

CENTRE FOR STRATEGIC AND INTERNATIONAL STUDIES

RESEARCH & ACTIVITY REPORT ON STRENGTHENING DISASTER PREPAREDNESS IN INDONESIA

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ABOUT

ABOUT CSIS

Centre for Strategic and International Studies (CSIS) is an independent and non-profit think tank established since August 18, 1971. CSIS undertakes researches in economics, politics and social change, and international relations, with topics selected based on their relevance to public policy. CSIS has a longstanding commitment to public education through a variety of avenues, including an intensive seminar program, lectures and conferences, scientific products, and a bookstore. CSIS is a founding member of the ASEAN Institutes of Strategic and International Studies (ASEAN-ISIS) and until now still acting as its secretariat.

ABOUT CSIS DISASTER RESEARCH UNIT

The idea of having a specific disaster research unit emerged several days after the Palu-Donggala catastrophic disasters back in September 2018. CSIS Executive Director Dr. Philips J. Vermonte subsequently deemed natural disasters a pressing matter for consideration by the institution as such catastrophes caused more victims than do conventional wars. In accordance with its founding values, CSIS feels responsible to share knowledge to strengthen disaster management in Indonesia. Under the direct supervision of Executive Director Vermonte, the previous research team on disaster preparedness is now developed into a research unit. Its activities focus as a convening platform to gather relevant insights from multiple actors, produce policy recommendation, and sustain public debates on disaster management.

ACKNOWLEDGEMENTS

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CSIS Indonesia

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Introduction

Why is the CSIS research on disaster preparedness different?

Workshops

A brief overview of key takeaways from five CSIS workshops

The CSIS Research Team directly presented its findings to the relevant stakeholders

Policy Recommendations

Formulating practical disaster management policies from the findings of our research

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Contributive participants during the whole series of CSIS Disaster Preparedness workshops

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CSIS future plan on disaster management and a short profile of the authors.

INTRODUCTION

Apart from being one of the most populous and largest countries in the world, Indonesia is geographically located in natural disaster-prone surroundings. There are three major active faults lie below the country, namely the Indo-Australian, the Eurasian, and the Pacific. Consequently, the Indonesia's National Disaster Management Authority (BNPB) reported that almost 7,000 villages/districts across Indonesia are at high-risk of severe earthquakes and more than 35,000 others are exposed to moderate risks. These numbers accumulatively composed half of the total existing villages/districts in 2018, as recorded by the Central Statistical Agency (BPS). Moreover, types of disaster in Indonesia are not merely limited to earthquakes. Geologically speaking, the country is also not immune to tsunamis, volcanic eruptions, liquefaction, and landslides. More than 100 million people are potentially exposed to direct impacts, including its potential losses worth as 266 trillion rupiah. In short, natural disasters present an imminent and severe threat to Indonesia

2018 was the momentum ...

Almost two decades after a Tsunami wiped out coastal regions along the Indian Ocean, Indonesia once again suffered from three large-scale disasters consecutively just within a year. West Nusa Tenggara, Central Sulawesi, Lampung, and Banten were devastated by various detrimental geological disasters. As mentioned by the BNPB, 5,846 people died because of those disasters. This number equals to 3,4% of the total dead bodies in the case of the 2004 Tsunami. Economic loss and damages from total three disasters were also noted around 38 trillion rupiah or accounted for more than 1% of the total state expenditure in 2018.

The danger is even more concrete when discussing both the current and future capital city of Indonesia ...

Experts forecast both as likely to be a potential victim of 8-Richter scale megathrusts in each respective area. The two cities designated as the future capital are even on the list of top 250 Indonesia's cities and regions with the highest-disaster risks.

However, many strategic decision-makers in Indonesia still do not fully comprehend this. Officials believed that the location possesses minimum disaster risks despite the fact says the otherwise. Back in the 2018 Donggala large-scale earthquake, residents in the new Bornean capital city strongly felt the tremor; and it matches with the BNPB's calculation in 2014 that medium risk area posits earthquakes and exposed to a potential 2metres high tsunami with estimated time arrival around 82 minutes. This situation paves the way for more policy-oriented studies on disasters complementing the existing theoretical and scientific researches. Yet, none plays that role in Indonesia up until today.

Key Points:

- Natural disasters are inescapable due to Indonesia's geographical character & position.
- A significant rise of disaster events both quantitatively and qualitatively (types & scale).
- Economic losses are getting higher as disasters are getting frequent.
- Difficulties in comprehending technical terms for other sectors and public knowledge.



Workshop 1

Strengthening Natural Disaster Preparedness: Perspectives from Scientists CSIS Pakarti Centre, 11 December 2018

Key Takeaways

Despite the Act No. 24/2007 paving the way for a significant shift in Indonesia's disaster management paradigm, scientists agreed on the following as continuing obstacles:

- Limited funds available for disaster-related research
- Need for more science-based policies
- Absence of an integrated disaster data-sharing mechanism
- Lack of resilience and capacity at the local communities
- Poor use of the right technology



Workshop 2

Strengthening Natural Disaster Preparedness: Perspectives from Gov. Agencies CSIS Pakarti Centre, 29 January 2019



Key Takeaways

Although the main focal point for dealing with disasters in Indonesia is the National Agency for Disaster Management (BNPB), many other government agencies also perform some relevant roles. Critical problems from their perspectives, including:

- Horizontal control-coordination among these agencies
- Poor early warning system, quantity, and quality.
- Lack of disaster-resilient infrastructure
- Prevalent crime rates before, during, and post-disaster
- Minimum budget for the preparedness

Workshop 3

Strengthening Natural Disaster Preparedness: Perspectives from Business Sectors CSIS Pakarti Centre, 30 April 2019

Key Takeaways

When disasters strike, business sectors are among the ones who suffer great economic losses, and yet still being burdened by the expectations of assisting the affected communities. Although this sector has better preparedness compare to the public one, some lingering problems continue including:

- Lack of PPP scheme and its legal umbrella
- Misleading CSR programs that focusing more on recovery
- Absence of comprehensive disaster-risk financing
- Poor disaster awareness, Business Continuity & Recovery Plan
- Missing public safety center, a one-door communication platform



Workshop 4

Strengthening Natural Disaster Preparedness: Perspectives from Local Governments
CSIS Pakarti Centre, 10 September 2019



Key Takeaways

Despite the success stories of the Act No. 32/2004 which ensure everything is more sensitive towards local contexts, disaster management witnesses the otherwise. Here are some prominent problems during the discussion:

- Vertical command-control between NDMA and LDMAs
- Lack of commitment from political actors
- Limited quality of human resources and equipment
- Preparedness is not taken into local development plans
- Dependent communities and untapped local wisdom

Workshop 5

Formulating Disaster Preparedness Framework: A Multi-Stakeholder Perspective CSIS Pakarti Centre, 30 September 2019

Key Takeaways

The final workshop aimed to present all findings from the previous sessions, to discuss the unsettling debates, and to discover any point that has not been brought up. Novel issues popped up including:

- Disaster is not yet seen as an urgent matter of national security
- No recovery strategy for the tourism sector in disaster-affected areas
- Overstretched fiscal capacity for disaster management
- Underutilized Big Data and Artificial Intelligence
- An unclear mechanism on the international assistance



VIRTUES OF CSIS WORKSHOPS ON DISASTER PREPAREDNESS

CSIS offers an innovative forum for discussions on disaster management in Indonesia by bringing together individuals from the public and private sectors, local representatives, NGOs, civil societies, and international organizations. It follows a policy-oriented path where the outcome would be translated into policy recommendations. It advances solutions not only from the technical side but also from the sociopolitical and socio-economic perspective.

Meeting with Prof.
Bambang Brodjonegoro,
Minister of National
Development Planning
(2019-2024) on
September 27, 2019.







Meeting with Lieutenant General (Retired) Agus Widjojo, Governor of the National Resilience Institute on January 30, 2020.

Objective:
to ensure our
recommendations
are directly received
by the relevant
policy makers







Meeting with Ir. B. WIsnu Widjaja, Deputy for System & Strategy BNPB on October 8, 2019.

POLICY RECOMMENDATIONS

Taking into account the ideas, concerns, and findings from the workshops, the CSIS Research Team has prepared a series of policy recommendation and has identified leading actors for each proposed recommendation.

Political Commitment to Natural Disasters

National and regional leaders place minimum attention on disaster preparedness

- Mainstreaming issues related to disasters in all political events and political actors
- Scheduling capacity building programs on disasterrelated issues among election candidates
- Integrating disaster knowledge in the process of civil servant recruitment, pre-service education, and leadership courses
- Stipulating 'vision on disaster preparedness' as another administrative requirement for the creation of a new political party
- **Encouraging** the adoption of disaster preparedness as an annual agenda of the Association of local governments' meeting at all levels
- Formulating a general guideline on the mandatory qualifications for leaders of the Local Disaster Management Authority, including providing relevant training courses for them

Leading Actors



Political Commitment to Natural Disasters

Insufficient Indonesia's Leadership on Disaster-Related
Issues at the International Level

Leading Actors





Creating a systematic roadmap and the grand design of Indonesia's Disaster Diplomacy



Continuing endeavors to mainstream disasters as a cross-pillar issue in ASEAN



Strengthening Indonesians' role in international disaster-related organizations such as the WMO, UNISDR, UNOCHA, IFRC, AHA Centre



Increasing numbers and roles of Indonesian thinktanks or disaster study center at the global level



Identifying Indonesian disaster-experts who are now working or residing abroad continuously



Enhancing substantive contributions to the regional disaster knowledge management agency



Political Commitment to Natural Disasters

Unclear Procedures on Handling Foreign Aids, Volunteers during Emergency and Recovery Period



Establishing a permanent cross-ministerial Standard Operating Procedure (SOP) on international aids and volunteers



Identifying a permanent focal point and procedural priorities from each ministry



Advancing the creation of one-stop service and information - hotlines on foreign and domestic aids and volunteers during the emergency period

Leading Actors BEADMANSIONAL PERMANSIONAL P







Institution and Governance on Disasters

Unsystematic format of relations between national and local disaster authorities



Ensuring the creation of Disaster Risk Reduction Forum in all regions of Indonesia and its continuity



Considering the establishment of hotlines between local and national disaster management authority



Advancing study on the effective command and control between local and national, including comparative studies to other government agencies



Enhancing the capacity of BPBDs and adding more disaster preparedness programs, particularly for disadvantaged regions and outer territories.



Improving the bureaucratic bargaining of BNPB as a coordinating agency for disaster management

Leading Actors



Institution and Governance on Disasters

Absence of horizontal control among relevant agencies during preparedness and emergency period

Leading Actors





Conducting cross-agency and public-private disaster-risk simulations at the national & local level



Establishing one single call center for national and local emergency consists of all relevant agencies



Designating one single platform for disaster risk data collection and sharing, a general guideline for disaster map across ministries,



Harmonizing all existing online applications regarding disaster management across ministries



Advancing the national civil-military coordination mechanism in mobilizing logistics during emergency



Forming bilateral policy consultations dialogue between BNPB and all government agencies with deployable assets during an emergency

Institution and Governance on Disasters

Overlapping regulations and legal instruments on disasters

Leading Actors





Appointing an existing agency to be an integrated center connecting all documentation network and legal information (JDIHN) mainly on disasters from all government agencies



Ensuring all existing legal instruments on disasters are accessible online and available in English as guidance for the international community



Paying more attention to punishment-and-rewards, gender-sensitive approach, disabled-friendly, local wisdom in the amendment of the Act No. 24/2007

Institution and Governance on Disasters

Relatively unclear and inaccurate early warning mechanism



Adding more disaster early warning and monitoring instruments in the Eastern part of Indonesia



Reviewing existing disaster-risk modelings of all relevant agencies continuously



Developing local wisdom and local practice-based early warning chain in each region



Making a stronger legally-binding instrument on the protection of all disaster early warning and monitoring equipment across Indonesia, as vital objects with tighter security measures



Accelerating the creation of an integrated national system on multi-hazards early warning system



Supporting technological advancement related to disaster early warning and monitoring system as an annual national priority, including the intensive proliferation of Artificial Intelligence and Big Data

Leading Actors



Institution and Governance on Disasters

Ignorance towards disaster-risk spatial planning in disasterprone regions



Providing training on spatial management of disaster-prone area (KRB) including its related maps and its enforcements to the regional governments



Carrying in-depth systematic studies on the misuse of spatial planning according to all previous disaster events



Re-zoning or re-mapping potential disaster risk across Indonesia particularly in recently disaster-affected regions



Tightening standards for the issuance of spatial-use clearance particularly in disaster-prone regions, to also consider applying higher taxes in high-risk areas



Reviewing all regional development plans, particularly in disaster-prone regions

Leading Actors



Disaster Literacy

Poor understanding and awareness on disaster risks and how to mitigate it

Leading Actors





Creating a new legal instrument on 'Eliminating Disaster Illiteracy' composes concerted efforts from all government agencies, including its national action plan, timelines, and responsible actors



Implementing disaster curriculum and day-to-day emergency care-related knowledge at all educational institutions systematically



Encouraging transportation and communication start-ups to provide training on emergency preparedness for their partners

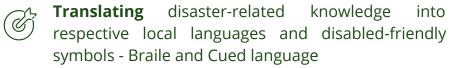


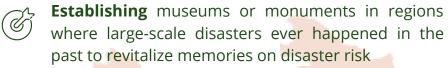
Improving BPBD's role as a permanent center of disaster preparedness, response and recovery training for the society including volunteers, indigenous groups, religious figures



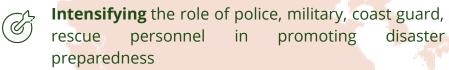
Creating a guideline on disaster knowledge for religious groups



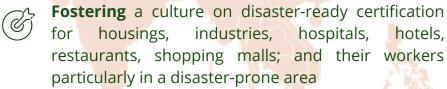


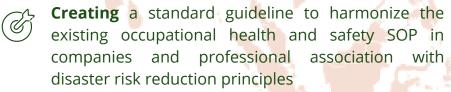


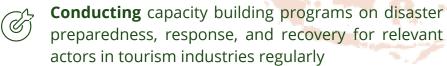












Encouraging daily updates or forecast specifically related to disasters in all communication channels including television and radios



Credit: The Jakarta Post



Credit: The Jakarta Post



Credit: The Jakarta Post

Disaster Literacy

Untapped, unexplored and unintegrated local wisdom and practices on disaster preparedness, response, recovery



Collecting information on local wisdom and practices related to disaster preparedness, response, and recovery in all regions



Carrying an intensive anthropological study on the cultural artifacts to identify disasters in the past



Accelerating the protection on the indigenous community through legal measures including protection of their wisdom in mitigating disasters

Leading Actors



Disaster Risk Financing Regime

Limited, unsustainable, and inflexible disaster risk financing



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Increasing the minimum standard gradually within national and local budget designated for disaster preparedness



Allocating a percentage of 'village funds' specifically for disaster risk reduction continuously



Expediting the fulfillment of the existing Road Map for Implementing Disaster Risk Insurance and Financing Strategies



Tightening the deadline on the creation of a public service agency for Disaster Pooling Fund



Integrating micro insurance catastrophe risk into regular taxes such as land and building tax



Reviving the Multi-Donor Trust Fund Initiative which focuses on Disaster Preparedness, engaging domestic and international donors, including its utilization scheme



Increasing policy dialogues between the Ministry of Finance, development agencies, banks and national universities



Ensuring the implementation of flexible financial regime customs during the emergency period

Disaster Risk Financing Regime

Misleading private's role in disaster management and in dire need of public-private partnership

Leading Actors





Expediting the adoption of a legal act on Corporate Social Responsibility which outlines disaster preparedness as one of its areas



Issuing a government regulation on general guidelines for areas of CSR and PPP focusing on disaster mitigation



Formulating an integrated map identifying potential loss due to disasters for industries and small-medium entreprises (SME) in disaster-prone areas



Considering the creation of the National Contingency Plan for private sectors with regards to the occurrence of disasters



Providing capacity building programs on disaster preparedness for SME in disaster-prone regions

Disaster Risk Financing Regime

Poor investments on technological advancement, development and utilization for disaster management



Providing fiscal and non-fiscal incentives for technological investments and transfer-of-technology related to disaster management



Advancing economic diplomacy targeting developed states to seek collaboration in potential areas of high-technology for disasters, including bridging the communication between foreign companies and relevant agencies in Indonesia



Maximizing the use of big data and artificial intelligence to address the complexity of bureaucratic procedures on disaster management including at the analytical stage and early warning

Leading Actors



Resilient Infrastructure

Many critical infrastructures located in high-risk zones



Building green belts around critical infrastructures in disaster-prone regions



Ensuring a regular disaster simulation is carried out by the management of infrastructure, energy, telecommunication provider, paying attention to disabled-friendly elements



Formulating mitigation strategies or disaster risk modeling for every transportation routes according to their respective indigenous risk



Conducting regular evaluations on the resiliency of physical infrastructures related to transportation, energy, telecommunication, roads, hospitals, shelter



Providing disaster warning signs and evacuation symbols in all tourist attractions particularly in disaster-prone regions

Leading Actors



Resilient Infrastructure

Poor quality of the construction

Leading Actors





Advancing the implementation of 'earthquake-resilient building principles continuously among professional architects' association, private sectors, and design-focused startups



Reviewing certifications and practices on the construction service and its commitments to disaster-resilient infrastructure regularly



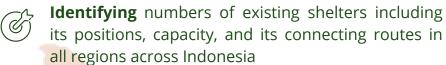
Encouraging the issuance of region-specific building codes which take into account different types of risk adjusting to local contexts

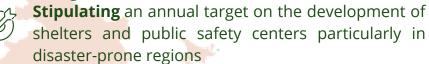
Resilient Infrastructure

Limited emergency shelters and safe evacuation routes









Issuing a legally-binding regulation which obliges every educational institution to have an evacuation plan and a safe meeting point

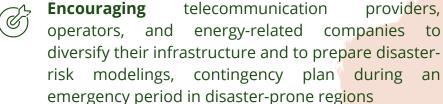
Intensifying a national campaign on one safe room for one family

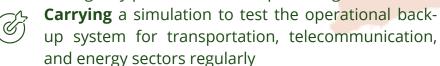
Providing a common national standard for disaster-resilient religious places and making a disaster-risk element as an administrative requirement for building a new religious place

Imposing higher taxes for public buildings which do not have a safe meeting point and shelter particularly in disaster-prone regions

Resilient Infrastructure

Dependency on one single source for energy and telecommunication





Developing alternative energy sources which still could be functional during an emergency period



Disaster-related Research

Disconnection between scientists and policy-makers



Formulating a list of prioritized agenda on national disaster-related research and issuing a national roadmap on disaster-related research



Providing capacity building programs on the creation of strategic policy recommendation for scientists and experts in universities



Strengthening the national network between disaster-related study programs in universities



Institutionalizing Indonesian Disaster-related Experts' Registry (IDER) which currently managed by the IABI to be systematically integrated with the government's data



Formalizing dialogues between disaster-related experts and study centers of each relevant government agency

Leading Actors



Disaster-related research

Limited exploration, reviews, and updates on disaster data and maps

Leading Actors





Studying the possibility of giving a special high-level award given by the president for parties who carried out innovations on disaster-related issues



Simplifying bureaucracy with regard to the international cooperation on disaster research



Scheduling a regular review on disaster maps, particularly those areas where recently suffered from disasters, including determining the expired period for those maps



Designating an existing agency to function as a knowledge management center of all lessons-learned from previous disaster events



Intensifying disaster research from social, economic, legal and cultural perspective

Disaster-related research

Degeneration of disaster experts, in quantity and quality

Leading Actors





Considering the creation of a special polytechnic on disaster management in disaster-prone regions



Setting the minimum target, timeline and roadmap of Indonesian disaster-experts' regeneration



NAME OF PARTICIPANTS

CSIS was honored to welcome the presence and contribution of leading speakers and participants from various backgrounds to deliberate upon Indonesia's disaster management. The following list includes their names:



1. Dr. Surono

Volcanologist and fo<mark>rmer</mark> Head of the Indonesian Center for Volcanology and Geological Hazard Mitigation,

2. Prof. Kuntoro Mangkusubroto

Disaster management practitioner and the Director of the Rehabilitation and Reconstruction Executing Agency in Aceh and Nias

3. Dr. Asep Saepuloh

Remote Sensing Volcanologist - ITB

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Former Executive Director of AHA Centre

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Gender Expert

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Tsunami Expert - BPPT

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Crisis management practitioner - UI



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Policy Advisor - Presidential Staff Office

17. Andriansyah

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18. PGC Adjudant Johanes Bangun

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Representative from Remote Sensing Study Center - LAPAN

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Head of BPBD West Sumatera Province

2. Dr. Subejo

Head of BPBD DKI Jakarta

3. Sudaryanto

Head of BPBD Central Java Province

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Head of BPBD West Nusa Tenggara Province

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Head of Mitigation and Preparedness BPBD Bali Province

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LOCAL GOVERNMENTS



CIVIL SOCIETY & INTERNATIONAL ORGANIZATION

1. Dipo D. Suma

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5. Ikhsanuddin

Logistics Officer WFP

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Head of Indonesian Community for Disaster Management (MPBI)

10. Nofri Yohan Raco

Advocacy Officer WVI

11. Agung Gunansyah

Program Manager WVI



A WAY FORWARD

After successfully organizing five series of workshops, CSIS Indonesia is committed to continuing its contribution to the development of disaster management in Indonesia.

CSIS would develop the previous research team into a center of excellence for policy-oriented research and dialogues on disaster preparedness, response, and recovery in Indonesia. In the next five years, hopefully would unit recognized as one of the prominent references on the field both from national and international audiences. This unit is expected could assist the Indonesian government in achieving a disaster-resilient ASEAN Community by 2025.

Scope of activities of this unit including extensive research on natural disasters, climate change, and man-made disasters (such as social and religious conflicts

- **Substance:** organizing thematic FGDs or public lectures, publishing analyses on disaster-related issues in the form of op-eds, conducting data collection
- Network: hearings with relevant government agencies, conducting study visit to regions, strengthening communication with experts, enhancing interactions with the business sector and nongovernmental organizations,
- Organizational and Human Resources strengthening internal database, and enhancing expertise of DRR Unit human resources.

This research unit welcomes any partnership or support from any domestic and international partners.

PROFILE OF THE AUTHORS



PHILIPS J. VERMONTE

Executive Director of CSIS

Philips J. Vermonte joined CSIS in 2001. He received his Master of Arts degree in international studies from Department of Politics, the University of Adelaide, Australia, in 2001, funded by the AusAID scholarship. He obtained his Ph.D in Political Science at Northern Illinois University, Dekalb, USA in 2012. He is one of the founding members of the policy research network (ProREP). He is one of the expert respondents (narasumber ahli) of Metro TV and actively contributes to the Jakarta Post and Tempo Magazine. His research interests including political parties, election, decentralization, and Indonesian domestic politics.



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M. HABIB ABIYAN DZAKWAN

Disaster Management Research Unit

Prior to joining the Disaster Management Research Unit, M. Habib has served the CSIS Department of International Relations since mid-2018. He previously covered areas namely maritime affairs, women peace and security, Indonesia's foreign policy and ASEAN. With regards to his track record on disaster management, he managed to attend numerous capacity building programs organized by relevant domestic and international agencies. He was also a voluntary teacher for English and disaster preparedness in prone areas outside the capital.



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POLICY RECOMMENDATION

Bearing in mind six mentioned problems, the CSIS Research Team on National Disaster Preparedness formulated some policy recommendations based on findings and suggestions from various stakeholders who attended five series of CSIS focus group discussions. These recommendations also identified actors and relevant legislations regarding the proposed solutions. However, the following list might continue as there are a lot of intersecting responsibilities and overlapping legislation related to disasters.

No.	Issues	Problems	Policy Recommendations	Actors Involved	Legislations
1.	Political commitment on disaster-related issues	National and regional leaders put minimum attention on disaster preparedness	 Mainstreaming issues related to disasters in all political events in Indonesia, including the national and local elections, and also to political actors such as political parties who have not considered disaster preparedness as political agenda and policies. Scheduling capacity building programs on disaster-related issues among candidates during the election period. Integrating disaster knowledge in the process of recruiting civil servants, pre-service education, and leadership courses organized by state agencies Stipulating 'vision on disaster preparedness' as another administrative prerequisite for the creation of a new political party. 	 National Development Planning Agency (BAPPENAS) National Disaster Management Authority (BNPB) Ministry of Interior (KEMENDAGRI) General Elections Commission (KPU) Ministry of Laws and Human Rights (KEMENKUMHAM) Ministry of State Apparatus Empowerment and Bureaucratic Reforms (KEMENPANRB) Ministry of Manpower (KEMENAKER) Ministry of Manpower (KEMENAKER) Ministry of Communication and Information (KEMENKOMINFO) 	 Act No. 10/2016 Act No. 7/2017 Act No. 2/2011 Act No. 5/2014 Government Regulation No. 101/2000 Government Regulation No. 63/2009 Government Regulation No. 11/2017 Government Regulation No. 49/2018 Presidential Regulation No. 98/2016 Presidential Regulation No. 58/2013 Ministerial Regulation, Ministry of Interior No. 108/ 2017 Ministerial Regulation, Ministry of Laws and



	 Encouraging the adoption of 'disaster preparedness' as an annual agenda of the association of local governments at all levels — provincial, cities, regencies, villages. Stipulating a general guideline on the mandatory qualifications for leaders of the local disaster management authority. 	 National Resilience Institute (LEMHANNAS) National Civil Service Agency (BKN) National Institute of Public Administration (LAN) Political Parties 	Human Rights Regulation No. 34/2017 • Ministerial Regulation, Ministry of State Apparatus Empowerment and Bureaucratic Reforms No. 41/2018 • National Civil Service Agency Regulation No. 14/2018 • National Institute of Public Administration Regulation No. 12/2018
Insufficient Indonesia's leadership on disaster-related issues at the international level	 Forming a regular dialogue mechanism crossministerial/agencies between the Ministry of Foreign Affairs, technical ministries, and related experts Creating a systematic blueprint, roadmap, and timeline - the Grand Design of Indonesia's Disaster Diplomacy Establishing a like-minded network between disaster-prone countries and generate more related practical cooperation, particularly on disaster risk reduction. 	 National Development Planning Agency (BAPPENAS) Ministry of Foreign Affairs (KEMLU) Ministry of Research, Technology and Higher Education (MENRISTEKDIKTI) National Disaster Management Authority (BNPB) Meteorology, Climatology, and Geophysical Agency (BMKG) 	 Act No. 37/1999 Act No. 39/2004 Government Regulation No. 41/2006 Government Regulation No. 32/2008 Government Regulation No. 48/2018 Presidential Regulation No. 96/2012 Ministerial Regulation, Ministry of Foreign Affairs Regulation No. 4/2008 Ministerial Regulation, Ministry of Interior No. 38/2008



					
1	•	Continuing endeavors to	•	National Search and	• Ministerial Regulation,
		mainstream disasters as an		Rescue Agency	Ministry of Interior No.
		ASEAN cross-pillars issue		(BASARNAS)	15/2009
	•	Strengthening Indonesians'	•	National Institute of	
		role in international disaster-		Aeronautics and Space	
		related organizations such as		(LAPAN)	
		the WMO, UNISDR, IFRC,	•	Agency for the	
		AHA Centre and sparing		Assessment and	
		efforts to ensure Indonesians		Application of	
		hold strategic positions of those		Technology (BPPT)	
		organizations		Geospatial Information	
		Increasing numbers and roles		Agency (BIG)	
		of Indonesian think-tanks or	_	Indonesian National	
			•		
		study centers at the global level		Armed Forces (TNI)	
		including the Global Alliance	•	Indonesian National	
		of Disaster Research Institute		Police (POLRI)	
	•	Identifying Indonesian	•	Indonesian Institute of	
		disaster-experts which are now		Sciences (LIPI)	
		working or residing abroad	•	AHA Centre	
		continuously.			
	•	Ensuring the protection of			
		Indonesian citizens, both those			
		who are working voluntarily or			
		designated to work in disaster-			
		prone foreign countries.			
	•	Promoting the role of AHA			
		Centre as an ASEAN agency			
		specifically focuses on			
		disasters to carry disaster			
		diplomacy outside the region			
		diplomacy outside the region			



	me for for dur and	echanism on reign aids and reign volunteers ring emergency d recovery riod	Establishing a fixed crossministerial standard operating procedure (SOP) with regard to the foreign aids and foreign volunteers during an emergency period. Stipulating a permanent focal point in each respective relevant ministry/agency with regard to the foreign aids and foreign volunteers during an emergency period. Establishing one-stop service and information on foreign and domestic aids and volunteers during an emergency period.	 Ministry of Finance (KEMENKEU) Ministry of Laws and Human Rights (KEMENKUMHAM) Ministry of Foreign Affairs (KEMLU) Ministry of Social Affairs (KEMSOS) Indonesian National Armed Forces (TNI) Indonesian National Police (POLRI) National Disaster Management Authority (BNPB) Port and Airport Authority Indonesian Red Cross (PMI) AHA Centre 	 Act No. 24/2007 Government Regulation No. 23/2008 Government Regulation No. 32/2008 Presidential Regulation No. 96/2012 Presidential Regulation No. 17/2018 Ministerial Regulation, Ministry of Defense Regulation No. 11/2019 Ministerial Regulation, Ministry of Interior No. 38/2008 Ministerial Regulation, Ministry of Social Affairs No. 1/2013 Head of BNPB Regulation No. 17/2011 Head of BNPB Regulation No. 6/2018
2.	and for bet on Natural and	emat of relations tween national d regional thorities	Ensuring the creation of Disaster Risk Reduction Forum in all regions of Indonesia, and its sustainability Considering the establishment of hotlines between the Local Disaster Management Authority (BPBD) and	 Ministry of Interior (KEMENDAGRI) Ministry of Village, Development of Disadvantaged Regions (KEMENDES PDTT) 	 Act No. 24/2007 Act No. 32/2004 Act No. 23/2014 Act No. 39/2008 Government Regulation No. 21/2008 Government Regulation No. 38/2007



	National Disaster Management Authority (BNPB) Advancing study on the effective command and control between national and local disaster management authority, including a comparative study to the TNI, BASARNAS, and POLRI models Enhancing the capacity of local disaster management authority and adding more sustainable programs on disaster preparedness in disadvantaged regions and outer territories Improving the bureaucratic position of BNPB into a state ministry.	 National Management Management (NDMA) Local Management (BPBD) 	 Government Regulation No. 7/2008 Presidential Regulation No. 12/2015 Presidential Regulation No. 17/2018 Ministerial Regulation, Ministry of Interior No. 46/2008 Ministerial Regulation, Ministry of Interior No. 101/2018 Ministerial Regulation, Ministry of Village, Development Disadvantaged Regions No. 6/2015 Head of BNPB Regulation No. 3/2016 Head of BNPB Regulation No. 3/2012 Head of BNPB Regulation No. 10/2008
Absence of horizontal control between relevant stakeholders during preparedness and emergency period	 Carrying a cross-ministerial and public-private disaster risk simulation at the national and local levels. Establishing one single call center for a national and local emergency which consists of various relevant ministries including preparing its supporting infrastructures 	 Ministry of Transportation (KEMHUB) Ministry of Fisheries and Maritime Affairs (KEMENKKP) Ministry of Interior (KEMENDAGRI) Ministry of Health (KEMENKES) 	 Act No. 3/2002 Act No. 24/2007 Act No. 34/2004 Act No. 11/2009 Act No. 29/2014 Government Regulation No. 21/2008 Government Regulation No. 2/2018



Stipulating one single platform for disaster risks data collection and sharing across various ministries, including harmonizing various existing disaster online applications and one general standard guidelines for disaster map Advancing the national civilmilitary coordination mechanism in mobilizing logistics during an emergency period. Forming bilateral policy consultations — dialogues between the National Disaster Management Authority (BNPB) and all ministries who have deployable assets during an emergency period.	 (KEMENSOS) Ministry of Communication and Information (KEMENKOMINFO) Ministry of Defense (KEMHAN) Ministry of Energy and Mineral Resources (KEMENESDM) Ministry of Environment and Forestry (KEMENLHK) Ministry of State-Owned Enterprises (KEMENBUMN) National Development Regulation No. 36/2006 Presidential Regulation No. 9/2016 Presidential Regulation No. 27/2014 Presidential Regulation No. 178/2014 Ministerial Regulation No. 178/2014 Ministerial Regulation No. 64/2005 Ministerial Regulation No. 64/2005 Ministerial Regulation No. 64/2005
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		 Indonesian Search and Rescue Agency (BASARNAS) Indonesian Maritime Security Agency (BAKAMLA) Indonesian Geospatial Agency (BIG) Firefighter Units Indonesian Hospital Association 	 Owned Enterprises Regulation No. 2/2018 Ministerial Regulation, Ministry of Environment and Forestry Regulation No. 80/2016 Ministerial Regulation, Ministry of Fisheries and Maritime Affairs Regulation No. 6/2017 Ministerial Regulation, Ministry of Fisheries and Maritime Affairs Regulation No. 15/2018 Ministerial Regulation, Ministry of Health Regulation No. 19/2016 Ministerial Regulation, Ministry of Health Regulation No. 145/2007 Ministerial Regulation, Ministry of Social Affairs Regulation No. 26/2015 Ministerial Regulation, Ministry of Information and Communication No. 10/2016 Ministerial Regulation, Ministry of Defense Regulation No. 3/2009
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Regulation N 39/2014	110.
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Ministry of Energy ar	ov and
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Ministerial Regulatio	ılation.
Ministry of Interior N	
122/2018	
	BMKG
	No.
20/2014	





Relatively unclear	as guidance for the international community • Ensuring the amendment of Act on Disaster Management has considered all other existing regulations related to disasters, including paying more attention to 'punishment-and-rewards' approach, gender-sensitive, disable friendly, local wisdom. • Adding more disaster early	• Coordinating Ministry for	• Act No. 24/2007
and inaccurate early warning mechanism	 Adding more disaster early warning and monitoring instruments in the eastern part of Indonesia Reviewing existing disasterrisk modeling of all relevant agencies continuously Developing local wisdom and local practice-based early warning chain in each region Making a stronger legally-binding instrument on the protection of all disaster early warning and monitoring equipment across Indonesia as vital objects with tighter security measures. Accelerating the creation of an integrated national system on multi-hazards early warning system 	 Coordinating Ministry for Human Development and Culture (KEMENKOPMK) Ministry of Communication and Information (KEMENKOMINFO) Ministry of Energy and Mineral Resources (KEMENESDM) Ministry of Villages, Development of Disadvantaged Regions (KEMENDES PDTT) Meteorology, Climatology, and Geophysical Agency (BMKG) 	 Act No. 24/2007 Act No. 31/2009 Government Regulation No. 21/2008 Government Regulation No. 11/2016 Presidential Regulation No. 178/2014 Ministerial Regulation, Ministry of Communication and Information Regulation No. 3/2014 Ministerial Regulation, Ministry of Communication and Information Regulation, Ministry of Communication and Information Regulation No. 20/2006 Ministerial Regulation, Ministry of Communication and



	Making technological advancement related to disaster early warning and monitoring system as an annual national priority	 National Disaster Management Authority (BNPB) Indonesian National Police (TNI) Indonesian National Armed Forces (POLRI) Agency for the Assessment and Application of Technology (BPPT) Indonesian Aeronautics and Space Agency (LAPAN) Indonesian Institute of Sciences (LIPI) Internet and Telecommunication Provider and Operators 	Information Regulation No. 2/2016 Head of POLRI Regulation No. 13/2017 Head of BMKG Regulation No. 9/2010 Head of BNPB Regulation No. 6/2013
Ignorance towards disaster-risk spatial planning in disaster-prone regions	 Providing training on spatial management of 'disaster-prone area (KRB)' including its related maps to the regional governments and law enforcement particularly in disaster-prone regions Carrying in-depth systematic research on the misuse of spatial planning according to all previous disaster events Re-zoning or re-mapping potential disaster risks across 	 National Development Planning Agency (BAPPENAS) Ministry of land and spatial planning (KEMENATR) Ministry of Fisheries and Maritime Affairs (KEMENKP) Ministry of Finance (KEMENKEU) 	 Act No. 26/2007 Act No. 32/2014 Act No. 27/2007 Government Regulation 69/1996 Government Regulation 16/2004 Government Regulation No. 21/2008



Indonesia, particularly in recently disaster-affected regions • Strengthening the issuance of spatial-use clearance particularly in disaster-prone regions, including applying higher taxes for areas with the highest risks	 Ministry of Environment and Forestry (KEMENLHK) Ministry of Interior (KEMENDAGRI) Ministry of Public Housing and Public Works (KEMENPUPR) Indonesian National 	 Government Regulation No. 26/2008 Government Regulation No. 15/2010 Government Regulation No. 64/2010 Government
Reviewing all regional development plans, particularly in disaster-prone regions	Armed Forces (TNI) Indonesian Police (POLRI – POLDA) National Disaster Management Authority (BNPB)	Regulation No. 38/2011 Presidential Regulation No. 16/2015 Ministerial Regulation, Ministry of land and spatial planning Regulation No. 1/2018 Ministerial Regulation, Ministry of Public Housing and Public Works No. 15/2009 Ministerial Regulation, Ministry of Interior Regulation No. 86/2017 Ministerial Regulation, Ministry of Fisheries and Maritime Affairs Regulation No. 24/2019 Ministerial Regulation, Ministry of Energy and Mineral Resources



					Regulation 11/2016	No.
3.	Disaster Literacy	Lack of understanding and awareness on disaster risks and how to mitigate it	 Creating a new legal instrument on 'Eliminating Disaster Illiteracy' which composed of concerted efforts from all ministries/agencies, including its national action plan, timelines, and identifying responsible actors for the implementation. Implementing a disaster curriculum and day-to-day emergency care-related knowledge at all educational institutions systematically, including the creation of disaster management study program in universities located in disaster-prone regions Encouraging transportation and communication startups to provide training on emergency preparedness for their partners, particularly those in disaster-prone regions Improving Regional Disaster Management Authority's role in each respective region as a permanent center of disaster preparedness, response, and recovery training for society 	 National Development Planning Agency (BAPPENAS) Ministry of Education and Culture (KEMENDIKBUD) Ministry of Research, Technology, and Higher Education (KEMENRISTEKDIKTI) Ministry of Manpower (KEMENAKER) Ministry of Manpower (KEMENAKER) Ministry of Communication, and Information (KEMENKOMINFO) Ministry of Social Affairs (KEMENSOS) Ministry of Religious Affairs (KEMENAG) Ministry of Tourism (KEMENPAR) Ministry of Industry (KEMENPERIN) Ministry of Agriculture (KEMENTAN) National Disaster Management Authority (BNPB) 	 Act No. 1/1970 Act No. 36/1999 Act No. 40/1999 Act No. 2/2002 Act No. 13/2003 Act No. 20/2003 Act No. 34/2004 Act No. 24/2007 Act No. 11/2008 Act No. 10/2009 Act No. 11/2010 Act No. 3/2014 Act No. 3/2014 Act No. 29/2014 Act No. 1/2018 Act No. 1/2018 Act No. 1/2018 Act No. 18/2019 Government Regulation 21/2008 Government Regulation 50/2012 Government Regulation 50/2012 Government Regulation 50/2012 	No. No. No.



	including volunteers, leaders of	• Indonesian National	• Government
	indigenous groups, religious	Armed Forces (TNI)	Regulation No.
	figures, and also creating a	• Indonesian National	66/2015
	guideline on disaster	Police (POLRI)	• Government
	knowledge for religious groups.	• Indonesian Search and	Regulation No. 107/2015
	• Enhancing practical	Rescue Agency	• Government
	cooperation with	(BASARNAS)	Regulation No.
	telecommunication providers to	 Meteorology, 	29/2018
	blast reminder information for	Climatology, and	• Government
	those who arrive at disaster-	Geophysical Agency	Regulation No. 7/2019
	prone regions.	(BMKG)	Ministerial Regulation,
	• Translating disaster-related	National Standardization	Ministry of Agriculture
	knowledge into respective local	Agency (BSN)	No. 50/2007
	languages and disabled-	• Indonesian Red Cross	Ministerial Regulation,
	friendly symbols — braille or	Society (PMI)	Ministry of Social
	cued language	 Indonesian Broadcasting Commissions (KPI) 	Affairs Regulation No. 128/2011
	• Establishing museums or	Telecommunication and	 Ministerial Regulation,
	monuments in regions where	Transportation Startups	Ministry of Social
	large-scale disasters ever	 Non-Governmental 	Affairs Regulation No.
	happened in the past to	Organizations and Civil	28/2012
	revitalize memories regarding	Society	 Ministerial Regulation,
	disaster risk in those particular	Bociety	Ministry of Social
	regions.		Affairs Regulation No.
	Mainstreaming disaster including the		29/2012
	journalism including the		Ministerial Regulation, Ministery of Industry
	creation of journalist forums for disaster issues in all regions,		Ministry of Industry No. 40/2016
	including providing capacity		Ministerial Regulation,
	building for the leader of mass		Ministry of Education
	media groups		and Culture No.
	Intensifying the role of		46/2014
	TNI/POLRI/BASARNAS		



personnel in raising awareness	Ministry of Education
on disaster preparedness	and Culture Decision
• Evaluating the progress of	No. 40/2017
literacy and preparedness of	Ministerial Regulation, Ministerial Regulation,
disaster-resilient	Ministry of Research, Technology and
villages/districts continuously	Technology and Higher Education No.
Fostering a culture on 'disaster-	46/2017
ready' certification for housing	Ministerial Regulation,
complex, industries, hospitals,	Ministry of Health No.
hotels, restaurants, and	4/2018
shopping malls and their	Ministerial Regulation,
workers particularly those	Ministry of Industry
located in disaster-prone	No. 41/2017
regions	Ministerial Regulation,
Creating a standard guideline to	Ministry of
synergize between the existing	Communication and
K3 Security SOP in companies	Information Regulation No. 2/2016
and professional association	Ministerial Regulation,
with disaster-risk reduction	Ministry of Tourism
principles.	and Creative Economy
Regularly conducting capacity-	No. 7/2014
building programs on disaster	Ministerial Regulation,
preparedness, response, and	Ministry of Tourism
recovery for relevant actors in	Regulation No.
tourism industries including	10/2018
hotels, restaurants, and	Ministerial Regulation,
shopping malls	Ministry of Tourism
Encouraging daily updates or	Regulation No.
forecast specifically related to	10/2019 Ministerial Regulation
disasters in all communication	 Ministerial Regulation, Ministry of Defense
channels including televisions	No 3/2009
and radios	110 3/2007



			 Ministerial Regulation, Ministry of Defense No. 9/2011 Ministerial Regulation, Ministry of Defense Regulation No. 4/2012 Ministerial Regulation, Ministry of Defense Regulation No. 6/2015 Head of POLRI Regulation No. 17/2009 Head of BASARNAS Regulation No. 1/2019 Head of BNPB Regulation No. 17/2011 Head of BNPB Regulation No. 1/2012
Untapped, unexplored, and unintegrated local wisdoms and local practices on disaster preparedness, response, recovery	 Collecting information on local wisdom and practices related to disaster preparedness, response, and recovery in every region across Indonesia Carrying an intensive study on the cultural artifacts to identify disaster events in the past Accelerating the protection on the indigenous community 	 Ministry of Interior (KEMENDAGRI) Ministry of Environment and Forestry (KEMENLHK) Ministry of Education and Culture (KEMENDIKBUD) Ministry of Villages, Development of 	 Head of BNPB Regulation No. 4/2012 Head of BNPB Regulation No. 4/2016 Act No. 5/1992 Act No. 32/2009 Act No. 11/2010 Act No. 6/2014 Act No. 5/2017 Government Regulation No. 64/2010 Government Regulation No. 47/2015



			through legal measures, including protection of their wisdom in mitigating disasters	Disadvantaged Region (KEMENDES PDTT) Local disaster management authority (BPBD) Senate of the Republic of Indonesia (DPD)	 Ministerial Regulation, Ministry of Interior Regulation No. 52/2014 Ministerial Regulation, Ministry of Environment and Forestry No. 34/2017 Ministerial Regulation, Ministry of Environment and Forestry No. 21/2019 Ministerial Regulation, Ministry of Education and Culture No. 10/2014 Ministerial Regulation, Ministry of Education and Culture No. 10/2014 Ministerial Regulation, Ministry of Education and Culture No. 46/2018
4.	Disaster Risk Financing Regime	Limited, Unsustainable, Relatively Inflexible Disaster Risk Financing	 Gradually increasing the minimum standard within national and regional budget specifically designed for disaster preparedness Continuously allocating some proportion in 'village funds' specifically for disaster risk reduction Accelerating the fulfillment of the existing Road Map for Implementing Disaster Risk Insurance and Financing 	 Ministry of Finance (KEMENKEU) Ministry of Interior (KEMENDAGRI) Ministry of Trade (KEMENDAG) Ministry of Villages, Development of Disadvantaged Regions (KEMENDES PDTT) Ministry of Public Housing and Public Works (KEMENPUPR) 	 Act No. 6/1983 and its amendments Act No. 12/1985 and its amendments Act No. 17/2003 Act No. 1/2004 Act No. 25/2004 Act No. 32/2004 Act No. 17/2006 Act No. 24/2007 Act No. 39/2007 Act No. 19/2013 Act No. 6/2014



Strategies — including the acceleration of a specific legal act on National Disaster Risk Insurance, and a tight deadline on the creation of a public service agency for Disaster Pooling Fund Integrating micro insurance catastrophe risk into regular taxes such as land and building tax Reviving the Multi-Donor Trust Fund initiative focusing on disaster preparedness, engaging domestic and international donors, including its utilization scheme Increasing policy dialogues between the ministry of finance, international partners — development agencies and banks — and national universities on the visibility of adopting and implementing other types of disaster risk financing. Strategies — including the acceleration of a specific legal war from Maritime Affairs (KEMENKP) National Development Planning Agency (BAPPENAS) National Disaster Management Authority (BNPB) National Disaster Management Authority (BNPB) National Development Planning Agency (BAPPENAS) National Disaster Management Authority (BNPB) National Development Planning Agency (BAPPENAS) National Development Planning Agency (BAPPENAS) Government Regulation No. 2/2018 Government Regulation No. 2/2018 Government Regulation No. 4/2012 Government Regulation No. 4/2012 Government Regulation No. 60/2014 Government Regulation No. 60/2014 Government Regulation No. 60/2014 Government Regulation No. 60/2014 Government Regulation No. 7/2018 Government
customs during the emergency period Customs during the emergency period Ministry of Finance No. 69/2012



		•	Ministerial Regulation,
			Ministry of Finance No.
			162/2015
		•	Ministerial Regulation,
			Ministry of Finance No.
			49/2016
		•	Ministerial Regulation,
			Ministry of Finance No.
			82/2017
		•	Ministerial Regulation,
			Ministry of Finance No.
			97/2019
		•	Ministerial Regulation,
			Ministry of Trade No.
			70/2015
		•	Ministerial Regulation,
			Ministry of Trade No.
			28/2017
		•	Ministerial Regulation,
			Ministry of Trade No.
			21/2018
		•	Ministerial Regulation,
			Ministry of Trade No.
			18/2019
		•	Ministerial Regulation,
			Ministry of Interior No.
			13/2006
		•	Ministerial Regulation,
			Ministry of Public
			Housing and Public Works No. 21/2017,
			works No. 21/2017, and Letter No. 10/2017
		_	
		•	Ministerial Regulation,
			Ministry of Villages,



	Inadaguata	Mainstraganing (disastrag)	Ministry	Development of Disadvantaged Regions No. 16/2018 Ministerial Regulation, Ministry of Fisheries and Maritime Affairs No. 70/2016 Ministerial Decision — Ministry of Development Planning Agency No. 20/2015 Head of BNPB Regulation No. 6A/2011 Head of BNPB Regulation No. 1/2017 Head of BNPB Regulation No. 2/2018 Head of BPK Regulation No. 1/2019 OJK Regulation No. 1/2019
	Inadequate understanding on disaster risk insurance	 Mainstreaming 'disaster' element into existing sectoral state insurances such as insurance for fishermen, farmers Formalizing a regular dialogue on disaster management between the executive, legislative, and insurance association 	 Ministry of Finance (KEMENKEU) Ministry of State-owned Enterprises (KEMENBUMN) Ministry of Agriculture (KEMENTAN) Ministry of Research, Technology, and Higher Education (KEMENRISTEKDIKTI) 	 Act No. 24/2000 Act No. 17/2003 Act No. 1/2004 Act No. 14/2008 Act No. 12/2012 Government Regulation No. 27/2014 Government Regulation No. 28/2018 Ministerial Regulation, Ministry of Finance Regulation No. 97/2019



	 Organizing capacity building programs on disaster-risk insurance and transparent disaster-risk financing for local governments particularly in disaster-prone regions Establishing a National Center of Excellence on Economics of Disasters and Disaster Risk Insurance Developing a sister-city program particularly on disaster risk financing between disaster-prone regions in Indonesia and disaster-prone regions abroad. 	 Ministry of Foreign Affairs (KEMLU) Financial Services Authority (OJK) XI Commission — The House of Representatives Universities and Higher Educational Institutions Insurance Association 	 Ministerial Regulation, Ministry of Agriculture Regulation No. 40/2015 Ministerial Regulation, Ministry of Fisheries and Maritime Affairs Regulation No. 3/2019 Ministerial Regulation, Ministry of Foreign Affairs Regulation No. 3/2019 Ministerial Regulation, Ministry of Interior Regulation No. 69/2007 Ministerial Regulation, Ministry of Interior Regulation No. 69/2007 Ministerial Regulation, Ministry of Interior Regulation No. 13/2006
Misleading Private's role on disaster management and In dire Need Public-Partnership	 Accelerating the adoption of a legal act on Corporate Social Responsibility which outlining disaster preparedness as one of its areas; consequently, manifested in all of its derivations Issuing a government regulation on a general guideline for areas of CSR and PPP mainly focusing on disaster mitigation Formulating an integrated map identifying potential loss due to 	 Ministry of State-owned Enterprises (KEMENBUMN) Ministry of Social Affairs (KEMENSOS) Ministry of Industry (KEMENPERIN) Ministry of Cooperatives and Small and Medium Enterprises (KEMENKOP UKM) Indonesian Chamber of Commerce (KADIN) 	 Act No. 19/2003 Act No. 25/2004 Act No. 24/2007 Act No. 25/2007 Act No. 40/2007 Act No. 20/2008 Act No. 11/2009 Government Regulation No. 1/2008 Government Regulation No. 21/2008 Government Regulation No. 47/2012 Government Regulation No. 17/2013



disasters for industries and small-medium enterprises (SME) in disaster prone-areas Considering the creation of the National Contingency Plan for Private Sectors with regards to the occurrence of disasters Providing capacity building programs on disaster preparedness for small and medium enterprises in disaster-prone regions	Management Authority (BNPB) Geospatial Information Agency (BIG) Association of Businessmen or Businesswomen (APINDO) APINDO MARIAN APINDO	Government Regulation No. 27/2014 Presidential Regulation No. 27/2013 Presidential Regulation No. 98/2014 Presidential Regulation No. 98/2015 Presidential Regulation No. 62/2015 Presidential Regulation No. 62/2015 Ministerial Regulation, Ministry of Social Affairs No. 13/2012 Ministerial Regulation, Ministry of Industry No. 40/2016 Ministerial Regulation, Ministry of State-owned Enterprises No. 2/2017 Ministerial Regulation, Ministry of Cooperatives and Small and Medium Enterprises No. 7/2015 Ministerial Regulation, Ministry of Cooperatives and Small and Medium Enterprises No. 18/2016 Ministerial Regulation, Ministry of Cooperatives and Small and Medium Enterprises No. 18/2016 Ministerial Regulation, Ministry of Cooperatives and Small and Medium Enterprises No. 19/2016
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	Low investments on technological advancement, development, and use for disaster management	 Providing fiscal and non-fiscal incentives for technological investments and transfer-oftechnology related to disaster management, particularly in disaster-prone regions. Advancing economic diplomacy targeting developed states to seek collaboration in potential areas of high-technology for disasters, including bridging the communication between foreign companies and relevant agencies in Indonesia Maximize the use of big data and artificial intelligence to address the complexity of bureaucratic procedures on disaster management including at the analytical stage and early warning system 	 Ministry of Finance (KEMENKEU) Ministry of Industry (KEMENPERIN) Ministry of Foreign Affairs (KEMLU) Ministry of Research, Technology, and Higher Education (KEMENRISTEKDIKTI) National Institute of Aeronautics and Space (LAPAN) Agency for the Assessment and Application of Technology (BPPT) Indonesian Institute of Sciences (LIPI) Meteorology, Climatology, and Geophysical Agency (BMKG) Indonesia Investment Coordinating Board (BKPM) 	 Head of BNPB Regulation No. 12/2014 Act No. 24/2000 Act No. 25/2007 Act No. 11/2008 Act No. 14/2008 Act No. 28/2009 Government Regulation No. 30/1950 Government Regulation No. 69/2010 Government Regulation No. 52/2011 Government Regulation No. 11/2016 Government Regulation No. 24/2019 Presidential Regulation No. 45/2019 Presidential Regulation No. 56/2015 Ministerial Regulation — Ministry of Finance No. 130/2011 Head of BKPM Regulation No. 4/2019
5. Resilie Infrast	J	Building green belts around critical infrastructures in disaster-prone regions	Ministry of Public Housing and Public Works (KEMENPUPR)	 Act No. 28/2002 Act No 25/2004 Act No. 23/2007 Act No. 24/2007



 Ensuring a regular disaster simulation is carried out by the management of infrastructure, telecommunication, and energy provider, including paying attention on the disabled-friendly element Formulating mitigation strategy or disaster risk modeling for every transportation routes either Ministry of Social Affairs (KEMENSOS) Ministry of Transportation (KEMENHUB) Ministry of Tourism (KEMENPAR) Ministry of Interior (KEMENDAGRI) National Disaster Management Authority (BNPB) 	 Act No. 17/2008 Act No. 1/2009 Act No. 22/2009 Act No. 44/2009 Government Regulation No. 26/2006 Government Regulation No. 21/2008 Government Regulation No. 20/2010 Government Regulation
inland, air, and water according to their respective indigenous risks particularly in disaster-prone areas • Conducting a regular evaluation of the resiliency of physical infrastructures related to transportation, energy, telecommunication, roads, hospital, shelters. • Providing disaster warning signs and evacuation symbols in all tourist attractions, particularly in disaster-prone regions.	 Ministerial Regulation Ministry of Transportation Regulation No. 48/2002 Ministerial Regulation Ministry of Transportation Regulation No. 69/2013 Ministerial Regulation Ministry of Transportation Regulation No. 20/2014 Ministerial Regulation Ministry of Transportation Regulation No. 55/2015 Ministerial Regulation Ministry of Tourism No. 10/2019 Ministerial Regulation Ministerial Regulation Ministerial Regulation Ministerial Regulation



Poor quality of the construction	Advancing the implementation of 'Earthquake-resilient building principles' continuously among professional architects' association, private sectors, and design-focused startups	 Ministry of Public Housing and Public Works (KEMENPUPR) Ministry of Manpower (KEMENAKER) Ministry of Communication and 	 Head of BNPB Regulation No. 7/2015 Act No. 28/2002 Act No. 2/2017 Act No. 6/2017 Government Regulation No. 36/2005 Ministerial Regulation — Ministry of Health
	 Regularly reviewing certifications on the construction service and its commitments to disaster-resilient infrastructure Encouraging regions to formulate a respective building code which takes into account different types of risks 	Communication and Information (KEMENKOMINFO) • Professional association • Building-design startups	Regulation No. 24/2016 Ministerial Regulation — Ministry of Public Public Works No. 6/2009 Ministerial Regulation — Ministry of Public Housing and Public Works No. 29/2006 Ministerial Regulation — Ministry of Public Works Regulation No. 6/2009 Ministerial Regulation
			 Ministerial Regulation Ministry of Public Works Regulation No. 19/2011 Ministerial Regulation Ministry of Public Housing and Public Works No. 5/2016 Ministerial Regulation Ministry of Manpower Regulation No. 1/1980



			Collaborative Ministerial Regulation — Ministry of Interior, Ministry of Public Housing, Ministry of Communication and Information, and Indonesian Investment Coordinating Board
Limited numbers of emergency shelters and safe evacuation routes	 Identifying numbers of existing shelters including its position, capacity, and its connecting routes across Indonesia Stipulating an annual target for the development of shelters and public safety centers particularly in crowded places located in disaster-prone regions Issuing a legally-binding regulation which obliges every educational institution particularly in disaster-prone regions to have an evacuation plan and a safe meeting point Intensifying a national campaign on 'one safe room for one family' Providing a common national standard for the disaster-resilient building of worships, and making a disaster-risk 	 Ministry of Public Housing and Public Works (KEMENPUPR) Ministry of Education and Culture (KEMENDIKBUD) Ministry of Research, Technology, and Higher Education (KEMENRISTEKDIKTI) Ministry of Communication and Information (KEMENKOMINFO) Ministry of Health (KEMENKES) Ministry of Religious Affairs (KEMENAG) Ministry of Interior (KEMENDAGRI) Ministry of Fisheries and Maritime Affairs (KEMENKP) 	 Act No. 16/1985 Act No. 28/2002 Act No. 32/2004 Act No. 24/2007 Act No. 26/2007 Act No. 27/2007 Act No. 23/2014 Act No. 6/2017 Government Regulation No. 4/1988 Government Regulation No. 36/2005 Government Regulation No. 21/2008 Government Regulation No. 64/2010 Ministerial Regulation — Ministry of Public Works Regulation No. 24/2008 Ministerial Regulation No. 24/2008 Ministerial Regulation No. 6/2009



	element as an administrative requirement for establishing a new building of warship • Imposing higher taxes for public buildings which do not have a safe meeting point and shelter particularly in disaster-prone regions	 National Development Planning Agency (BAPPENAS) National Disaster Management Authority (BNPB) National Standardization Agency (BSN) 	 Ministerial Regulation Ministry of Public Works Regulation No. 19/2011 Ministerial Regulation Ministery of Health Regulation No. 19/2016 Ministerial Regulation Ministery of Health Regulation No. 47/2018 Collaborative Ministerial Regulation Ministery of Religious Affairs No. 9/2006 and Ministry of Interior No. 8/2006 Head of BNPB Regulation No. 17/2009 Head of BNPB Regulation No. 7/2015
Dependencies on one single energy and telecommunication source	 Encouraging telecommunication providers, operators and energy-related companies to diversify its infrastructure and prepare disaster-risk modeling, and a contingency plan during an emergency period, particularly for disaster-prone regions Regularly carrying a simulation to test the operational back-up system of transportation, 	 Ministry of Public Works and Public Housing (KEMENPUPR) Ministry of Energy and Mineral Resources (KEMENESDM) Ministry of State-owned Enterprises (KEMENBUMN) Ministry of Communication and Information (KEMENKOMINFO) 	 Act No. 36/1999 Act No. 30/2007 Act No. 30/2009 Government Regulation No. 14/2012 Ministerial Regulation — Ministry of Energy and Mineral Resources Regulation No. 1/2017 Ministerial Regulation — Ministry of Energy and Mineral Resources Regulation No. 11/2017



	telecommunication, and energy sectors Continuously developing alternative energy sources which still could be functional during an emergency period	Telecommunication Providers and Operators	 Ministerial Regulation Ministry of Energy and Mineral Resources Regulation No. 50/2017 Ministerial Regulation Ministery of Energy and Mineral Resources Regulation No. 53/2018 Ministerial Regulation Ministery of Energy and Mineral Resources Regulation No. 12/2019 Ministerial Regulation Ministery of Energy and Mineral Resources Regulation No. 13/2019 Ministerial Regulation Ministery of Communication and Information Regulation No.10/2018 Collaborative Ministerial Regulation Ministry of Public Works No. 7/2009, Ministry of Public Works No. 7/2009, Ministry of Communication and Information No. 19/2009, and Indonesian Investment Coordinating Board Regulation No. 3/2009
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6.	Disaster-	Disconnection	• Regularly formulating a list of • National Development	• Act No. 18/2002
	related	between Scientists	prioritized agenda on national Planning Agency	
	Research	and Strategic	disaster-related research which (BAPPENAS)	Presidential Regulation
		Policy Makers	needed by the government; — • Ministry of Research.	
			issuing a national roadmap on Technology, and Higher	
			disaster-related research Education	— Ministry of Research,
			 Providing capacity building (KEMENRISTEKDIKTI) 	Technology, and Higher
			programs on the creation of • Ministry of Health	Education No. 46/2017
			strategic policy (KEMENKES)	Ministerial Regulation
			recommendation for scientists • National Disaster	— Ministry of Research,
			and experts in universities Management Authority	Technology and Higher
			• Strengthening the national (BNPB)	Education No. 40/2018
			network between disaster • Indonesian Institute of	
			related study programs in Sciences (LIPI)	
			universities across Indonesia; • National Institute of	
			 Institutionalizing Indonesian Aeronautics and Space 	
			Disaster-related experts' (LAPAN)	
			registry (IDER) which • National Research	
			currently managed by the IABI Council (DRN)	
			to be systematically integrated • Meteorology,	
			with the government's data Climatology, and	
			• Institutionalizing dialogues Geophysical Agency	
			between disaster-related (BMKG)	
			experts and study centers of	
			each relevant ministry and	
			government agency	
		Limited	• Studying the possibility of • Ministry of Foreign	• Act No. 24/2000
		Exploration,	giving a high-level award given Affairs (KEMLU)	• Act No. 24/2007
		Reviews, and	by the president for parties who Ministry of Research.	• Act No. 20/2009
		Updates on	carried out innovations on Technology, and Higher	1 37 1/2011
		Disaster Scientific	disaster-related issues Education	Government Regulation
		Data and Map	(KEMENRISTEKDIKTI)	No. 41/2006



	 Simplifying bureaucracy with regard to the international cooperation on disaster research Scheduling a regular review on disaster map, particularly those areas who recently suffered from disasters, including determining a prevailing period of those maps Designating one existing agency to function as a knowledge management center of all lessons-learned from previous disaster events Intensifying disaster research from a social, economic, legal, and cultural perspective 	 Ministry of State Secretariat (KEMENSESNEG) National Disaster Management Authority (BNPB) Meteorology, Climatology, and Geophysical Agency (BMKG) 	 Government No. 1/2010 Presidential Regulation No. 20/2018 Presidential Regulation No. 8/2013 Ministerial Regulation — Ministry of Research, Technology, and Higher Education No. 46/2017 Ministerial Regulation — Ministry of Research, Technology and Higher Education No. 40/2018
Degeneration of Disaster Experts both quantity and quality	 Considering the creation of a special polytechnic on disaster management particularly in disaster-prone areas Setting the minimum target, timeline, and roadmap of Indonesian disaster-experts' regeneration 	 Ministry of Health (KEMENKES) Ministry of Social Affairs (KEMENSOS) Ministry of Finance (KEMENKEU) Ministry of Research, Technology, and Higher Education (KEMENRISTEKDIKTI) Ministry of Energy and Mineral Resource (KEMENESDM) 	 Act No. 24/2007 Act No. 12/2012 Government Regulation No. 4/2014



 National Disaster Management Authority (BNPB) Meteorology, 	
(BNPB)	
Meteorology	
Climatology, and	
Geophysical Agency	
(BMKG)	
• National Institute of	
Aeronautics and Space	
(LAPAN)	
• Agency for the	
Assessment and	
Assessment and Application of	
Technology (BPPT) • Geospatial Information	
Agency (BIG)	
• Indonesian Institute of	
Sciences (LIPI)	
• Indonesian Search and	
Rescue Agency	
(BASARNAS)	
• Indonesian National	
Armed Forces (TNI)	
• Indonesian National	
Police (POLRI)	