikusumo, "Development of Economic Thought: The Basis of Growth Economic Theory and Development Economics," Jakarta: LP3ES p. 69 (1987).

⁷ Ben Wisner, Piers Blaikie, Terry Cannon, and Ian Davis, "At Risk: Natural Hazards, People's Vulnerability and disasters," *London and New York: Routledge* Second Edition (2003)

⁸ *Ibid.*

⁹ Jan-Erik Lane and Svante Ersson, "Comparative Political Economy" Jakarta: Rajawali Grafindo Persada (1994).

¹⁰ Ben Wisner, Piers Blaikie, Terry Cannon, and Ian Davis, "At Risk: Natural Hazards, People's Vulnerability and disasters," *London and New York: Routledge* Second Edition (2003).

have changed since President Hugo Chavez (1999-2013) ended, which led to political stability, corruption, and abuse of investment activities that brought uncertainty to management policies, regulations, and government institutions.

Based on a comparison of the two countries, it is clear that the government's management in overcoming crises, hazards, and disasters depends heavily on the character of sustainable and well-systemized regulations and institutions. Therefore, this study will discuss crisis, hazard, and disaster management systems in terms of readiness of policy settings, regulatory formulation, and institutions with experience in several countries in management crises, hazards, and disasters.

II. OVERVIEW OF CRISES, HAZARDS, AND DISASTERS

Crisis, hazards, and disasters must be addressed by various countries. The Regional Office for Asia and the Pacific (ROAP) explained that Asia-Pacific is the region with the most disasters in the world, so disaster management is a regional priority. Over the past decade, most countries in the region have established national disaster management authorities and systems that continue to improve their ability to effectively respond to disasters.¹¹ The levels of crises, hazards, and disasters are depicted in the chart as follows.

Table 1.
Overview of Crisis, Hazard, and Disaster Situations

No	Comparison	Crisis	Hazard	Disaster
1	Understanding	Certain conditions that malfunction based on certain indicators	Conditions of failure that begin to threaten human life, the environment, and material	Conditions of failure that have caused human casualties, environmental damage, and material losses
2	Management Efforts	Prevention and repair	Prevention and recovery	Enforcement and recovery
3	Policy Character	Responsive-mitigative	Repressive-Mitigative	Repressive-rehabilitative
4	Character Regulation	Integrative	Integrative	Integrated
5	Institutional Character	Coordinated	Coordinated	Coordinated
6	Conditions of Vulnerability	Information, indicator data and mitigation	Information and data on causes and coordination	Information and data on rehabilitation and accountability

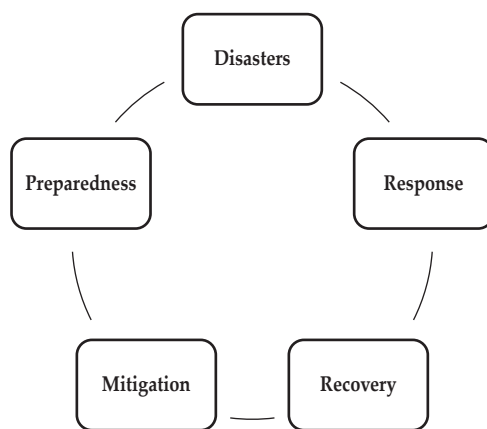
Source: Federal Emergency Management Agency, 2015 and 2017 (processed)

¹¹ Regional Office for Asia and the Pacific [ROAP]. "Disaster Response in Asia and the Pacific: A Guide to International Tools and Services". Bangkok: United Nations Office for the Coordination of Humanitarian Affairs, (2013)

Based on the above conditions, management of crises, hazards, and disasters require integrated-coordinated regulations and institutions so that management can be effective and accountable. This is done so that the management of the third risk does not lead to dysfunction of the economic units of the community, which ultimately have an impact on economic growth and the level of prosperity of the country.

Furthermore, the emergence of bilateral response arrangements and the increasing capacity of regional organizations has contributed to more diverse response systems. As a result, disaster management and response in the Asia-Pacific region is based on strong national leadership, particularly in the context of natural disasters, with regional and international actors complementing governmental efforts.

ROAP divides support in disasters into three categories, namely local, national, and international support. Local support consists of local governments, civil society, and affected communities or communities. Meanwhile, national support consists of the private sector, humanitarian country team, and national government as well as international support which also plays an important role in disasters including regional, bilateral, and multilateral relations. Broadly speaking, the cycle of disaster management in the world can be seen in the following scheme.¹²



Source: ROAP (2013)

Figure 1. Disaster Management Scheme

The above scheme explains that disaster response requires assistance and intervention carried out during or immediately in response to a disaster to save lives and meet the basic needs of those affected. Disaster preparedness

¹² *Ibid.*

includes activities undertaken to minimize the number of deaths, injuries, and property damage due to disasters, and to ensure that rescue, emergency relief, rehabilitation and other services can be employed after a disaster occurs. Preparedness for initial and immediate response is called “emergency preparedness”.

Effectiveness in the face of crises, hazards, and disasters is also based on three criterias: (1) structured policy arrangements; (2) systematic formulation of regulations; and (3) integrated coordination among institutions. The inability to handle crises, hazards, and disasters can certainly impose high social costs, even though economic resources are generally very limited when crises, hazards, and disasters occur.¹³

It has also been found that management of crises, hazards, and disasters are related to the development of policies, regulations, and institutions that handle them, so that there is a systematic interaction among crisis, hazard, and disaster risks and economic stability. Below is one model showing the causality between management crisis conditions, hazards, and disasters and economic failure due to a lack of integrated risk mitigation and regulation of the economy in general.¹⁴



Figure 2. Crisis, Hazard, and Disaster

In some developed countries, the risk of crises, hazards, and disasters has been addressed through an integrated mitigation system that prioritises the shared role between the government and the community. On the other hand, in developing countries, the management of crises, hazards, and disasters tends to fall commando based on the role of the government, as a result the response is slow. The preparedness of the people of developed countries has tended to be alert and socialised with adequate data and information, while developing countries in disaster preparedness still lack adequate responses because risk socialisation tends to be ignored. In addition, there is a relationship between

¹³ *Ibid.*

¹⁴ Jan-Erik Lane and Svante Ersson, “Comparative Political Economy” Jakarta: Rajawali Grafindo Persada p. 17, (1994).

crisis management, danger, and disaster management to economic conditions which can be seen in the following table.

Table 2.
Character of Risk Management and Economic Conditions

No	Character of Risk Management	Economic Conditions
1	Responsive	Dynamic, the economy also adjusts to the swiftness of risk management
2	Moderate	Plastic, the economy changes depending on the accuracy of risk management
3	Conservative	Static, the economy stops due to incompetent management of crises

Source: *Fiscal Affairs Department, International Monetary Fund* (2018)

The responsive character dictates responsive policies, simple but definite regulations, and well-coordinated and dynamic institutions because it follows the development of the erratic, unpredictable nature of risk occurrence, so it must be flexible. As a result, the economy remains in line with the system's alacrity and is able to detect the extent of possible mismanagement.

Meanwhile, in a moderate system, policies are still patchy; there are regulations that are complete, but there are still incomplete regulations that require a closer nexus with risk conditions and institutions that still change according to risk conditions. In addition, the character of moderate management as it relates to economic conditions is highly dependent on the effectiveness of management that is still inconsistent or pending policy decisions.

In a conservative character, there is a lack of preparedness, regulations are unclear and incomplete, and institutions are still looking for forms of adjustment to risk conditions. Economics in the conservative character regimes tends to fail to predict progress and management, so the possibility of failure of economic activity is very high because it is unable to predict management.

III. ANALYTICAL AND STATUTORY APPROACHES

Research on management crises, hazards, and disasters in policy, regulatory, and institutional perspectives use two approaches known in normative legal research, namely an analytical approach to the understanding of policies, regulations, and institutions and a regulatory approach that emphasises the legal aspects of disaster management.¹⁵ This research is included in juridical-normative research, which is basically related to three main aspects, namely

¹⁵ Johnny Ibrahim, "Theory and Methodology of Normative Legal Research," Malang: Bayumedia p. 299-322 (2006).

policy formation, regulatory implementation, and institutional implementation. Relating to this research topic will lead to aspects of the application of laws, especially those related to crisis situations, hazards, and disasters.

Therefore, the *analytical approach*, used to find the meaning contained in the terms crisis, hazard, and disaster, as well as knowing its application in practice, is also closely related to aspects of systematic review of relevant laws and regulations, by conducting technical studies. The second approach taken is the ¹⁶ *statutory approach* considering that this research will examine various laws and regulations related to management crises, hazards, and disasters comprehensively, inclusively, and systematically.¹⁷

To obtain regulatory and institutional data from several other countries, laws and regulations and manuals for crises management, hazards, and disasters were reviewed and analyzed. The literature was obtained through online searches. This was thoroughly reviewed related to crisis, hazard, and disaster management systems.

In terms of form, this research was evaluative research with the aim of assessing policies, regulations, and institutions related to crisis management, hazards, and disasters. By considering the type of research, the data used in this study are secondary data. This data includes primary legal materials including laws and regulations in several countries that regulate policies, regulations, and institutions in management crisis risks, hazards, and disasters in general.

In this study, researchers also benchmarked several countries including Japan, the United States, India, and the Philippines. These four countries were selected based on CRED data in 2021 where the four countries were in the top 10 countries that are often hit by disasters causing the highest deaths and the highest economic losses in the world.¹⁸

Based on CRED Data, the number of disasters by continent and top 10 countries in 2021 was the United States with 129 disasters occurring in 43 states, Mexico with 11 events, Colombia with 11 events, Peru with 10 events, and Brazil with 8 events. Followed by the African continent there have been 57 disaster events. The European continent with 56 disasters. Furthermore, the Asian continent with 174 disasters with the top countries experiencing the most disasters, namely India with 19 disasters, China with 17 disasters, Vietnam with 8 disasters, the Philippines with 14 disasters, Malaysia 8 disasters, and Indonesia with 28 disasters. Finally, the continent of Oceania with 16 disasters.¹⁹

¹⁶ *Ibid.*

¹⁷ *Ibid.*

¹⁸ Centre for Research on the Epidemiology of Disasters [CRED]. "2021 Disasters in numbers, p.2" April 29, 2022.

¹⁹ *Ibid.*

Economic losses caused by disasters in 2021, there are 6 countries with the largest impact of losses, namely the United States at 115.6 billion, Germany at 40 billion, China at 19.6 billion, Japan at 7.7 billion, France at 6.6 billion, and India at 3.1 billion.²⁰

IV. UNDERSTANDING AND SCOPE OF CRISES, HAZARDS, AND DISASTERS IN VARIOUS COUNTRIES

Crisis management, hazards, and disasters have different governance and methods in each country. Differences in economic, social, cultural, and geographical characteristics that play a very substantial role. In addition, the establishment of regulations and institutions that have been formed in a country is a major factor in the success of management crises, hazards, and disasters.

In essence, the situations faced by all countries in the world must be responded to by their respective government through coordinated policies, regulations, and institutions, acting as one unit, because the nature of the success of management crises, hazards, and disasters depends heavily on well-structured policies, regulations, and institutions. The concept of effective management of crises is inconsistent when policy formulation is inefficient, regulatory norms are unclear, and institutions that deal with each other clash, as a result risk management only becomes a burden of problems and not overcoming problems.

The risk of crises, hazards, and disasters will ultimately implicate the issue of state responsibility, placing burdens on budgets and burden on the economy and will directly impact the sustainability and sustainability of the state economy and its people. These implications occur because crisis, hazard, and disaster conditions are always be identified or inseparable from the synergy of systemized and integrated management. Synergy of systematic and integrated management is a management policy that involves across ministries/agencies, concerning all aspects of financing, resources, and overall macro actions related to crisis management, hazards, and disasters. Such management especially concerns the rights and obligations of the state as a public legal entity that organizes general government and public services in dealing with crisis, hazard, and disaster risks as outlined in policy, regulatory, and institutional systems.²¹

²⁰ *Ibid.*

²¹ Press Release of the Ministry of Social Affairs, "Disaster Management Needs Synergy, Coordination and Strengthening K/L", accessed September 6, 2022.

The corollary of this is, of course, that unsystematic and disjointed management of crises, hazards, and disasters will cause three conditions that are dangerous for the country's economic sustainability, specifically:²²

- a. *non-state obligatory expenditures*, which are state expenditures for management crises, hazards, and disasters that are not the responsibility of the state or that should be the responsibility of the state, but the state is unable to finance them;
- b. *misallocation of assets*, i.e., there is a reduction in confidence and reputation in the country's economy due to the country's inability to deal with crises, hazards, and disasters; and
- c. *lack of responsibility*, namely the state is ultimately unable to handle crises, hazards, and disasters, even though it is clear that such management is not included in the functions of governance and public services. In general, some countries epitomise the conditions of crisis, hazard, and disaster in a law.

Therefore, the management of crises, hazards, and disasters must be formulated in a synergistic, systematic, and integrated manner by first patterning the understanding of crises, hazards, and disasters in several countries so that they have similar concepts in policy, regulatory, and institutional settings. Understanding the concepts of crisis, hazard, and disaster is important to prevent expansion of the understanding and scope of crises, hazards, and disasters which must be formally separated from other conditions that are not the public authority of the state and the right of the state to handle it efficiently.

In the context of policies, regulations, and institutions, these are the authority of the government with parliamentary approval, for successful management of crisis, hazard, and disaster risks depending on the character of the government. In this case, the government with the approval of parliament draws up and establishes the conditions that are declared to be the risks of crisis, danger, and disaster by stating them expressly in its laws. Laws in some countries specifically regulate crisis, hazard, and disaster conditions and are generally reflected in policy, but are not necessarily complete regulations and institutions. It also depends on the country's ability to understand each risk policy²³

Crisis, hazard, and disaster risks must be formally included in the law, including an explanation of the background and impact on governance, the economy, and public services. In other words, the risk of crisis, danger, and disaster as a specified risk in the law for each country, can be matched with

²² Fiscal Affairs Department IMF, "Fiscal Policy: How to Manage the Fiscal Costs of Natural Disasters," (June 2018).

²³ Carol Alexander, "Mastering Risk Vol. 2 p. 21-29," London: Financial Times (2001).

the circumstances that have occurred at the time it was formulated into law. This is done so that conditions that have occurred can be declared a risk of crisis, danger, and disaster. Determination of crisis, hazard, and disaster risks under the law in general after going through a learning phase and anticipatory attitude, thus affecting the setting of crisis, hazard, and disaster risk limits that are only born under the law or listed in law.

However, finally the discussion of crisis, hazard, and disaster risks cannot be separated from the character of policies, regulations, and institutions of each country that legally have an impact on management crises, hazards, and disasters, nor can it be separated from the character of state government as a whole. This relationship is due to the management of anything carried out by the state is still shown by the character of its policies, regulations, and institutions. In general, crises, hazards, and disasters affected by policies, regulations, and institutions are interpreted as conditions that cause losses to systems, society, the environment, and humanity and cause vulnerabilities and failures in life functions, transactions, and activities.²⁴

In general, in some countries, a situation is said to have addressed the risk of crisis indicated by a malfunction with certain indicators, while in the risk of hazard is indicated by a malfunction accompanied by a threat, and a disaster is indicated by a malfunction resulting in casualties and losses.

The United States defines a crisis as the inability of a severe system to perform its usual functions, which does not necessarily lead to a state of disrepair,²⁵ while disaster is defined as an instantaneous occurrence that causes great damage and loss of life,²⁶ and danger is defined as a condition that endangers a person, environment, and material.²⁷

Japan describes crises as events that result in the deterioration of the functioning of normal systems, due to pressure and deterioration of a result of activities, disasters are events and facts that have unfavorable consequences to humans and the environment and dangerous circumstances are threatening circumstances and the possibility of causing environmental damage and losses to humans and the environment.^{28,29,30}

²⁴ *Ibid.*

²⁵ Kimberly Amadeo, "US Economic Crisis, Its History and Warning Sign," October 29, 2021. www.thebalancemoney.com.

²⁶ Federal Emergency Management Agency, "Are you ready? An in-depth Guide to Citizen Preparedness," USA, tt., p. 4 September 2020.

²⁷ Legal Information Institute, "Clear and Present Danger," September 24, 2022, www.law.cornell.edu.

²⁸ Paul Burkett and Martin Hart-Landsberg, "The Economic Crisis in Japan: Mainstream Perspective and an Alternative View," *Critical Asian Studies* 3 (September 2003): 341.

²⁹ GFDRR, "Knowledge Note-2 Cluster 2: Nonstructural Measures Disaster Management Plans," Japan, p. 7. (2022).

³⁰ Minoru Ota *et al.*, "Major Projects: Environmental Risk in Japan: Overview, January 1, 2017.

Meanwhile, in the Philippines, crisis is defined as a condition that causes uncertainty and inability of the system to perform its functions, danger is a condition that interferes with safety and disruption to human life and the environment, and disasters are events caused by nature, people, and technology that cause great losses and disrupt life.³¹

India defines crisis as a condition of failure that causes system inefficiencies, hazard as a condition that causes disruption to human safety and the environment, and disaster as an event that causes loss and damage due to human and natural actions.³²³³³⁴

Under various definitions and scopes of crises, hazards, and disasters in several countries, it can be seen the character of each country's policy formulation in overcoming these risks, namely the United States and Japan provide more flexible and dynamic arrangements. Unlike the Philippines and India, it sets forth policies in detail, thus locking and limiting conditions on events stipulated in the provisions of the law. The differences in the definitions and characters of the four countries can be described as follows.

Table 3.
Definition of Crisis, Hazard, and Disaster in the United States, Japan, Philippines, and India

No	Country	Crisis	Hazard	Disaster
1	United States	severe inability of the system to perform its usual functions, which does not necessarily lead to a damaged condition	a state of harm to a person, human, environment, and material	an instantaneous occurrence that causes great damage and loss of life
2	Japan	events that result in poor normal systems, due to pressure and deterioration of an activity result	circumstances that threaten and are likely to cause environmental damage and losses to humans and the environment	events and facts that have unfavorable consequences to humans and the environment
3	Philippines	conditions that cause uncertainty and inability of the system to perform its functions	hazard as a condition that interferes with safety and disturbance to human life and the environment	events caused by nature, humans, and technology that cause great losses and disrupt life
4	India	failure conditions leading to system inefficiencies	hazard as a condition that causes disruption to human safety and the environment	events that cause loss and damage due to man, technology, and nature

Source: Federal Emergency Management Agency 2017, Government of Japan 2021, Government of Philippines 2009, Ministry of Home Affairs of India 2022 (processed)

³¹ Government of Philippines. "Republic Act 10121", July 2009.

³² Nikita Dutta, "Major Economic Crisis in India," 23 September 2022, www.economicsdiscussion.net.

³³ We Kings ExpoMedia Ltd, "Fire Safety and Regulations in India," March 19, 2021.

³⁴ Ministry of Home Affairs of India, "Understanding Disasters".

From the data above, the United States and Japan have established separate bodies for management crises, hazards, and disasters by forming a council or body, consisting of the President or Prime Minister, cabinet ministers and several experts. As for the Philippines and India, policies and regulations are inflexible, not dynamic, and too detailed, so that when a crisis, hazard or disaster occurs there is a new adjustment to the regulations per law.

Japan and the United States are the most effective countries in managing crises, hazards, and disasters in the world according to the United Nations of Development and Programs (UNDP), because they have well-established systems of policies, regulations, and institutions. In the United States and Japan, there is no need for the formation of new institutions or organizations in anticipation of crises, hazards, or disasters because it is well established in a major organization, namely the Federal Emergency Management Agency which directly has access to the President and members of the ministry. Similarly, Japan has established The Central Disaster Management Council which is under the control of the Prime Minister. This is in accordance with the ideal criteria in management crises, hazards, and disasters that emphasize three things, namely principles, processes, and institutional capacity.

The United States and Japan already have standard guidelines for mitigating crisis, hazard, and disaster risks, so there is no need for patchy policies or regulatory changes per law, where changes only occur through the budgeting process to address increased financial risks. As a result, crisis, hazard, and disaster risk management policies tend not to cause significant and massive changes in policies, regulations, and institutions.

Under normal conditions, the existence of the Federal Emergency Management Agency and The Central Disaster Management Council continue to carry out the functions of monitoring and control, then reporting pre-conditions and estimates to the government. In addition, the Federal Emergency Management Agency and The Central Disaster Management conduct regular audits of risk levels, so that they can be material for efficient policy, regulation, and decision making because decision-making officials are in it.

Policymaking in the United States and Japan within the Federal Emergency Management Agency and the Central Disaster Management Council is transparently explained in its guidelines, which are set out in a meeting attended by heads of government, then decided and disseminated to all stakeholders. The existence of a body or board that is directly at the head of government becomes efficient because it is attended directly or at least reported directly.

Budgeting in management of crises, hazards, and disasters in the United States and Japan is stipulated in their state budget laws consistently and can change based on the situation and the government is given flexibility in financing

from state budget sources. In addition, the allocation of crisis, hazard, and disaster risk costs is also coordinated with the Federal Emergency Management Agency and The Central Disaster Management Council. Therefore, budget allocation remains well-coordinated even though the budget allocation is spread across several ministries/agencies.

The Philippines and India take different approaches, through the institutions of The National Economic and Development Authority (NEDA) and the National Disaster Management Authority (NDMA) respectively, which integrate by forming teams or coordination units, so that this form of team does not eliminate institutional egocentricity and the allocation of crisis, hazard, and disaster costs that spread across several ministries/agencies. Furthermore, it is not well coordinated how to use and handle these conditions and which institutions need to do first when risks occur, so sometimes the management of risks, hazards, and disasters is delegate with an inadequate budget across several ministries/agencies. As a result, in circumstances that are considered or viewed as part of the scope of crises, hazards, and disasters based on decisions, can be directly financed as material fiscal risks. This condition is inefficient and leads to waste because management may be uneven and different.

If with disintegrative institutions, the risks of crisis, hazard, and material disasters cannot be mitigated with certainty, the public or the market calculates these uncertainties and allocates costs to them, so that economic activity also becomes waiting for certainty of policies, regulations, and actions of government institutions. This condition is one of the risks in dealing with crises, hazards, and disasters when institutions experience disintegrative.

In addition, if the Philippines and India want to manage risks of crises, hazards, and disasters by means of the Federal Emergency Management Agency and The Central Disaster Management Council it is rather difficult to implement because the character of government organisations tends to be too detailed.³⁵ Inefficiencies arise in management of crises, hazards, and disasters if policies are not clear and open, closed socialization, and regulations that tend to be multi-interpretive.

Therefore, the efficient management of crises, hazards, and disasters in the United States and Japan can be referred to as definitions used in positive functions. That is, if a situation containing the risk of crisis, hazard, and disaster has been determined in that condition, it is essentially a risk and can be financed in its State Budget Law. It cannot be delineated in detail because the formulation has covered in general with clear governance. This is in contrast to definitions in the Philippines and India, which specify conditions as crisis, hazard, and disaster. Definitions that are too rigid end up limiting policymakers

³⁵ Government of Philippines. "Republic Act 10121", July 2009.

in situations formulated in the law, thus limiting the movement of financing in the State Budget.

Based on this understanding, there are two things that should be considered in defining crises, hazards, and disasters as risks in the formal sense, first, the executive and legislative branches as parties that make laws regulating conditions as crises, hazards, and disasters based on government decisions or relevant authorities. Second, all state policies and measures in mitigating the risk of crises, hazards, and disasters can directly form the basis of financing with parliamentary approval by stating the clearest reasons.

Thus, the definition of crisis, hazard, and disaster must be a general state that is measurable and has a formal meaning set by the government so that policies, regulations, and institutions in managing the risk of crises, hazards, and disasters will not affect changes in the rule of law because they are more of an adjustment to government administration.

IV.A. Character of Policies, Regulations, and Institutions in Management Crises, Hazards, and Disasters in Different Countries

The understanding and scope of crises, hazards, and disasters in the United States, Japan, the Philippines, and India, influence their policy, regulatory, and institutional patterns. In the United States, crisis, hazard, and disaster policymaking is coordinated by the Federal Emergency Management Agency which provides reviews to the President and his cabinet, those reviews are then used to decide which policy options to set and present to Congress.

In Japan, The Central Disaster Management Council takes policy as well as government decisions because it is directly led by the Prime Minister. Decision making is carried out based on empirical reports and expert views. The speed of action in management crises, hazards, and disasters in Japan is influenced by mitigation protocols that are continuous and continuously updated according to developments, then disseminated to citizens continuously with various media. That is, in the United States and Japan, the character of policy, regulation, and security is very responsive-integrative, no decision is different from the review of the Federal Emergency Management Agency and the Central Disaster Management Council.

In the Philippines and India, crisis, hazard, and disaster policymaking has not been well structured, although in the Philippines there is the National Economic and Development Authority (NEDA) which is the coordinating body for government socio-economic development policy and planning and in India there is the ³⁶ National Disaster Management Authority (NDMA),

³⁶ Government of Philippines. "Philippine Disaster Risk Reduction and Management Act". Philippines 30 May 2006.

both institutions do not yet have integration with all other government agencies because they still have walk independently. In these conditions, the Philippines and India, are more appropriate to have a moderate character in risk management because some people and markets tend to wait for policy, regulatory and institutional patterns.

The existence of the Federal Emergency Management Agency and The Central Disaster Management Council is felt to benefit because it does not increase agency costs and changes in cost allocation tend not to be due to organization, but because the allocation capacity of management increases, meaning that allocation increases for the benefit of all. Unlike NEDA and NDMA, the increase in budget allocation occurs due to the expansion of membership and institutional organization, which is even almost equal to the budget capacity for the community.

In relation to the policy, regulatory, and institutional character, a policy is said to work if it provides positive progress to society or provides a change for the better to community members, without harming the rest of society. This concept for the United States and Japan is effective because policymaking is very efficient and communicative, regulations are simple, clear, and open and institutions are fixed. This certainly brings convenience to the public and the market in assessing the preparedness of the institution, so there is no need to guess or estimate.

In terms of conditions in the Philippines and India, reading the provisions for management crisis, hazard, and disaster management and policy making still requires coordination with other institutions, so it requires a long management time, the regulations are still broad and multi interpreted, so it is necessary to add and equalise regulatory norms. Therefore, institutions are unable to reach other institutions/ministries because they still need harmonisation. This makes it difficult for people and markets to predict the actions and actions of governments in dealing with crises, dangers, and disasters. On the other hand, socialisation and communication are often hampered due to access to data and information that has not been systemised and integrated into policies, regulations, and institutions.

The existence of responsive-integrative characters in policy, regulatory, and institutional making is a new paradigm in state administrative law, thus bringing positive progress without shifting the situation and conditions in society and the market. The shift here does not mean removing the essence of government to pursue rules as a tool of social engineering, but rather, providing a stimulant to society to position society as part of policy and jointly participate in recovery. When related to five models in contemporary

state administration, the following administrative models are related to policy making:³⁷

1. Classical bureaucratic model, that is, the structure or framework of an organization and the means used to organize people and work within the framework of the organization with close relationships and divide the organization until the smallest with the value achieved is effectiveness, efficiency, or economy;
2. Neo bureaucracy, a model that maximizes value with decisions, is a more general unit of analysis with the decision-making process being the focus. The patterns used are rational to achieve certain goals;
3. Institutional model, that is, a model that does not emphasize on efficient, effective, and productive organisations, but on how to analyse and understand existing bureaucracy;
4. Human relations model, which is a model with emphasis on group dynamics and sensitivity training and organisational development with underlying values are worker and client participation in decision making, emphasis on openness, honesty, and general satisfaction of workers and self-actualisation; and
5. Public choice model, which is a model of human relations that has a democratic administrative paradigm in which decision making is carried out by the dominant power and directed to strengthen human civilisation and achieve human welfare.

The character of policies, regulations, and institutions in the United States and Japan includes those that adopt the *public choice model* (*public choice model*) due to the continuous participation of all institutions/ministries, experts, and the public. Whereas in the Philippines and India, it tends to be neo bureaucratic in character where policies, regulations, and institutions are general and emphasize certain goals, but each other is not integrated goals.

Based on these conditions, it can be said that the character of policies, regulations, and institutions in the United States and Japan has new state values in the form of worker satisfaction, personal development, individual dignity, and public choice, which are needed for the realisation of a more responsive state administration concept and emphasizes results in management crises, hazards, and disasters. Meanwhile, the character of policies, regulations, and institutions in the Philippines and India has traditional state administrative values in the form of efficiency, economy, productivity, rationality, and variation.

³⁷ George Frederickson. New State Administration Law, Jakarta: LP3ES (1997).

This character turns out to affect changes in the structure of the economy and society and the market in viewing crisis management, hazards, and risks that essentially legitimize community participation to be more adaptable to risks or that create vulnerability in crises, hazards, and disasters. In relation to state financial allocations, the provision of unstructured fiscal allocations in the Philippines and India has contributed to the significant impact of expanding budgets, thus containing legal uncertainty in relation to taxation capabilities and national fiscal management. The economic system and economic development run by a country basically have a relationship with budget democracy. Economic development, increasing income, the degree of economic security has a lot of influence on the form of community struggle which is the basis of democratic development and also on public financing in its budget³⁸

In the United States and Japan, fiscal allocation due to crises, hazards, and disasters is not a new problem and has been managed with the principle of systematic and integrated management, so that additional fiscal allocations are not a problem because they are more administrative adjustments. Below are the agencies that handle prevention, protection, mitigation, response, and recovery and the heads within those agencies.

Table 4.
Institutions and Heads of Responsibility in Disaster Response in Different Countries

No	Country	Institution	Head
1	United States	Federal Emergency Management Agency (FEMA)	President
2	Japan	The Central Disaster Management Council (CDC)	Prime Minister
3	Philippines	National Economic and Development Authority (NEDA)	President
4	India	National Disaster Management Authority (NDMA)	Prime Minister

Source: Federal Emergency Management Agency (2017), Government of Japan (2021), Government of Philippines (2009), Ministry of Home Affairs of India (2022)

From the table above, crisis, hazard, and disaster policy making is coordinated by disaster agencies. The United States through the Federal Emergency Management Agency provides a review to the President and his cabinet, the review is then used to decide policy. While the Japan state by The Central Disaster Management Council which makes policies as well as government decisions because it is directly led by the Prime Minister.

In the Philippines, policy action is taken by the National Economic and Development Authority which is the coordinating body for socio-economic development policy and planning of the government. NEDA consists of the National Disaster Risk Reduction and Management Council (NDRRMC) and

³⁸ Suwarsono and Alvin Y."So, Social Change and Development", (Jakarta: LP3ES, 1994), p. 44.

Regional Disaster Risk Reduction and Management Councils (RDRRMCs) and in India there is the National Disaster Management Authority (NDMA), both agencies have not yet integrated all other government agencies because they are still running independently. Policymaking still requires coordination with other institutions, so it requires a long management time.

When the COVID-19 pandemic occurred, the four countries collaborated between the government and central banks in monetary and fiscal terms. The United States through the Federal Government issued three stimulus packages worth \$5 trillion through The Coronavirus Aid, Relief, and Economic Security (CARES) Act, the Consolidated Appropriations Act of 2021 (CAA), and the American Rescue Plan Act of 2021 (ARPA) which contain measures to help individuals and businesses in financial stress. Unconventional monetary policy is carried out by the United States by conducting quantitative easing (QE). QE has been carried out by the Fed, namely through the purchase of US Treasury Bills and Mortgage-Backed Securities (MBS), including commercial MBS. Not only that, but the Fed also released a municipal liquidity facility to assist the state and local governments in managing cash flow pressures. Through the facility, the Fed can purchase short-term notes issued by states (including the district of Columbia) up to \$500 billion, and from local governments on terms based on population.³⁹

In the same conditions, the Japan government promulgated a stimulus policy which was given amounting to 73.6 trillion Yen or if rupiah around Rp. 9,982.8 trillion at an exchange rate of Rp. 14,100 / 1 US dollar. The stimulus will be provided in the form of direct government spending of 40 trillion yen and the rest will be used in the form of interest-free loans to private parties that include subsidies. With this, Japan managed to improve its economy and experienced an increase in growth of 5.3% in the third quarter (III). Japan's economy slumped again entering 2021 due to cases of coronavirus disease (COVID-19) which have risen again since the end of 2020.⁴⁰ As a result, the Bank of Japan (BoJ) extended its asset purchase and concessional loan program that was supposed to end in September 2021. The BoJ has not changed its policy, the interest rate remains at -0.1% and the yield on 10-year bonds is near 0%.⁴¹

The Philippines is drawing up an economic recovery plan to support hard-hit industries and boost funding through bond sales of \$2.35 billion and as much as \$7 billion in concessional loans from multilateral lenders. On the other

³⁹ US Department of Labor, "Essential Protections During the COVID-19 Pandemic", (2022).

⁴⁰ Andy Dwi Cahyono, "Japan's Economy during the COVID-19 Pandemic", (January 19, 2022).

⁴¹ Putu Agus Pransuamitra, "GDP Eaten by Corona Again, BoJ Extends Monetary Stimulus", (June 18, 2021).

hand, the central bank has cut its benchmark interest rate by 1.25 percentage points and the bank's reserve requirement ratio by two percentage points this year to help boost the economy. As of the beginning of 2022, the Philippines had maintained its lowest interest rates. In the second half of 2022, BSP is expected to increase interest rates.⁴²

Finally, India enacted a number of policies to reduce the economic impact of the pandemic. First, the Reserve Bank of India (RBI) cut interest rates and helped finance budget deficits covering federal and state government shortfalls. The RBI also addressed the budget deficit by buying government bonds directly. Third, the RBI engaged in market operations through the purchase of bonds, finally, sought to reduce corporate debt. The RBI has used targeted liquidity injection to ease some of the funding pressures in the economy. Fifth, the RBI relaxed rules including relaxing the schedule for bad loans and prohibiting lenders from paying dividends for the year ended March 31, 2020. RBI has given a grace period of three months to all banks regarding the recognition of bad loans.⁴³

IV.B. Crisis, Hazard, and Disaster Management in Indonesia

In Indonesia, crisis, hazard, and disaster regulations have a moderate character with changes in accordance with the conditions faced with institutional characters that are still sectoral because several institutions in management of crises, hazards, and disasters have not been integrated in management patterns. Such conditions cause that in principle, management of crises, hazards, and disasters in Indonesia has not been effective because it is very dependent on the legal basis and authority. The principle of legal certainty is more manifested than the question of usefulness. This results in every decision making in management crises, hazards, and disasters waiting in advance for legal norms whether they are adequate or not.⁴⁴

If it is not yet available, the norms are changed first or made in advance, whereas management crises, hazards, and disasters is about the speed of management people, and not about the rules. Interestingly, the policy rules often change such as the mandatory PCR test policy.⁴⁵

In terms of processes, management crises, hazards, and disasters in Indonesia is also too detailed and rigid in administrative processes with

⁴² Reni Lestari, "Corona Impact, Philippine Economy Contracted for the First Time Since 1998", (May 7, 2020).

⁴³ Reni Lestari, "These are the Five Ingredients of Indian Central Bank Policy to Fight the Corona Crisis", (April 21, 2020).

⁴⁴ Rakhmatulloh, "Changing Policies Cause Pandemic Control and Economic Failure (July 13, 2020).

⁴⁵ Supriatin, "PCR Test Rules Change, IDI Asks Government to Consistently Make Policies", (November 2, 2021).

documents rather than results. Management crises, hazards, and disasters is not based on results (performance) or benefits, so all management must be gradual from the bottom up which takes a long time. If this process is not carried out, there are fears of being criminalized as it is considered to violate procedures, so that it can be considered detrimental to state finances. As a result, the documentation process will take time and must be carried out gradually even though impending crisis, hazard, and disaster conditions that have claimed lives.

In terms of institutional capacity in Indonesia, crisis, hazards, and disasters management have many institutions where one and another are legally under the President as the head of government. Some laws and regulations regarding crises, hazards, and disasters are carried out without regulating the relationship between authorities, so that all institutions have their own duties, functions, and authorities. In the end, the management under the President becomes biased because all are on their respective implementations.

Budgets in management crises, hazards, and disasters are spread across several ministries/agencies, not integrated with each other because each has an allocation proposal. The completion of management has not been integrated in a cabinet decision because ministries/agencies as budget users have the authority to implement the budget without the need for integrated integration. Furthermore, the budget is locked in allocation and is rigid. If there are changes in the budget and the allocation must be approved in advance, otherwise it is considered unlawful. Cabinet decisions in determining budget allocations are closely monitored, so budget shifts for any reason cannot be justified.

As well as in management the COVID-19 pandemic, Indonesia has taken policy steps by implementing changes in economic and financial sector regulations towards fiscal and monetary consolidation, tax and spending reforms, as well as institutional structural policies, as stipulated later in Law Number 2 of 2020 concerning Stipulation of Government Regulation in Lieu of Law Number 1 of 2020 concerning State Financial Policy and Financial System Stability for Management the Corona Virus Disease 2019 (COVID-19) Pandemic and/or in Dealing with Threats that Endanger the National Economy and/or Financial System Stability into Law and Government Regulation Number 23 of 2020 concerning Implementation of the National Economic Recovery Program in order to Support State Financial Policy for Management the Corona Virus Disease 2019 (COVID-19) Pandemic and/or Facing Threats that Endanger the National Economy and/or Financial System Stability and National Economic Rescue.⁴⁶

⁴⁶ Indonesia, Law No. 2 of 2020.

Law No. 2 of 2020, at least two things are regulated. First, the policy aspects were addressed through Law Number 2 of 2020, the government regulates efforts to handle the COVID-19 pandemic, starting from increasing spending in the health sector, refocusing the budget mechanism of Ministries/Institutions/Local Governments, social safety nets, economic recovery and strengthening the authority of several institutions. Second, from an institutional point of view, Law Number 2 of 2020, the government was promulgated to regulate legal protection for KSSK members not to be prosecuted criminally or civilly in carrying out their duties in good faith and in accordance with laws and regulations. In addition, KSSK members also cannot be sued through the state administrative court for their state administrative decisions/policies.⁴⁷

In addition, Law Number 2 of 2020 also regulates various additional authorities carried out by Bank Indonesia, LPS, and OJK as an effort to handle the COVID-19 Pandemic in the context of national economic recovery. In Law Number 2 of 2020, Bank Indonesia can purchase government bonds and/or sharia bond in the primary market or said to be burden sharing. In Article 19, paragraph (1) Bank Indonesia can purchase government securities and/or futures government sharia securities length as referred to in Article 16 Paragraph (1) part c in the primary market designated as a source of funding for the Government. Ayat 2, Sources of funding for the Government as referred to in paragraph (1) is used in the framework national economic recovery including maintaining continuity of state financial management, provide loans and increase capital to Deposit Insurance Corporation, as well as funding for banking restructuring in times of crisis. Further provisions regarding schemes and mechanisms for purchasing Government Securities and/or Sharia Bonds in the primary market in paragraph (1) shall be regulated jointly between the Minister of Finance and the Governor of Bank Indonesia by considering: a) market conditions for Government Bonds and/or Sharia Bonds; b) effect for inflation; And c) types of Government Bonds and/or Sharia Bonds.

Article 16 Paragraph 1 part c reads to support the implementation of the KSSK's authority in the context of handling financial system stability problems as referred to in article 15 paragraph (1), Bank Indonesia is given the authority to purchase long-term Government Bonds and/or Sharia Bonds on the primary market to address issues financial system that endangers the national economy, including Government Bonds and/or Sharia Bonds issued with specific purposes in the framework of the Corona Virus Disease 2019 (COVID-19) pandemic;

⁴⁷ Yunus Hussein and Ichsan Zikry, "Legal and Institutional Aspects of The Financial Sector in Management the COVID-19 Pandemic," *Journal of Central Banking Law and Institution* Vol.1 No.2 (2022).

Burden sharing is carried out by BI and the government (Minister of Finance) as an effort to handle the country's financial stability during crisis conditions to finance expenses during the COVID-19 pandemic. The principle of burden sharing is stated in the Joint Decrees (Keputusan Bersama, or KB), the first dated 16 April 2020 (KB I) and the second dated 7 July 2020 (KB II), with the following details: In the first phase or KB I, Bank Indonesia purchased long-term SUN/SBSN on the primary market through the market mechanism amounting to Rp75.85 trillion, consisting of Rp33.78 trillion in SBSN and Rp42.07 trillion in SUN. Bank Indonesia also acted as the standby buyer in case the issuance of SUN/SBSN could not be absorbed in the primary market. In the second phase, Bank Indonesia purchased SUN/SBSN directly through private placement for financing expenditure on public goods in the 2020 State Budget, amounting to Rp397.56 trillion by the end of 2020. Meanwhile, until November 15, 2022, in the third phase aimed at health and humanity, IDR 310.4 trillion has been realized, so that the remaining IDR 128.58 trillion has not been realized.⁴⁸

Bank Indonesia's role in the National Economic Recovery has been awarded the Best Systemic and Prudential Regulator in Asia Pacific Award 2021 by The Asian Banker. This award was obtained for the collaboration between BI, the Government and other relevant authorities in implementing policy measures that are fast, significant, innovative, clear and in accordance with governance, especially in providing equity through burden sharing mechanisms with the government.⁴⁹

IV.C. Economic, Sociological, and Demographic Characteristics in Each Country Influence Success in Crisis Management, Hazards, and Disasters

Gross Domestic Product is the main indicator that is able to reflect the economic characteristics in a country. The more stable a country's economy is, the better the management of crises, hazards, and disasters, as well as higher success rates. In this case the United States (USA) which has the highest GDP per capita, then followed by Japan, gives an idea that countries with economic stability will have a high success rate in management crises, hazards, and disasters.

⁴⁸ Maria Elena, "BI Burden Sharing SBN Purchases Reach Rp974.09 trillion as of 15th November 2022".

⁴⁹ Bank Indonesia, "BI Wins Best Systemic and Prudential Regulator Award in Asia Pacific", Press Release 2021.

Table 5.
GDP per capita (USD)

No	Country	GDP per Capita (USD)										
		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
1	USA	53 394,86	54 213,46	54 830,78	55 675,39	56 762,73	57 292,54	58 215,41	59 600,05	60 687,23	58 060,31	61 280,39
2	Japan	33 011,13	33 518,44	34 239,89	34 386,91	34 960,64	35 242,2	35 861,97	36 117,23	36 081,07	34 556,44	35 278,42
3	Philippines	2 484,489	2 610,968	2 740,456	2 866,822	3 001,043	3 167,502	3 338,442	3 500,934	3 664,791	3 271,65	3 412,59
4	India	1 292,821	1 346,676	1 415,829	1 503,422	1 605,605	1 719,318	1 816,731	1 914,012	1 965,539	1 817,816	1 961,42
5	Indonesian	2 849,355	2 980,61	3 104,348	3 217,317	3 331,695	3 456,928	3 589,716	3 732,867	3 87,7425	3 757,122	3 855,79

Source: World Bank (2022)

In terms of demography, the abundance of population in a country is a challenge for the government in management crises, hazards, and disasters. India with a population of 1.3 billion people experienced difficulties at the time of the disaster, conditions exacerbated by low GDP per capita, so it was unable to provide facilities and infrastructure. In contrast to Japan, a population of 125 million people with a high GDP per capita is a profitable combination, so Japan is listed as a country with a good DMF.

Table 6.
Total Population

No	Country	Total Population										
		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
1	USA	311 583 481	313 877 662	316 059 947	318 386 329	320 738 994	323 071 755	325 122 128	326 838 199	328 329 953	331 501 080	331 893 745
2	Japanese	127 833 000	127 629 000	127 445 000	127 276 000	127 141 000	127 076 000	126 972 000	126 811 000	126 633 000	126 261 000	125 681 593
3	Philippines	95 570 049	97 212 639	98 871 558	100 513 137	102 113 206	103 663 812	105 172 921	106 651 394	108 116 622	109 581 085	111 046 910
4	India	1 250 287 939	1 265 780 245	1 280 842 119	1 295 600 768	1 310 152 392	1 324 517 250	1 338 676 779	1 352 642 283	1 366 417 756	1 380 004 385	1 393 409 033
5	Indonesian	245 115 988	248 451 714	251 805 314	255 128 076	258 383 257	261 556 386	264 650 969	267 670 549	270 625 567	273 523 621	276 361 788

Source: World Bank (2022)

Another factor that plays an important role is sociological influence in a country, in this case proxied by population heterogeneity. Heterogeneity can be viewed from tribes/natives of the country or come from residents who are immigrants/immigrants from outside the country. The more heterogeneous the population in a country, the more complicated the management compared to more homogeneous countries. Countries with “LOW” heterogeneity have a higher success rate than countries with “HIGH” heterogeneity.

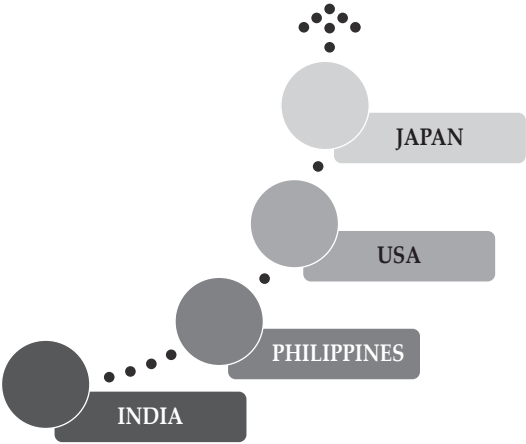


Figure 3. Quality of Disaster Management

Based on the historical occurrence of crises, hazards, and disasters so far, it can be concluded that Japan is the country with the highest success rate compared to the other three countries. Next is the United States (USA), the Philippines and finally India.

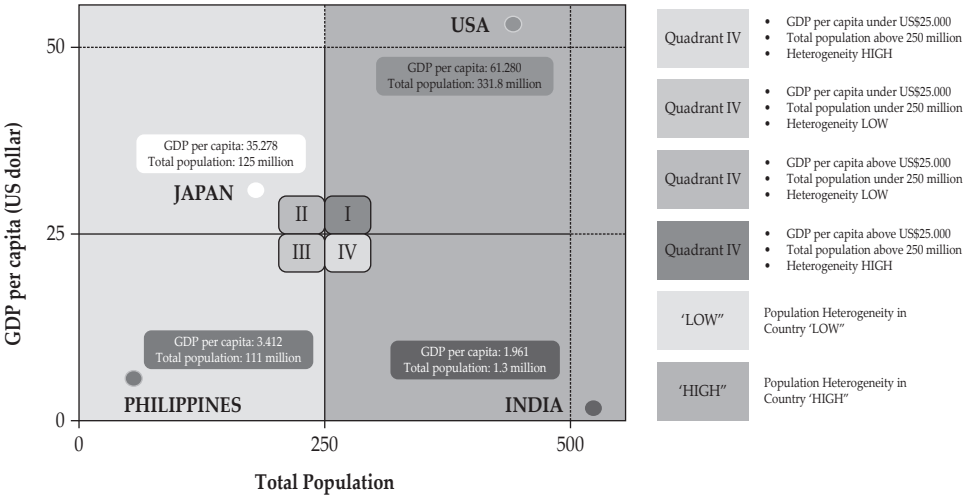


Figure 4. Characteristics of Economics, Sociology and Demography

Of the four countries under observation, they can be classified into four different quadrants, the first quadrant is represented by the United States (USA) which has a high GDP per capita of USD61,000, and a population of more than 250 million people. Quadrant II is a country that has a population of less than 250 million people and has a GDP per capita above USD25,000.

The country classified as quadrant III is the Philippines, with a relatively small population, which is 111 million people and with a GDP per capita of USD 3,412. The country in the fourth quarter is India, which has a very large population of 1.3 billion people, while GDP per capita is below USD 2,000. In terms of heterogeneity, countries in quadrant II and quadrant III include countries that have heterogeneity “LOW.” Meanwhile, countries in the first and fourth countries, namely the United States and India, are among the countries that have “HIGH” heterogeneity.

V. CONCLUDING REMARKS

Crisis, hazard, and disaster management systems in terms of readiness through the formulation of regulations and institutions can be done by formulating understanding and limits on the purpose of crises, hazards, and disasters flexibly and dynamically which will then affect the character of regulatory and institutional policies so as to provide efficiency and optimization of crisis, hazard, and disaster risk management. The existence of responsive-integrative characters in policy, regulatory, and institutional making is a new paradigm in state administrative law, thus bringing positive progress without shifting the situation and conditions in society and the market. Integrated information data also facilitates policy making by relevant authorities. In some advanced economies, crises conditions, hazards, and disasters are anticipated by meeting social needs first to encourage economic activity, while in developing countries, management prioritizes economic needs by subordinating social needs that should be addressed first. In management crises, hazards, and disasters, it is necessary to have an integrated mitigation system that prioritizes the joint role of the government, private sector, and community. Synergy of systemized and integrated management will involve across ministries/agencies regarding all aspects of financing, resources, and overall macro actions related to management crises, hazards, and disasters, especially those concerning the rights and obligations of the state as a public legal entity that organizes general government and public services. Sustainable mitigation protocols are also continuously updated according to developments, then disseminated to community members continuously with private assistance and through various media.

REFERENCES

- Alexander, Carol. "Mastering Risk Vol. 2 p. 21-29.," *London: Financial Times* (2001).
- Amadeo, Kimberly. "US Economic Crisis, Its History and Warning Sign," 29 Oktober 2021. www.thebalancemoney.com.
- Burkett, Paul dan Hart-Landsberg, Martin. "The Economic Crisis in Japan: Mainstream Perspective and an Alternative View". *Critical Asian Studies* 3:341, 2003.
- Bank Indonesia, "BI Raih Penghargaan Regulator Sistemik dan Prudensial Terbaik di Asia Pasifik", *Siaran Pers* 2021
- Cabinet Office. "White Paper: Disaster Management in Japan," Jepang: Government of Japan, 2021, www.bousai.go.jp/en/documentation/white_paper/pdf/R2_hakusho_english.pdf.
- Centre for Research on the Epidemiology of Disasters [CRED]. "2021 Disasters in numbers", 29 April 2021, https://cred.be/sites/default/files/2021_EMDAT_report.pdf.
- Djojohadikusumo, Sumitro. "Perkembangan Pemikiran Ekonomi: Dasar Teori Ekonomi Pertumbuhan dan Ekonomi Pembangunan". Jakarta: LP3ES, 1987.
- Dutta, Nikita. "Major Economic Crisis in India," 23 September 2022, www.economicdiscussion.net.
- Fukuyama, Francis. "The Great Disruption: Human Nature and the Reconstitution of Social Order," *Simon & Schuster New York* (Juni 2016)
- Federal Emergency Management Agency [FEMA]. "National Preparedness Goal". USA, 2015., <https://www.fema.gov/emergency-managers/national-preparedness/goal>.
- Federal Emergency Management Agency [FEMA]. "National Incident Management System", USA, 2017, <https://www.fema.gov/emergency-managers/nims>.
- Federal Emergency Management Agency [FEMA]. "Are You Ready? An in-depth Guide to Citizen Preparedness". USA, tt., p. 4, September 2020, <https://www.ready.gov/sites/default/files/2021-11/are-you-ready-guide.pdf>.
- Frederickson, George. "Hukum Administrasi Negara Baru," Jakarta: LP3ES (1997).
- Global Facility for Disaster Reduction and Recovery [GFDRR] dan World Bank. "Knowledge Note-2 Cluster 2: Nonstructural Measures Disaster Management Plans", 2022, https://www.preventionweb.net/files/29163_drmkn221.pdf.

- Government of Philippines. “Republic Act 10121”, Juli 2009, <https://www.officialgazette.gov.ph/2010/05/27/republicactno10121/#:~:text=AN%20ACT%20STRENGTHENING%20THE%20PHILIPPINE,THEREFOR%20AND%0FOR%20OTHER%20PURPOSES>.
- Government of Philippines. “Philippine Disaster Risk Reduction and Management Act”. Filipina, 30 Mei 2006, <https://www.ifrc.org/docs/idrl/581EN.pdf>.
- Husein, Yunus dan Zikry, Ichsan, “Legal and Institutional Aspects of The Financial Sector in Handling the COVID-19 Pandemic, *Journal of Central Banking Law and Institution* Vol.1 No.2, 2022. <https://www.jcli-bi.org/index.php/jcli/article/view/15/11>.
- Ibrahim, Johnny. “Teori dan Metodologi Penelitian Hukum Normatif”. Malang: Bayumedia, 2006.
- Indonesia, Law No. 2 of 2020. <https://peraturan.bpk.go.id/Home/Details/137323/uu-no-2-tahun-2020>
- International Monetary Fund [IMF]. “Fiscal Policy: How to Manage the Fiscal Costs of Natural Disasters”, Juni 2018, file:///C:/Users/HP/Downloads/howtonote1803%20(1).pdf
- Lane, Jan-Erik dan Ersson Svante. “Comparative Political Economy” Jakarta: Rajawali Grafindo Persada hal 17, (1994).
- Legal Information Institute, “Clear and Present Danger,” 24 September 2022, www.law.cornell.edu.
- Lestari, Reni. “Ini Lima Ramuan Kebijakan Bank Sentral India Perangi Krisis Corona”, 21 April 2020, <https://kabar24.bisnis.com/read/20200421/19/1230159/ini-lima-ramuan-kebijakan-bank-sentral-india-perangi-krisis-corona>.
- Lestari, Reni. “Dampak Corona, Ekonomi Filipina Berkontraksi Pertama Kali Sejak 1998”, 7 Mei 2020, <https://kabar24.bisnis.com/read/20200507/19/1237675/dampak-corona-ekonomi-filipina-berkontraksi-pertama-kali-sejak-1998->.
- Ministry of Home Affairs of India. “Understanding Disasters”. 2022. Dapat di unduh di: https://nidm.gov.in/PDF/Disaster_about.pdf.
- Minoru Ota *et al.*. “Major Projects: Environmental Risk in Japan: Overview”, 1 Januari 2017, [https://uk.practicallaw.thomsonreuters.com/66371567?transitionType=Default&contextData=\(sc.Default\)&firstPage=true](https://uk.practicallaw.thomsonreuters.com/66371567?transitionType=Default&contextData=(sc.Default)&firstPage=true).
- Pransuamitra, Putu Agus. “PDB Dimakan Corona Lagi, BoJ Perpanjang Stimulus Moneter”, 18 Juni 2021, <https://www.cnbcindonesia.com/market/20210618143814-17-254194/pdb-dimakan-corona-lagi-boj-perpanjang-stimulus-moneter>.

- Press Release Kementerian Sosial, “Penanganan Bencana Perlu Sinergi, Koordinasi dan Penguatan K/L”, di akses 6 September 2022, <https://kemensos.go.id/ar/penanganan-bencana-perlu-sinergi-koordinasi-dan-penguatan-kl>.
- Rakhmatulloh, “Kebijakan Berubah-ubah Sebabkan Pengendalian Pandemi dan Ekonomi Gagal (13 Juli 2020). Dapat di unduh di <https://nasional.sindonews.com/read/98852/15/kebijakan-berubah-ubah-sebabkan-pengendalian-pandemi-dan-ekonomi-gagal-1594598823>.
- Regional Office for Asia and the Pacific [ROAP]. “Disaster Response in Asia and the Pacific: A Guide to International Tools and Services”. Bangkok: United Nations Office for the Coordination of Humanitarian Affairs, 2013, <https://www.unocha.org/sites/dms/ROAP/Promotional%20Materials/The%20Guide-Web-FINAL.pdf>.
- Supriatin, “Aturan Tes PCR Berubah-Ubah, IDI Minta Pemerintah Konsisten Buat Kebijakan”, (2 November 2021). Dapat di unduh di <https://www.merdeka.com/peristiwa/aturan-tes-pcr-berubah-ubah-idi-minta-pemerintah-konsisten-buat-kebijakan.html>.
- Suwarsono dan Alvin Y. ”So, Perubahan Sosial dan Pembangunan”. Jakarta: LP3ES, 1994.
- US Department of Labor, “Essential Protections During the COVID-19 Pandemic”, 2022, <https://www.dol.gov/agencies/whd/pandemic>.
- We Kings ExpoMedia Ltd, “Fire Safety and Regulations in India,” 19 Maret 2021, [https://firesafetysecurityindia.com/firesafetyregulationsinindia/#:~:text=BIS%20has%20formulated%20more%20than,rubber%20and%20plastic%20\(IS%2011457](https://firesafetysecurityindia.com/firesafetyregulationsinindia/#:~:text=BIS%20has%20formulated%20more%20than,rubber%20and%20plastic%20(IS%2011457).
- Wisner, Ben, Blaikie, Piers, Cannon, Terry, dan Davis, Ian. “At Risk: Natural Hazards, People’s Vulnerability and disasters”. *London and New York: Routledge* Second Edition (2003), https://www.preventionweb.net/files/670_72351.pdf.
- World Bank. GDP Perkapita dan Total Penduduk. Diakses 30 November 2022, <https://data.worldbank.org/>.

This page is intentionally left blank