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LAPORAN AKHIR
SKEMA PENELITIAN DASAR

UNPACKING SCHOLARSHIP AND PRACTICE ON DEATH AND DISASTER: INSIGHTS FROM INDONESIA AND THE PHILIPPINES

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RESEARCH FINAL REPORT

SUMMARY

Death is often ignored in academic knowledge, policy, and practice as it is seen as deeply personal and an intrusion into life, especially concerning mass casualty due to disasters. Such a complex issue requires a holistic interdisciplinary approach. In the context of Community Psychology, management of dead bodies after a disaster is required as part of the psychosocial intervention. A tendency toward the medicalization of death is evident in public health, which is frequently measured in terms of the number of deaths. More efforts are needed to unpack the nature and emotional toll among bereaved families. Meanwhile, in Human Ecology, the complex interplay of death in the context of disasters requires systems thinking that cuts across disciplines and scales. This study tried to tailor an interdisciplinary approach to the issue that should be affirmed as integral to the national disaster policy discourse. No study was found to have conducted a literature review that linked the three concepts together in an interdisciplinary manner. Thus, the study contributed to academic knowledge and practice by conducting an interdisciplinary systematic literature review (ISLR) of death and disaster in Indonesia and the Philippines–two of the most disaster-prone countries in the world. The result of this study found a map of four dimensions of Disaster Risk Reduction Management (DRRM) from a total selected 77 documents that were analyzed. It was revealed that more unique findings were found rather than common findings about the four dimensions of DRRM between the two countries, which include the dimensions of Mitigation, Preparedness, Response, and Rehabilitation. It was seen that the insights in the Philippines are mainly on disaster mitigation and response, and less on preparedness and rehabilitation. Meanwhile, data for Indonesia are less on mitigation and none on rehabilitation while many insights were obtained on disaster preparedness and response. It was clear that there is a lack of awareness and a coherent body of work linking death and disaster beyond the counting of death tolls. Areas for new research, community, and policy actions were also recommended to enrich academic knowledge and practice in the future.

Keywords:

Death & disasters; disaster risk management; interdisciplinary systematic literature review; Indonesia;Philippines

RESEARCH RESULTS AND DISCUSSIONS

To cover the pictures of how death and disaster practiced were documented by policy and academic studies, the research team conducted an Interdisciplinary Systematic Literature Review (ISLR) to find unique and common findings from Indonesia and The Philippines. How the scientific literature and policy documents mention, capture, or analyze the link between death and disasters were presented using the four dimensions of disaster risk reduction and management which include: (a) disaster mitigation, (b) disaster preparedness, (c) disaster response, and (d) disaster recovery and rehabilitation. In total, the profile of uniqueness and commonality in each dimension is presented in Table 1 below.

Table 1. Summary of the Common and Unique Themes presented in the Four Dimensions of Disaster Risk Reduction and Management for Indonesia and the Philippines.

Mitigation	Preparedness
Unique findings:	*Unique findings:*
Indonesia: 3	Indonesia: 9
Philippines: 11	Philippines: 2
Common findings: 2	*Common findings*: 0
Response	**Rehabilitation**
Unique findings:	*Unique findings:*
Indonesia: 3	Indonesia: 0
Philippines: 11	Philippines: 4
Common findings: 3	*Common findings: 0*

For disaster mitigation, a common theme that came out was the increase in the incidence of disasters especially in Indonesia from 1815 to 2019 (Fitriyani et al., 2021). This reflects global trends in both countries wherein low-income states accounted for 89% of the fatalities (Brower & Magno, 2011), (Howe & Bang, 2017). Many people in Indonesia and the Philippines are living in unsafe zones–West Java (Indonesia), for example, was the riskiest place for any disaster, especially flooding (Alcayna et al., 2016), (Azizah et al., 2021). Unique attributes were also found. Indonesia considers the important role of spirituality such as lessons from the Quran to help survivors cope with the loss (Firdausiyah, 2022). It was also found that in disaster mitigation, there were challenges in supporting toddler nutrition to be integrated in DRRM, which implies that vulnerable populations such as infants are further exposed to risks, and thus increased mortality and risk of injury (Haniarti & Syarifuddin Yusuf, 2020).

Global data was captured in the ISLR for the Philippines where good governance is often associated with fewer disaster-related fatalities (Yonson et al., 2018). While, overall, the number

of deaths around the world is decreasing given the progress in disaster risk reduction and management (Andersson, 2016), many challenges remain. It was found that Climate Change and Disaster Risk Management laws are not harmonized in the country (Setiyowati & Suprapti, 2023). This is particularly critical as the socio-economic and population exposure to hazards have a greater influence on mortality than the hazard itself (Alders, 2017), (Yonson et al., 2018). Despite this, death itself is not properly considered in Philippine DRRM policies (Pantino, 2015). One article mentioned that challenges to mental health are often overlooked in the policy context (Alcayna et al., 2016). However, there is growing appreciation with some studies already including death, for example, in determining public perception on Climate Change Adaptation (CCA) DRRM (Pantino, 2015).

For disaster preparedness, none were found to be common between Indonesia and the Philippines. However, more unique insights were found in Indonesia. These include the use of infographics to educate the community about disaster preparation (Saputri et al., 2019). On a larger scale, the mass media news/text reconstruction of how journalists write death to inspire people to mitigate and increase awareness of disaster evacuation protocols was found to be critical as well (Fitriyani et al., 2021). A study in Indonesia revealed that most people recently prefer watching audiovisual media rather than reading text, including infographics that are mostly made in digital format that is easy to share in unlimited distribution to the public.

The characteristics and types of shelters influencing mortality and injury were also discussed in one document (R.A & Adhitama, 2021). Capacity building such as emergency simulation (Setiyowati & Suprapti, 2023), (Sudirman & Alhadi, 2020), (Silviani et al., 2022), and involvement of the vulnerable population such as school-age children in performing bystander CPR and first aid (Rakuasa & Mehdila, 2023), (Christianingsih et al., 2021), (Kartika et al., 2020), (Huljanah, 2023) were also found. The involvement of community leaders in influencing the community's attitude and behaviors towards disasters was said to be essential (Rosyida et al., 2019)**.** Other important things are the presence of technical guidance on food preparedness during an emergency (Sumarto et al., 2019), and disaster preparedness among nurses using the Disaster Preparedness Evaluation Tool [DPET] - (Putri et al., 2021), (Nurdin et al., 2021) - for emergency preparedness information questionnaire). For the Philippines, it was seen that the lack of understanding of storm surges caused loss of life in the case of Haiyan (Bowen, 2015). People's ignorance and disregard of hazards also put them in harm's way (Guzman, 2016).

In terms of *disaster response*, three common themes emerged. It was seen that natural and human-induced hazards were responsible for fatalities in both countries (Brower & Magno, 2011), (Andersson, 2016), (Anttila-Hughes & Hsiang, 2013), (Aitsi-Selmi & Murray, 2015), (Fitriyani et al., 2021). This magnifies the fact that both countries are in the Pacific Ring of Fire, which explains the presence of many nature-induced disasters. Due to their archipelagic nature, the remote location of many areas hinders recovery efforts (Barbier, 2014). In the case of the Philippines, Haiyan devastated many remote areas in the country which was mentioned in several documents

in the ISLR (Yonson & Noy, 2020), (Florano, 2018), (Bowen, 2015), (Yi et al., 2015), (Lucagbo et al., 2010). The unique themes that emerged in Indonesia including the involvement of community leaders were critical in response efforts (Rosyida et al., 2019). It was also noted that addressing mortality from disaster risks included giving attention to children's nutrition, since after a disaster, it was also noted that medical services were often overwhelmed and unable to function (Aitsi-Selmi & Murray, 2015). This calls for the need to strengthen disaster response mechanisms to not just retrieve dead bodies but also reduce mortality post-disaster. Maintaining dark heritage to commemorate disaster victims was a noteworthy finding emerging from Indonesia that requires further attention in terms of research in the future (Aitsi-Selmi & Murray, 2015).

Several unique findings from the set of documents and articles were found in the Philippines for disaster response: the health risks increased with overcrowding in evacuation areas (Aitsi-Selmi & Murray, 2015), it was noted that evacuation could even become death traps post-disaster (Howe & Bang, 2017), (Rød, 2016) - as was in the case of Haiyan where evacuees perished from storm surge (P53). There was also an issue of attribution of deaths post-disaster (Bankoff, 2018), the lack of systematic listing of names of the dead and missing (P51), and underreporting of deaths (Carter et al., 2011). Although in some literature, the number of deaths was analyzed based on the type of hazard (Yi et al., 2015), (Gaillard et al., 2007), (Rød, 2016), but also found post-traumatic stress disorder (PTSD) affected the families who have lost their loved ones, amid a highly politicized estimation of the death toll (Alders, 2017).

Finally, *for disaster recovery and rehabilitation*, data only emerged from the Philippines that include long-term development prospects that were closely related to death during disasters, such as economic development, proxied in the test by income per capita, was negatively associated with fatalities (Yonson et al., 2018). In the long term, one study also showed that current DRRM investment was mainly focused on historical direct impact rather than on welfare (Yonson & Noy, 2020). It was found that there was no deep introspection or processing of grief that would have helped individuals to come to terms with death, life, and loss as well as coping and ultimately finding meaning in the tragedy (Alders, 2017). Interestingly, it was noted that experiences of injury and illness were predicted to have increased participation in training programs (Alcayna et al., 2016).

Areas for Future Research, Policy, and Community Actions

Many areas for research have been identified. First, a relevant and highly needed topic to be researched is the effect of long-term psychological intervention for bereaved families. This can be approached from various interdisciplinary and transdisciplinary vistas. From clinical and community psychology in designing interventions to alleviate mental health concerns and promote the well-being of people who have lost their loved ones to valuation of the economic impact of long-term grief for economics.

Methodology-wise, future research can also look at scientifically robust ways of analyzing grey literature on death and disasters. These may include content analyses of newspaper articles, visual arts, poetry, or current practices at the policy and community levels. It was found in the paper that looking into the scientific literature may miss critical practices that exist within the community that link death and disasters. Various disciplines, including community psychology, public health, human ecology, development communication, fine arts, anthropology, and sociology, can work together to achieve this.

Other research may look at indigenous knowledge and practices on death and disasters using a decolonizing lens, among others. Both Indonesia, the Philippines, and many countries in the global south possess rich local and cultural practices on how to approach the loss of a loved one, individually and collectively. These need to be further unpacked to determine how indigenous practices can inform institutionally responsive and socially progressive initiatives at the level of government, private sector, non-government organizations, and higher education institutions. It should be noted also that the Philippines and Indonesia's populations are spiritual - being home to many multi-faith communities. Spirituality and institutionalized religious belief have critical roles to play in informing practices on managing the dead and the missing, as well as in providing direction, solace, and healing for those who have lost family members after a disaster. The full scope and potentialities of "spiritual capital" as it relates to death and disaster have not been fully explored.

The gendered aspect of death and disasters should also be explored. Disasters are open moments that expose social inequalities and divides. In many cases, women's vulnerabilities were exacerbated by disasters. While calls for gender-disaggregated data and approaches during disasters during catastrophes has not been fully explored. This opens for future interdisciplinary and transdisciplinary forms of inquiry from community psychology, human ecology, women's studies, public health, anthropology, and public policy, among others.

Areas for Future Policy and Community Actions

In analyzing the ISLR data, it was seen that the insights in the Philippines are mainly on disaster mitigation and response, and less on preparedness and rehabilitation. Meanwhile, data for Indonesia are less on mitigation and none for rehabilitation while many insights were obtained on disaster preparedness and response. These findings can be valuable in reflecting on where each country is strong in terms of awareness and existing practices, and in determining future actions to bolster efforts to strengthen policy and community actions on death and disaster.

Social services and institutions are the adequate infrastructure supporting initiatives linking death and disaster. These may include the determination of whether crematoriums, funeral houses, and religious facilities to facilitate funerals, are present at the community-level, and among others. In the case of mass deaths from a disaster, this question is magnified as to whether local governments

have the infrastructure and forensic tools to identify, store and properly bury dead bodies. These also include an early warning system (EWS) to prevent mortality and injury among the population. For the affected families, future practices may focus on providing trauma healing programs for those who have lost a loved one. In the Philippines, it was shown that lack of access to long-term services for trauma healing meant that many individuals have a hard time coping and finding meaning in the tragedy after losing a loved one from a disaster (Alders, 2017).

Development organizations and governments should be able to look at mechanisms on what role external organizations can play to complement local actors and strengthen their capacity in long-term post-disaster efforts. For example, local psychosocial providers can be capacitated, and a system can be built to deal with long-term grief once external organizations have left the community.

> **Output status,** containing the **type**, **identity,** and **the achievement of each mandatory output** and **additional output** as stated in the proposal. The researcher should attach the document indicating the current status of the output, such as publication, intellectual property (HKI), experiment results, etc., as stated in the proposal. Scientific papers, books, etc., should attach similarity test results with a maximum of 25%.

OUTPUT STATUS

The manuscript. The manuscript was submitted in early January. At the moment our manuscript has already succeeded from the desk review (plagiarism check, format alignment, etc.), and continued to the blind reviewer desk. See Annex 1.

Plagiarism check, see Annex 2.

Communication of submission with Jamba Journal of DRR, see Annex 3.

MOU. The MOU was signed between the two parties when the research team traveled to the Philippines in November 2023. See Annex 4.

> The researcher should describe t**he role** of partners in the context of **cooperation realization** and **partner contributions** both *in-kind* and *in-cash* (for Applied Research and Development/ *Penelitian Terapan dan Pengembangan*). Supporting evidence/document of this cooperation realization and contribution based on the actual conditions should be attached.

PARTNER ROLE

Our partner is from the Department of Human Ecology, University of The Philippines (UPLB) consists of two researchers. The contribution of this institution is providing Zoom meetings (for overseas monthly communication and coordination), picking up at the airport, providing daily transportation as well as suggestions for halal restaurants (meals) and working spaces during the joint meeting for data analysis and visit of the UAD researchers in UPLB.

> **Research Implementation Obstacles** contain difficulties or obstacles encountered during conducting research and achieving the promised outcomes.

OBSTACLES DURING THE RESEARCH

The research process went very well. The discussions and other engagements during the research period were very smooth, and there were almost no obstacles. Even during the meetings in the

Philippines, our research partner always provides halal meals and is very sensitive to the needs of Muslims such as praying time.

> **The Next Plan** contains the researcher planning to complete the research considering the current achievements. In case there is a target that has not been reached until the research is done, in this section, the researcher is allowed to explain their plan to complete their target

NEXT PLAN
Based on the findings from this study, we plan to conduct another study as recommended by this study and still compare the DRRM in Indonesia and the Philippines.

> **The** reference is organized and written **based on a number system** according to cited order in the text. **Only references cited in the document should be listed—a minimum of 25 references.**

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APPENDICES:
a. Document indicating the mandatory research outputs and their achievement status
b. Document indicating the additional research outputs and the status of their achievements (if any)
c. Plagiarism test result indicating 25% similarity (for article or book)
d. *Logbook* (inputted and downloaded from the portal)
e. Document containing budget accountability called as SPTB that can be inputted and downloaded in the portal
f. Document showing supervising process (PDP scheme only)
g. Document showing the cooperation realization with partners for applied research and development research (Riset Terapan and Pengembangan)

Scanning the Landscape of Academic Knowledge and Practise on Death and Disaster in Indonesia and the Philippines: An Interdisciplinary Systematic Literature Review

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ABSTRACT

Death is often ignored in academic knowledge, policy, and practice as it is seen as deeply personal and an intrusion into life, especially in relation to mass casualty due to disasters. Such a complex issue requires a holistic interdisciplinary approach. In the context of Community Psychology, management of dead bodies after a disaster is required as part of the psychosocial intervention. A tendency toward the medicalization of death is evident in public health, which is frequently measured in terms of the number of deaths. More efforts are needed to unpack the nature and emotional toll among bereaved families. Meanwhile, in Human Ecology, the complex interplay of death in the context of disasters requires systems thinking that cuts across disciplines and scales. Thus, a holistic approach to the issue should be affirmed as integral to the national disaster policy discourse. Despite this, no study was found to have conducted a literature review that linked the two concepts together in an interdisciplinary manner. Thus, the study contributed to academic knowledge and practice by conducting an interdisciplinary systematic literature review (ISLR) of death and disaster in Indonesia and the Philippines–two of the most disaster-prone countries in the world–wherein 77 documents were analysed. It was found that there is a lack of awareness and a coherent body of work linking death and disaster beyond the counting of death tolls. Areas for new research, community, and policy actions were also recommended to enrich academic knowledge and practise in the future.

Keywords: death and disasters, disaster risk management, interdisciplinary systematic literature review, Indonesia, Philippines

Introduction

There is a dearth of academic knowledge and practise on death. As humans live longer, the attitudes and the way people relate to death has also changed (San Filippo, 2006). Furthermore, with the advent of advanced medical sciences, death is ignored and feared which leaves many people ill-equipped to deal with death. The price society pays for ignoring death is high, especially in the context of disasters. Critical reflections in the Philippines, for example, point to the fact that

while the government focuses on the survivors in the four dimensions of disaster risk reduction and management (DRRM), the administration of human remains, and missing persons are evidently the most difficult challenges for DRRM practitioners. In Indonesia, few documents were observed on Google Scholar dealing with death and disaster–which might suggest lack of attention in terms of academic knowledge and, possibly, in practice too.

Figure 1. Geographical Map of Indonesia (GISGeography, 2023, available at: https://gisgeography.com/indonesia-map/)

The EM-DAT (International Disaster Database) recorded 281 climate-related and geophysical events. These resulted in 10,744 deaths and affected 60 million people worldwide. Another study by estimated that natural-induced disasters caused 30,773 deaths and affected 244.7 million people (Guha-Sapir *et al.*, 2012). The same study listed five countries that are most frequently affected by disasters which included China, the United States of America, the Philippines, India, and Indonesia. Both Indonesia (Figure 1) and The Philippines (Figure 2) are archipelagic countries which made monitoring and fast response being challenged and resulting in a high number of casualties. Within these figures, some sub-sectors are particularly vulnerable. It was noted that infant mortality related to post-typhoon events constituted 13% of the total infant mortality rate in the Philippines (Anttila-Hughes and Hsiang, 2013). Female infants have particularly elevated risks. In Indonesia, earthquakes and tsunamis are disasters that caused the most deaths in Indonesia since 1815-2019 (Fitriyani *et al.*, 2021), where more than 130,000 people died. This means that earthquakes and tsunamis must be watched out for as a cause of death due to disasters, and it is predicted to cause vulnerability to mental health for families who have lost their loved ones.

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Figure 2. Geographical Map of the Philippines (GISGeopgraphy, 2023, available at:
https://gisgeography.com/philippines-map/)

Despite these realities, limited attention has been given to the study of death. Moreso, as it relates to disasters. There were two critical gaps in the literature (Kristensen, 2012). First, few research focus on the mental health effect of bereavement in the context of disasters. Second, the trajectory of grief is less explored and there is scant research on useful means to help bereaved families in the aftermath of disasters. It was noted that bereavement is deeply private and personal, and the commonly held view is that bereaved families should be left alone (Kristensen, 2012). Learning from Sri Lanka, the experience of people who lost their loved ones after a tsunami in 2004 caused various mental health problems. This is why the management of the dead as part of disaster preparedness and response must be highlighted (Sumathipala, Serebaddana, Perera, 2006)

The study is significant for three reasons. First, death is fundamental to living and thriving. But these are understated, and undermined in terms of understanding, policies, processes, and DRRM strategies. Without institutional recognition and affirmation, bereavement is left to the family and individual capacity. Death in the context of disasters should be highlighted as a public good. Therefore, the absence of services is an abandonment and blindsiding of the state on its institutional services, processes, and policies. This interdisciplinary systematic literature review would aid in the re-examination of the institutional perspectives on death and disaster. It sheds light on a fundamental and integral aspect of DRRM policies, processes, and services.

Second, an interdisciplinary systematic literature review would aid in illuminating the existing cross-disciplinary understanding of death in the Philippines and Indonesia. The analysis covers research and documents across different disciplines touching on the topic of death and disasters. This is critical for two reasons. Firstly, death and dying is a complex and multi-faceted phenomena where diverse perspectives offer integrative frameworks for analysis and to inform practice. Furthermore, the vulnerabilities of the two countries to disasters due to exposure to various hazards is exacerbated by the complex interplay of poverty, institutional fragmentation, climate change, elite capture, among others. While Indonesia and the Philippines share many similarities, there are also differences in terms of historical and institutional contexts that need to be unpacked. Learning from different disasters in different parts of the world, disaster recovery programs are complex in terms of management that cannot be emphasised solely by one discipline, but multidisciplinary (Lin, Kelemen and Kiyomiya, 2017) and interdisciplinary approaches are needed.

Third and finally, an interdisciplinary systematic literature review seeks to contribute to opening conversations, broadening discussions, and elevating discourse on death and disasters. This is crucial as DRRM at the national context is heightened by the worsening global crises such as the Covid-19 pandemic, climate change, and burgeoning geopolitical conflicts.

Therefore, the study aims to analyse through an interdisciplinary systematic literature review the following:

1. Discuss the existing state of academic knowledge and practise on how death is incorporated in the four dimensions of disaster risk reduction and management in Indonesia and the Philippines.

2. Determine areas for future research on incorporating death in disaster risk reduction and management; and

3. Determine areas for policy and community actions to strengthen the links between death in the context of disaster risk reduction and management.

Methodology

Research Design

The study employs systematic literature review (SLR) to answer its objectives. The common definition of an SLR is that it is "a way of synthesising scientific evidence to answer a particular research question in a way that is transparent and reproducible, while seeking to include all the published evidence of the topic and appraising the quality of this evidence" (Lame, 2019). Since the method used was interdisciplinary in nature, it had to cut across multiple disciplines and ways of knowing. Thus, requiring the concept of zigzagging or finding a common language or mechanism understood by all disciplines. In this study, a more eclectic approach was also used in consideration of the fact that death and disaster are nascent areas of inquiry. Furthermore, this was done as the study proponents came from various disciplines–community psychology, public health, sociology, human ecology and political economy. It also had practical benefits as such an approach yielded a more exhaustive literature search. Hence, in this study, the term interdisciplinary systematic literature review (ISLR) was utilised. ISLR was not a new concept as it has been used in previous studies (Sapiains *et al.*, 2021; Howard *et al.*, 2022).

There were eight steps in this systematic literature review (Curtin university, 2022). *First* was to look for existing reviews and protocols. *Second*, involved the formulation of a specific research question. *Third* was where the protocol was developed and registered. *Fourth* included the design of a robust search strategy. *Fifth* involved the conduct of a comprehensive search of the literature. *Sixth* was the selection and critical appraisal of the quality of the studies that were included in the roster. *Seventh* was the extraction of relevant data from the studies. *Eight* was the interpretation of the results.

Systematic literature review is emphasised as a meant to: (1) provide a clear and comprehensive overview of the current evidence of the topic, (2) highlights methodological concerns in studies to

improve future research, and (3) helps in determining whether the available evidence provides answers to certain questions regarding the topic and further research may not be necessary (Peričić and Tanveer, 2019).

Data Collection

This study employed seven steps in this interdisciplinary systematic literature review (Figure 3). For the first step, it involved the determination of the research syntaxes. This step divided the syntaxes into two parts: a general search and specific search. Each of them featured a ten-page search on Google Scholar. In each page search, around ten studies were generated. Thus, every syntax had around 100 studies. Replicated studies were removed in other syntaxes to avoid duplication. For the search engine, Google Scholar was chosen given its accessibility as paid search engines were not available to all of us. Nonetheless, it provided a comprehensive inventory of studies available. Google Scholar also provided an avenue to search for studies written not just in English but also in Bahasa Indonesia. For general searches, there were three syntaxes: death and disasters, dying and disasters, and disaster risk reduction and management policy. Meanwhile, for specific searches, these included death and disasters and Philippines and Indonesia; dying and disasters and Philippines and Indonesia; and Philippine and Indonesian disaster risk reduction and management policy.

In the second step, there were two sets of inclusion criteria for the general and specific searches. For the general search, these included studies before March 2020 or prior to the Covid-19 pandemic. This timeline was crucial as Covid-19 considered as a "critical juncture" in the DRRM policies not just in the Philippines and Indonesia but around the world. Journal articles, policy papers, documents (e.g., RAs, transcripts, executive orders, memoranda, Department Administrative Orders, etc.), and newspaper clippings are part of the inclusion criteria. The full copy of the manuscript/article should be available for free. These can be journal articles, policy papers, documents (e.g., laws, transcripts, executive orders, memoranda, Department or Ministry's Administrative Orders, etc.), and newspaper clippings. The topics should cover the Philippines and Indonesia, and/or related international agreements. Likewise, a full copy of the manuscript/article should also be available.

Figure 3. Seven Steps undertaken in the Interdisciplinary Systematic Literature Review

For the third step, the studies were inputted in a matrix on Google Sheets. This step divided the syntaxes by sheets and organised them by the year in which they were published. There was a specific portion in the Google Sheets where the authors appraised the literature based on the exclusion and inclusion criteria which was elaborated in the succeeding paragraphs. A total of 295 documents and research were identified for the initial database in the Philippines, and 98 for Indonesia.

For the fourth step or the evaluation process, the authors collated all the searches and stored them on Google Sheets. The articles and documents were summarised in terms of abstract and conclusion for journal articles and book chapters, and description and findings for official documents and grey literature, if any. The authors conducted database cleaning based on inclusion and exclusion criteria.

The fifth step which was the exclusion criteria, also included the general and specific searches. For the general search, the literature that was included were those published during the Covid-19 pandemic, post-March 2019. For the specific search, the same treatment was used for the studies found. Also excluded were topics or sites of study abroad / outside the Philippines and Indonesia. Meanwhile, the sixth step focused on the second layer of putting literature in the database featuring studies that passed through the inclusion and exclusion criteria. They were divided into sheets in Google Sheets and organised by year. A total of 29 documents and scientific papers made the final shortlist in the Philippines and 48 were selected for Indonesia.

Data Processing and Data Analysis

The seventh step involved the processing of the literature gathered. The documents were labelled in terms of "D" for documents and policies and "P" for scientific papers such as journal articles, and book chapters, among others. The documents and papers for Indonesia were numbered first followed by the Philippines (see *Table 1* (Overview of documents and policies analysed in Indonesia and the Philippines – labelled as "D") and *Table 2* (Overview of death and disaster within scientific papers analysed in Indonesia and the Philippines – labelled as "P") in Appendix). A one-day workshop was conducted in November 2023 where all the researchers gathered in the University of the Philippines Los Baños, Laguna, Philippines. A template was prepared ahead of time as a heuristic tool to organise the emergent common and unique themes in the four dimensions of disaster risk reduction and management namely: disaster mitigation, disaster preparedness, disaster response, and disaster recovery and rehabilitation. Afterwards, the researchers determined the common and unique themes for each country based on the studies and documents gathered. Once these were generated, they were presented in matrices. These were used to construct a narrative to answer the research objectives.

Results And Discussion

State of Academic knowledge and Practise on Death and Disaster in Indonesia and the Philippines

Based on the results of the ISLR, it is critical to determine findings that are common and unique to both Indonesia and the Philippines. How the scientific literature and policy documents mention,

capture, or analyse the link between death and disasters. The data in this study is presented using the four dimensions of disaster risk reduction and management which include: (a) disaster mitigation, (b) disaster preparedness, (c) disaster response, and (d) disaster recovery and rehabilitation. In total, for disaster mitigation, there were two common themes, three were unique themes to Indonesia and 11 for the Philippines. For disaster preparedness, there were no common themes but a total of nine unique themes emerged from Indonesia and two for the Philippines. For disaster response, a total of three common themes came up, three unique themes for Indonesia and 11 for the Philippines. Finally, in disaster recovery and rehabilitation, a total of four unique themes emerged from the Philippines and no common themes and unique themes came up for Indonesia.
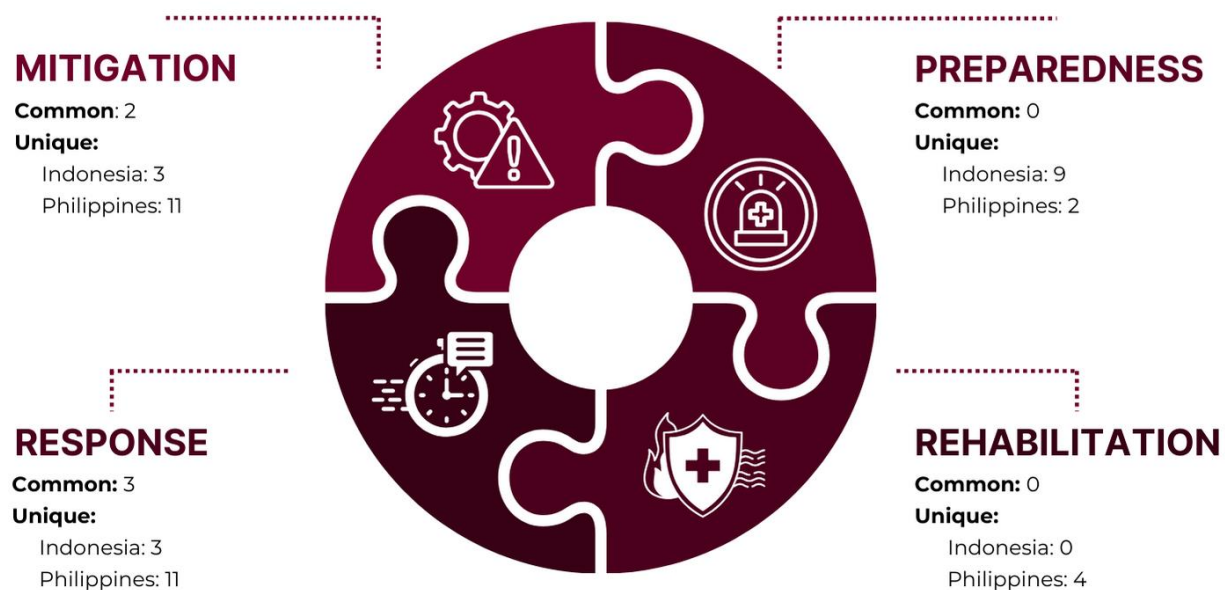

MITIGATION
Common: 2
Unique:
  Indonesia: 3
  Philippines: 11

PREPAREDNESS
Common: 0
Unique:
  Indonesia: 9
  Philippines: 2

RESPONSE
Common: 3
Unique:
  Indonesia: 3
  Philippines: 11

REHABILITATION
Common: 0
Unique:
  Indonesia: 0
  Philippines: 4

Figure 4. Summary of the Common and Unique Themes presented in the Four Dimensions of Disaster Risk Reduction and Management for Indonesia and the Philippines

For disaster mitigation, a common theme that came out was the increase in the incidence of disasters especially in Indonesia from 1815-2019 (P1). This reflects global trends in both countries wherein low-income states accounted for 89% of the fatalities (D13, P53). Many people in Indonesia and the Philippines are living in unsafe zones–West Java (Indonesia), for example, was the riskiest place for any type of disaster, especially flooding (D10, P5). Based on the Average Accumulated Data of villages that are prone to experienced natural disaster in Indonesia, West Java has a higher level of vulnerability to landslide, flood and earthquake as the cause (Supriyadi

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et al., 2018). Unique attributes were also found. Indonesia considers the important role of spirituality such as lessons from the Quran to help survivors cope with the loss (P25). This was confirmed by a study which showed that through rumination of the history, values and descriptive approaches, a psycho-socio-spiritual interventions based in Al Qu'ran, using *tawakkul* (trust in God), *shukr* (gratitude), *sabr* (patience) could be attributed in the promotion of individual and community-level resilience (Fahm, 2019). It was also found that in disaster mitigation, there were challenges in supporting toddler nutrition to be integrated in DRRM (P14). This implies that vulnerable populations such as infants are further exposed to risks, and thus increased mortality and risk of injury (P14). To make sure that the infant and young children's future physical, mental and social health are adequate, a nutritional assessment of children and nutritional support in disaster situations are necessary (Adeoya *et al.*, 2022). As such, the country has been developing the National Agency for the One Indonesian Disaster Data (SDBI) which would be shared among technical work groups for better coordination.

Global data was captured in the ISLR for the Philippines. It was noted that good governance is often associated with fewer disaster-related fatalities (P52). This reinforces further the idea that governance mechanisms play a key role in reducing mortalities from disaster risks and that DRRM should be integral to development planning. A study in an area prone to flooding in Bangladesh found that successful local-level disaster risk management is related to compliance to criteria of good governance which include financial and technical capacities, as well as independence and integrated institutional coordination (Choudhury, Uddin and Haque, 2019). In fact, democratic countries and increases in GDP per capita often mean that there are less deaths from disasters (P52). While, overall, the number of deaths around the world are decreasing given the progress in disaster risk reduction and management (P54), many challenges remain. It was found that Climate Change and Disaster Risk Management laws are not harmonised in the country (D15). This is particularly critical as the socio-economic and population exposure to hazards have greater influence on mortality than the hazard itself (P51, P52). Despite this, death itself is not properly considered in Philippine DRRM policies (D16). One article mentioned that challenges to mental health are often overlooked in the policy context (D10). However, there is growing appreciation with some studies already including death, for example, in determining public perception on Climate Change Adaptation (CCA) DRRM (D16).

For disaster preparedness, none were found to be common between Indonesia and the Philippines. However, more unique insights were found in Indonesia. These include the use of infographics to educate the community about disaster preparation (P11). On a larger scale, the mass media news/text reconstruction of how journalists write death to inspire people to mitigate and increase awareness to disaster evacuation protocols were found to be critical as well (P1). A study in Indonesia revealed that most people recently do prefer watching audiovisual media rather than reading text. Infographics are mostly made in digital format so that it is easy to share in unlimited distribution to the public.

The characteristics and types of shelters influencing mortality and injury were also discussed in one document (P41). Capacity building such as emergency simulation (P15, P28, P29), and involvement of the vulnerable population such as school-age children in performing bystander CPR and first aid (P10, P12, P24, P37) were also found. The involvement of community leaders in influencing the community's attitude and behaviours towards disasters was said to be essential (P3). This is confirmed in a case study that compares the role of community leaders in activating social capital in the post-disaster situation of Kobe (Japan) and Gujarat (India). It was apparent and vital for community leaders to leverage social capital and facilitate collective decision-making during the recovery process, so that the recovery programs are speedily achieved (Nakagawa and Shaw, 2004).

It was also found that there was a presence of a technical guidance on food preparedness during an emergency (P38). The ISLR also highlighted the importance of disaster preparedness among nurses using Disaster Preparedness Evaluation Tool [DPET] - (P17, P13 - for emergency preparedness information questionnaire). For the Philippines, it was seen that the lack of understanding of storm surge caused loss of life in the case of Haiyan (P56). People's ignorance and disregard of hazards also put them in harm's way (P55). This situation was also confirmed from the study on tsunami disaster that struck Sri Lanka in 2004 where a lack of awareness and knowledge of tsunamis among Sri Lankans and government officials have increased their vulnerability to destruction and loss. That means that strengthening communities' knowledge against disasters is effective to minimise its destructive effects (Seneviratne, Baldry and Pathirage, 2010).

In terms of *disaster response*, three common themes emerged. It was seen that natural and human-induced hazards were responsible for fatalities in both countries (D13, P54, P61, D14, P1). This magnifies the fact that both countries are in the Pacific Ring of Fire, which explains the presence of many nature-induced disasters. Due to their archipelagic nature, the remote location of many areas hinders recovery efforts (P60). In the case of the Philippines, Haiyan devastated many remote areas in the country which was mentioned in several documents in the ISLR (D11, D15, P56, P58, P62). The unique themes emerged in Indonesia including the involvement of community leaders was critical in response efforts (P3). It was also noted that addressing mortality from disaster risks included giving attention to children's (below 5) nutrition (P14). The study was relevant, as it was revealed also by a scoping review on Child Nutrition in Disaster who found that there was risk for increased mortality, morbidity from communicable diseases and mental health problems among children due to nutritional issue during disaster (Adeoya *et al.*, 2022). Immediately after a disaster, it was also noted that medical services were often overwhelmed and unable to function (D14). This calls for the need to strengthen disaster response mechanisms to not just retrieve dead bodies but also reduce mortality post-disaster. In addition, maintaining dark heritage to commemorate disaster victims was a noteworthy finding emerging from Indonesia that requires further attention in terms of research in the future (D14).

Several unique findings from the set of documents and articles were found in the Philippines for disaster response. First, it was found that health risks increased with overcrowding in evacuation areas (D14). In fact, it was noted that evacuation could even become death traps post-disaster (P53, P65) - as was in the case of Haiyan where evacuees perished from storm surge (P53). In other words, the presence of disease outbreaks contributed to mortality. There was also an issue of attribution of deaths post-disaster (P50), the lack of systematic listing of names of the dead and missing (P51) and underreporting of deaths (P64). Although in some literature, the number of deaths was analysed based on the type of hazard (P58, P63, P65). It was also found in this ISLR that post-traumatic stress disorder (PTSD) affected the families who have lost their loved ones (P51). All in the midst of a highly politicised estimation of the death toll (P51). In short, unidentified dead bodies are a problem in humanitarian disasters, infectious disease outbreaks, mass migrations on precarious and often deadly land and sea routes, as well as human trafficking.

and, ironically, these individuals are often denied the respect they deserve (Suwalowska *et al.*, 2023).

Finally, *for disaster recovery and rehabilitation*, data only emerged from the Philippines. Long-term development prospects were closely related to death during disasters. It was seen that economic development, proxied in the test by income per capita, was negatively associated with fatalities (P52). In the long term, one study also showed that current DRRM investment was mainly focused on historical direct impact rather than on welfare (D11). This entails that many rehabilitation efforts failed to address welfare considerations, which might include, efforts to address long-term grief (D11). In one case study, it was found that there was no deep introspection or processing of grief that would have helped individuals to come to terms with death, life, and loss as well as coping and ultimately finding meaning in the tragedy (P51). Interestingly, it was noted that experiences of injury and illness were predicted to have increased participation in training programs (P49). This was something that DRRM practitioners should hinge on in the future.

Areas for Future Research

Many areas for research have been identified. First, a relevant and highly needed topic to be researched is the effect of long-term psychological intervention for bereaved families. This can be approached from various interdisciplinary and transdisciplinary vistas. From clinical and community psychology in designing interventions to alleviate mental health concerns and promote the well-being of people who have lost their loved ones to valuation of the economic impact of long-term grief for economics.

Methodology-wise, future research can also look at scientifically robust ways of analysing grey literature on death and disasters. These may include content analyses of newspaper articles, visual arts, poetry, or current practises at the policy and community levels. It was found in the paper that looking into the scientific literature may miss critical practices that exist within the community that link death and disasters. Various disciplines such as, but not limited to, community psychology, public health, human ecology, development communication, fine arts, anthropology, and sociology, can work together to achieve this.

Other research may look at indigenous knowledge and practises on death and disasters using a decolonizing lens, among others. Both Indonesia, the Philippines, and many countries in the global south possess rich local and cultural practices on how to approach the loss of a loved one, individually and collectively. These need to be further unpacked to determine how indigenous practises can inform institutionally responsive and socially progressive initiatives at the level of government, private sector, non-government organisations, and higher education institutions to prevent mortality, manage dead bodies and missing persons, and humanely deal with families who have lost a loved one.

It should be noted also that the Philippines and Indonesia's populations are spiritual - being home to many multi-faith communities. Spirituality and institutionalised religious belief have critical roles to play in informing practices on managing the dead and the missing, as well as in providing direction, solace, and healing for those who have lost family members after a disaster. The full scope and potentialities of "spiritual capital" as it relates to death and disaster have not been fully explored. Spiritual capital is rooted from religious practices as the extent to which a person is proficient in and committed to a specific religious culture, which helps to explain why people engage in religion and find fulfilment in it (Finke, 2003). As such, it merits increased scholarly attention both for social scientists and scholars and practitioners of religion.

The gendered aspect of death and disasters should also be explored. Disasters are open moments that expose social inequalities and divides. Women, in particular female infants, were shown to have higher mortality than male (Anttila-Hughes and Hsiang, 2013). In many cases, women's vulnerabilities were exacerbated by disasters. While calls for gender-disaggregated data and approaches during disasters have been increasing in recent years, the gendered nature of mortality during catastrophes has not been fully explored. This opens for future interdisciplinary and transdisciplinary forms of inquiry from community psychology, human ecology, women's studies, public health, anthropology, and public policy, among others.

Finally, the mortality and coping mechanisms from the loss of loved ones for vulnerable groups is also a less explored topic based on the ISLR. As stated earlier, disasters as open moments means that social vulnerabilities are magnified during catastrophes. Therefore, it is important to open vistas for future research that looks at how children, disabled individuals, immigrants, minorities,

among others, are further socially excluded by disasters and what initiatives can be taken to address their concerns.

Areas for Future Policy and Community Actions

In analysing the ISLR data, it was seen that the insights in the Philippines are mainly on disaster mitigation and response, and less on preparedness and rehabilitation. Meanwhile, data for Indonesia are less on mitigation and none for rehabilitation while many insights were obtained on disaster preparedness and response. These findings can be valuable in reflecting on where each country is strong in terms of awareness and existing practises, and in determining future actions to bolster efforts to strengthen policy and community actions on death and disaster. While current efforts stipulate existing social services and institutions dealing with the management of the dead and the missing, there is a need to frame death in disaster from a wider disaster risk management perspective. One that looks at the whole spectrum of mitigation, preparedness, response, and rehabilitation. And that which is beyond the management of the dead and missing, but on preventing mortality in the first place, putting in place social services and institutions such as adequate funeral services, and access to support in addressing long-term grief, among others. Such an approach must be adequately considered in formulating and implementing disaster risk management plans.

Social services and institutions are the adequate infrastructure that would support initiatives linking death and disaster. For example, it is critical for disaster risk management planners to have an inventory of funeral services infrastructure that fits the culture and belief system of the local population. These may include the determination of whether crematoriums, funeral houses, and religious facilities to facilitate funerals, are present at the community-level, and among others. In the case of mass deaths from a disaster, this question is magnified as to whether local governments have the infrastructure and forensic tools to identify, store and properly bury dead bodies. These also include an early warning system (EWS) to prevent mortality and injury among the population. Such EWS should be tailored in providing anticipatory information or signals to local communities, covering various types of hazards affecting local communities. For the affected families, future practises may focus on providing trauma healing programs for those who have lost a loved one. These include services that must be in place before a catastrophe and provided

immediately and long after a disaster strikes a community. In the Philippines, it was shown that lack of access to long-term services for trauma healing meant that many individuals have a hard time coping and finding meaning in the tragedy after losing a loved one from a disaster (P51).

This was the reason an exit strategy is critical to any development intervention. Development organisations and governments should be able to look at mechanisms on what role external organisations can play to complement local actors and strengthen their capacity in long-term post-disaster efforts. For example, how local psychosocial providers can be capacitated, and a system can be built to deal with long-term grief once external organisations have left the community. Entry and exit strategies on death in a disaster can be incorporated in the wider DRRM plan and framework. Finally, Universities have a big role to play both in determining new vistas for research as well as in providing critical capacity-building skills for local communities. Best practises on how Universities play an important role on the matter should be unpacked, shared, and strengthened through various fora.

Limitations of the Study

There are several limitations of the study which were divided into structural and substantive limitations. Structural limitations, first, involve the limitations derived from the syntaxes used. Six syntaxes were used for both general and specific searches. This was done to manage the amount of the literature being examined in the study. However, future studies can expand or alter the syntaxes to map out further the current knowledge on the topic. Limitations may also emanate from the years of publication that this study covered in terms of journal articles, book chapters, documents, and grey literature. Of particular emphasis are the works published during the Covid-19 pandemic which radically transformed academic knowledge and practice of disaster risk management owing to its widespread and profound impact on societies around the world. Furthermore, reliance on Google Scholar made it difficult to look at policies, practises, and other insights from grey literature. Finally, the geographic scope mainly focuses on the Philippines and Indonesia for our specific search and, thus, affecting the ability of the findings to generalise. Nonetheless, the methodology for our systematic literature review remains robust as it yielded a respectable amount of literature and provided a thorough process for validation among the authors and reviewers.

In terms of substantive limitations, literature review does not always capture how informal institutions play out in the topic of interest. Informal institutions refer to rules of the game that are created, communicated, and enforced outside of official sanctioned channels (Helmke and Levitsky, 2004). This is because they are often reflected in development practises and processes which are not usually documented. Furthermore, it is inherent in the systematic literature review design that it is not meant for grounding or deep diving on the national disaster risk reduction and management policy. Rather it is designed for context building and landscape screening to aid further studies.

Conclusion

Death in the context of disasters is a less explored but critical topic. Every year, millions of dead individuals are not identified and many more who have lost a loved one suffer from the consequences of long-term grief. As such, this study conducted an ISLR to explore new vistas in linking death and disaster. About 47 scientific papers and documents in Indonesia and 29 in the Philippines or a total of 76 materials were analysed. The study contributes to unpack the current landscape in death and disaster literature in both countries, where the findings show that awareness and a coherent body of work linking the two are lacking. However, progress has been made already as death was somehow discussed in the national policy documents in both Indonesia and the Philippines, even though simply discussed the death tolls from disasters. This provides new vistas for future research and practise within the field of Community Psychology, Human Ecology, Public Health and others as well. Recommendations were also suggested to strengthen policy and community actions in the future. These could help in fostering culturally sensitive, socially progressive, and institutionally responsive pathways in the co-production of academic knowledge and practise.

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NK responsible for data gathering, processing & analysis, manuscript writing, proofreading of content.
METM is responsible for data gathering & processing, analysis and manuscript writing

Data availability
Since this study is a systematic literature review, no new data were produced or analysed, so data sharing is not applicable

Disclaimer
All views and opinions expressed in this article are those of the authors and do not necessarily reflect the views or opinions of any agency.

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Appendix

Table 1. Overview of documents and policies analysed in Indonesia and the Philippines

Author (Year)	Title	Code
(Sekretariat Nasional Satuan Pendidikan Aman Bencana, 2017)	Pendidikan tangguh Bencana: "Mewujudkan satuan pendidikan aman bencana di Indonesia"	D1
(Kementerian Pertahanan Republik Indonesia, 2014)	Peraturan Menteri Pertahanan Republik Indonesia No 39 Tahun 2014 tentang Penanggulangan Bencana di Rumah Sakit Kementerian Pertahanan dan Tentara Nasional Indonesia	D2
(Menteri Dalam Negeri Republik Indonesia, 2008)	Peraturan Menteri Dalam Negeri No 46 Tahun 2008 tentang Peodman Organisasi dan tata kerja Badan Penanggulangan Bencana Daerah	D3
(Menteri Pendidikan dan Kebudayaan Republik Indonesia, 2019)	No 33 Tahun 2019 tentang Penyelenggaraan Program Satuan Pendidikan Aman Bencana	D4
(Presiden Republik Indonesia, 2021)	No 29 Tahun 2021 tentang Perubahan Atas Peraturan Presiden No 1 Tahun 2019 Tentang Badan Nasional Penanggulangan Bencana	D5
(Presiden Republik Indonesia, 2007)	Undang-Undang Republik Indonesia No 24 Tahun 2007 tentang Penanggulangan Bencana	D6
(Fernandez, Uy and Shaw, 2012)	Chapter 11 Community-Based Disaster Risk Management Experience of the Philippines	D7
(Molina and Neef, 2016)	Integration of Indigenous Knowledge into Disaster Risk Reduction and Management (DRRM) Policies for Sustainable Development: The Case of the Agta in Casiguran, Philippines	D8
(De Leon and Pittock, 2016)	Integrating climate change adaptation and climate-related disaster risk-reduction policy in developing countries: A case study in the Philippines	D9
(Alcayna *et al.*, 2016)	Resilience and Disaster Trends in the Philippines: Opportunities for National and Local Capacity Building	D10
(Yonson and Noy, 2019)	Disaster Risk Management Policies and the Measurement of Resilience for Philippine Regions	D11
(Follosco-Aspiras and Santiago, 2016)	Assessing the Effectiveness of the Decentralisation Policy on Disaster Risk Reduction and Management: The Case of Hagonoy, Bulacan, Philippines	D12
(Brower and Magno, 2014)	A "Third Way" in The Philippines	D13
(Aitsi-Selmi and Murray, 2016)	Protecting the Health and Well-being of Populations from Disasters: Health and Health Care in The Sendai Framework for Disaster Risk Reduction 2015-2030	D14
(Florano, 2018)	Chapter 26 - Integrated Loss and Damage–Climate Change Adaptation–Disaster Risk Reduction Framework: The Case of the Philippines	D15
(Pantino, 2015)	Knowledge is Power: A Policy Proposal about the Integration of Disaster Risk Reduction and Management Principles	D16

Table 2. Overview of death and disaster research analysed in Indonesia and the Philippines

Author (Year)	Title	Code
(Fitriyani et al., 2021)	Karakteristik Histori Bencana Indonesia Periode 1815 – 2019 Berdasarkan Jumlah Bencana, Kematian, Keterpaparan dan Kerusakan Rumah Akibat Bencana	P1
(Febrina, R.,2021)	Dekonstruksi Makna Kata Korban dalam Bencana Erupsi Gunung Semeru: Analisis Teks Kematian Rumini dan Ibunya	P2
(Rosyida, Nurmasari and Suprapto, 2018)	Analisis Perbandingan Dampak Kejadian Bencana Hidrometeorologi Dan Geologi Di Indonesia Dilihat Dari Jumlah Korban Dan Kerusakan (Studi: Data Kejadian Bencana Indonesia 2018)	P3
(Fernalia et al., 2021)	Latihan Gabungan Penyelamatan Diri Dari Bencana Banjir Kerjasama Prodi Ners, Bpbd, Ppni Dan Karang Taruna Kelurahan Bentiring	P4
(Azizah et al., 2022)	Kajian Risiko Bencana Berdasarkan Jumlah Kejadian dan Dampak Bencana di Indonesia Periode Tahun 2010 – 2020	P5
(Iswarani et al., 2020)	Manajemen Penyelamatan Ibu Hamil Pasca Bencana	P6
(Adu and Mas'amah, 2021)	Pemetaan Kematian Akibat Covid-19 Berdasarkan Variabel Epidemiologi	P7
(Husniawati and Herawati, 2023)	Pengaruh Pengetahuan dan Peran Individu terhadap Kesiapsiagaan Bencana Banjir pada Masyarakat	P8
(Febe and Dahlia, 2022)	Gambaran Self Efikasi Dalam Menghadapi Bencana Pada Ibu Balita	P9
(Rakuasa and Mehdila, 2023)	Penerapan Pendidikan Mitigasi Bencana Gempa Bumi untuk Siswa dan Guru di SD Negeri 1 Poka, Kota Ambon, Provinsi Maluku	P10
(Saputri, Imaniar and Putri, 2019)	Perancangan Infografis Paradigma Bencana Alam Di Indonesia Sebagai Peningkatan Kesiapsiagaan	P11
(Christianingsih and Santiasari, 2021)	Bystander Cpr Dalam Upaya Kesiapsiagaan Bencana Pada Siswa Sma	P12
(Nurdin and Hayati, 2021)	Hubungan Keterampilan dengan Kesiapsiagaan Perawat dalam Menghadapai Bencana Kabut Asap	P13
(Haniarti and Yusuf, 2020)	Manajemen Penanganan Gizi Balita Pasca Bencana	P14
(Setiyowati and Suprapti, 2023)	Kesiapsiagaan Bencana dengan Simulasi Penyelamatan Diri saat Gempa Bumi pada Anak Sekolah Dasar Kelas 4-6	P15
(Idris, Yugiantari and Hadi, 2021)	Upaya Peningkatan Perilaku Mitigasi Bencana Berbasis Aplikasi Pencegahan Resiko Insiden Pandemi Covid 19 Pada Remaja Daerah Pesisir	P16
(Putri, Arianto and Listianingsih, 2021)	Faktor-Faktor Yang Mendukung Kesiapsiagaan Perawat Dalam Menghadapi Bencana: Literature Review	P17
(Rachman and Andayani, 2021)	Pengelolaan Gizi Bencana Pada Ibu Hamil Dan Ibu Menyusui	P18
(Sair, 2018)	Bencana Dan "Proyek" Kurikulum Kebencanaan Di Sekolah	P19
(Agung, 2019)	Model Pembelajaran Mitigasi Bencana Tsunami Di Sekolah Dasar Pesisir Pantai Selatan Jawa	P20
(Asra, 2022)	Kesiapsiagaan Lansia Dengan Penyakit Kronis Dalam Menghadapi Bencana Gempa Bumi Di RW 05 Kelurahan Pasie Nan Tigo	P21
(Rondonuwu, Tandiayuk and Tuegeh, 2020)	Kesiapsiagaan Masyarakat Daerah Rawan Bencana Gunung Meletus Melalui Pengetahuan dan Keterampilan Balut Bidai Pada Luka Trauma di desa Wioi dan Tumaratas Dua Sulawesi Utara	P22
(Ichbhal et al., 2023)	Satu Data Bencana Indonesia (SDBI) Sebagai Acuan Penanggulangan Bencana Dalam Menjaga Momentum Pembangunan Nasional1	P23
(Kartika et al., 2020)	Hubungan Tingkat Pengetahuan Masyarakat dengan Kemampuan Memberi Pertolongan Pertama pada Korban Pasca Bencana	P24
(Firdausiyah and Hardivizon, 2021)	Ideologi Bencana Dalam Perspektif Al-Qur'an: Analisis Kata Fitnah Pada Surah Al-Anbiya	P25
(Mutiara, 2022)	Studi Kasus : Kesiapsiagaan Keluarga Inti Dengan Anak Usia Sekolah (6-12 TAHUN) Dalam Mempersiapkan Tas Siaga Bencana Gempa Bumi Di Rw 11 Pasie Nan Tigo	P26

(Andrianto and Noviani, 2021)	Tanggung Jawab Hukum Sumber Daya Manusia Potensi Basarnas Dalam Melakukan Tindakan Medis Terhadap Korban Bencana	P27
(Sudirman and Alhadi, 2020)	Analisis Kesiapsiagaan Siswa Dalam Menghadapi Risiko Bencana Gempa Bumi Dan Tsunami	P28
(Silviani et al., 2022)	Sosialisasi Siaga Bencana Dalam Penanggulangan Kegawatdaruratan pada Ibu Hamil Beresiko di wilayah kerja Puskesmas Pasar Ikan Kota Bengkulu	P29
(Rahayu and Purwoko, 2020)	Pendekatan Empiris untuk Estimasi Kerugian Ekonomi dan Dampak Kerusakan Lingkungan akibat Gempabumi di Deli Serdang	P30
(Meutia et al., 2021)	Perencanaan Dark Heritage Bagi Masyarakat di Kawasan Pascabencana Tsunami Banda Aceh, Indonesia	P31
(Prasetyo, 2019)	Literature Review: Kesadaran Dan Kesiapan Dalam Manajemen Bencana	P32
(Putri et al., 2022)	Peningkatan kesiapsiagaan mitigasi bencana di Pesantren Mahasiswa Aqwamu Qila Banguntapan	P33
(Saparwati, Trimawati and FikiWijayanti, 2020)	Peningkatan Pengetahuan Kesiapsiagaan Bencana Dengan Video Animasi Pada Anak Usia Sekolah	P34
(Abbas, Nurbaeti and Asrina, 2022)	Mitigasi Bencana Gempa Bumi dengan Metode Learning By Doing	P35
(Basri et al., 2022)	Kesiapsiagaan Pengguna Pasar Tradisional Terhadap Ancaman Bencana Gempa Bumi dan Kebakaran di Pasar Beringharjo Yogyakarta	P36
(Miftah, 2023)	Asuhan Keperawatan Bencana dengan Pemberian Edukasi Pertolongan Pertama Pada Kecelakaan (P3K) Pada Kader Siaga Bencana di RW 11 Kelurahan Parupuk Tabing Kota Padang	P37
(Sumarto, Radiati and Listianasari, 2019)	Peningkatan Kapasitas Tenaga Penyelenggara Makanan Darurat Bencana melalui Penyuluhan di Desa Sukarasa, Salawu, Tasikmalaya	P38
(Farilya, Setyowati, S. and Suryanto, 2021)	Faktor-Faktor yang Berhubungan dengan Kesiapsiagaan Keluarga Menghadapi Bencana di Desa Labuan Mapin Kecamatan Alas Barat Kabupaten Sumbawa	P39
(Shalih, 2019)	Strategi Pengelolaan Risiko Bencana Akibat Perubahan Iklim di Indonesia	P40
(R.A and Adhitama, 2021)	Tinjauan Karakter Shelter Sementara Sebagai Upaya Mitigasi Bencana Bagi Korban Bencana Alam	P41
(Sasmito and Ns, 2023)	Faktor Hubungan Kesiapsiagaan Keluarga dalam Menghadapi Dampak Bencana	P42
(Andini et al., 2022)	Mengenali Resiko Bencana Melalui Progam Sosialisasi, Mitigasi, dan Praktik P3K di Desa Tanjung Luar	P43
(Padli et al., 2019)	Pengurangan Kematian dan Kemusnahan Akibat Bencana Alam Semula Jadi: Adakah Pembangunan Insan dan Korupsi Penting?	P44
(Oktaviani, Sari and Akbar, 2019)	Mekanisme Penanggulangan Bencana Alam Oleh Palang Merah Indonesia (PMI) Kabupaten Bandung	P45
(Kading, Tungka and Sembel, 2020)	Analisis Tingkat Resiko Bencana Gunung Api Lokon di Kota Tomohon	P46
(Permatasari and Wahyudi, 2021)	Faktor-Faktor yang Memengaruhi Jumlah Korban Meninggal Akibat Banjir dengan Pendekatan Model Zero Inflated Poisson	P47
(Fitriani, Zulkarnaen and Bagianto, 2021)	Analisis Manajemen Mitigasi Badan Penanggulangan Bencana Daerah (BPBD) Terhadap Bencana Alam Erupsi Gunung Tangkuban Parahu Di Jawa Barat	P48
(Bollettino et al., 2020)	Public perception of climate change and disaster preparedness: Evidence from the Philippines	P49
(Bankoff, 2018)	Blame, responsibility and agency: 'Disaster justice' and the state in the Philippines	P50
(Alders, 2017)	Floodwaters of death - Vulnerability and disaster in Ormoc City, Philippines: Assessing the 1991 flood and twenty years of recovery	P51
(Yonson, Noy and Gaillard, 2017)	The meas(Yonson, Noy and Gaillard, 2017)urement of disaster risk: An example from tropical cyclones in the Philippines	P52
(Howe and Bang, 2017)	Nargis and Haiyan: The Politics of Natural Disaster Management in Myanmar and the Philippines	P53
(Andersson, 2016)	Disaster management, risk reduction and non-governmental organizations : a case study of the typhoon Haiyan natural disaster in the Philippines 2013	P54
(Dalisay and De Guzman, 2016)	Risk and culture: the case of typhoon Haiyan in the Philippines	P55
(Bowen, 2016)	Social Protection and Disaster Risk Management in the Philippines: The Case of Typhoon Yolanda (Haiyan)	P56

(Enia, 2016)	Rules versus discretion: Comparing disaster declaration institutions in the Philippines and Indonesia	P57
(Yi et al., 2015)	Storm surge mapping of typhoon Haiyan and its impact in Tanauan, Leyte, Philippines	P58
(Saban, 2014)	Entrepreneurial Brokers in Disaster Response Network in Typhoon Haiyan in the Philippines	P59
(Barbier, 2014)	A global strategy for protecting vulnerable coastal populations	P60
(Anttila-Hughes and Hsiang, 2013)	Destruction, Disinvestment, and Death: Economic and Human Losses Following Environmental Disaster	P61
(Lucagbo et al., 2013)	Effects of Education on Climate Risk Vulnerability in the Philippines: Evidence from Regional Panel Data	P62
(Gaillard, Liamzon and Villanueva, 2007)	'Natural' disaster? A retrospect into the causes of the late-2004 typhoon disaster in Eastern Luzon, Philippines	P63
(Carter et al., 2011)	Capture-recapture analysis of all-cause mortality data in Bohol, Philippines	P64
(Rød, 2016)	Coping with disaster in the Philippines. Local practises for coping with natural disasters	P65
(Surmieda et al., 1992)	Surveillance in Evacuation Camps After the Eruption of Mt. Pinatubo, Philippines	P66
(Walch, 2017)	Typhoon Haiyan: pushing the limits of resilience? The effect of land inequality on resilience and disaster risk reduction policies in the Philippines	P67

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Death is often ignored in academic knowledge, policy, and practise as it is seen as deeply personal and an intrusion to life, especially in relation to mass casualty due to disasters. Such a complex issue requires a holistic interdisciplinary approach. In the context of Community Psychology, management of dead bodies after a disaster is required as part of the psychosocial intervention. A tendency toward the medicalization of death is evident in public health, which is frequently measured in terms of the number of deaths. More efforts are needed to unpack the nature and emotional toll among bereaved families. Meanwhile, in Human Ecology, the complex interplay of death in the context of disasters requires systems thinking that cuts across disciplines and scales. Thus, a holistic approach to the issue should be affirmed as integral to the national disaster policy discourse. Despite this, no study was found to have conducted a literature review that linked the two concepts together in an interdisciplinary manner. Thus, the study contributed to academic knowledge and practice by conducting an interdisciplinary systematic literature review (ISLR) of death and disaster in Indonesia and the Philippines–two of the most disaster-prone countries in the world–wherein 77 documents were analysed. It was found that there is a lack of awareness and a coherent body of work linking death and disaster beyond the counting of death tolls. Areas for new research, community, and policy actions were also recommended to enrich academic knowledge and practise in the future.

Keywords: death and disasters, disaster risk management, interdisciplinary systematic literature review, Indonesia, Philippines

Introduction

There is a dearth of academic knowledge and practise on death. As humans live longer, the attitudes and the way people relate to death has also changed (San Filippo, 2006). Furthermore, with the advent of advanced medical sciences, death is ignored and feared which leaves many people ill-equipped to deal with death. The price society pays for ignoring death is high, especially in the context of disasters. Critical reflections in the Philippines, for example, point to the fact that while the government focuses on the survivors in the four dimensions of disaster risk reduction and management (DRRM), the administration of human remains, and missing persons are evidently the most difficult challenges for DRRM practitioners. In Indonesia, few documents were observed on Google Scholar dealing with death and disaster–which might suggest lack of attention in terms of academic knowledge and, possibly, in practice too.

Figure 1. Geographical Map of Indonesia (GISGeography, 2023, available at: https://gisgeography.com/indonesia-map/)

The EM-DAT (International Disaster Database) recorded 281 climate-related and geophysical events. These resulted in 10,744 deaths and affected 60 million people worldwide. Another study by estimated that natural-induced disasters caused 30,773 deaths and affected 244.7 million people (Guha-Sapir *et al.*, 2012). The same study listed five countries that are most frequently affected by disasters which included China, the United States of America, the Philippines, India, and Indonesia. Both Indonesia (Figure 1) and The Philippines (Figure 2) are archipelagic countries which made monitoring and fast response being challenged and resulting in a high number of casualties. Within these figures, some sub-sectors are particularly vulnerable. It was noted that infant mortality related to post-typhoon events constituted 13% of the total infant mortality rate in the Philippines (Anttila-Hughes and Hsiang, 2013). Female infants have particularly elevated risks. In Indonesia, earthquakes and tsunamis are disasters that caused the most deaths in Indonesia since 1815-2019 (Fitriyani *et al.*, 2021), where more than 130,000 people died. This means that earthquakes and tsunamis must be watched out for as a cause of death due to disasters, and it is predicted to cause vulnerability to mental health for families who have lost their loved ones.

Figure 2. Geographical Map of the Philippines (GISGeopgraphy, 2023, available at: https://gisgeography.com/philippines-map/)

Annex

Despite these realities, limited attention has been given to the study of death. Moreso, as it relates to disasters. There were two critical gaps in the literature (Kristensen, 2012). First, few research focus on the mental health effect of bereavement in the context of disasters. Second, the trajectory of grief is less explored and there is scant research on useful means to help bereaved families in the aftermath of disasters. It was noted that bereavement is deeply private and personal, and the commonly held view is that bereaved families should be left alone (Kristensen, 2012). Learning from Sri Lanka, the experience of people who lost their loved ones after a tsunami in 2004 caused various mental health problems. This is why the management of the dead as part of disaster preparedness and response must be highlighted (Sumathipala, Serebaddana, Perera, 2006)

The study is significant for three reasons. First, death is fundamental to living and thriving. But these are understated, and undermined in terms of understanding, policies, processes, and DRRM strategies. Without institutional recognition and affirmation, bereavement is left to the family and

individual capacity. Death in the context of disasters should be highlighted as a public good. Therefore, the absence of services is an abandonment and blindsiding of the state on its institutional services, processes, and policies. This interdisciplinary systematic literature review would aid in the re-examination of the institutional perspectives on death and disaster. It sheds light on a fundamental and integral aspect of DRRM policies, processes, and services.

Second, an interdisciplinary systematic literature review would aid in illuminating the existing cross-disciplinary understanding of death in the Philippines and Indonesia. The analysis covers research and documents across different disciplines touching on the topic of death and disasters. This is critical for two reasons. Firstly, death and dying is a complex and multi-faceted phenomena where diverse perspectives offer integrative frameworks for analysis and to inform practice. Furthermore, the vulnerabilities of the two countries to disasters due to exposure to various hazards is exacerbated by the complex interplay of poverty, institutional fragmentation, climate change, elite capture, among others. While Indonesia and the Philippines share many similarities, there are also differences in terms of historical and institutional contexts that need to be unpacked. Learning from different disasters in different parts of the world, disaster recovery programs are complex in terms of management that cannot be emphasised solely by one discipline, but multidisciplinary (Lin, Kelemen and Kiyomiya, 2017) and interdisciplinary approaches are needed.

Third and finally, an interdisciplinary systematic literature review seeks to contribute to opening conversations, broadening discussions, and elevating discourse on death and disasters. This is crucial as DRRM at the national context is heightened by the worsening global crises such as the Covid-19 pandemic, climate change, and burgeoning geopolitical conflicts.

Therefore, the study aims to analyse through an interdisciplinary systematic literature review the following:
1. Discuss the existing state of academic knowledge and practise on how death is incorporated in the four dimensions of disaster risk reduction and management in Indonesia and the Philippines.
2. Determine areas for future research on incorporating death in disaster risk reduction and management; and

3. Determine areas for policy and community actions to strengthen the links between death in the context of disaster risk reduction and management.

Methodology

Research Design

The study employs systematic literature review (SLR) to answer its objectives. The common definition of an SLR is that it is "a way of synthesising scientific evidence to answer a particular research question in a way that is transparent and reproducible, while seeking to include all the published evidence of the topic and appraising the quality of this evidence" (Lame, 2019). Since the method used was interdisciplinary in nature, it had to cut across multiple disciplines and ways of knowing. Thus, requiring the concept of zigzagging or finding a common language or mechanism understood by all disciplines. In this study, a more eclectic approach was also used in consideration of the fact that death and disaster are nascent areas of inquiry. Furthermore, this was done as the study proponents came from various disciplines–community psychology, public health, sociology, human ecology and political economy. It also had practical benefits as such an approach yielded a more exhaustive literature search. Hence, in this study, the term interdisciplinary systematic literature review (ISLR) was utilised. ISLR was not a new concept as it has been used in previous studies (Sapiains *et al*., 2021; Howard *et al*., 2022).

There were eight steps in this systematic literature review (Curtin university, 2022). *First* was to look for existing reviews and protocols. *Second*, involved the formulation of a specific research question. *Third* was where the protocol was developed and registered. *Fourth* included the design of a robust search strategy. *Fifth* involved the conduct of a comprehensive search of the literature. *Sixth* was the selection and critical appraisal of the quality of the studies that were included in the roster. *Seventh* was the extraction of relevant data from the studies. *Eight* was the interpretation of the results.

Systematic literature review is emphasised as a meant to: (1) provide a clear and comprehensive overview of the current evidence of the topic, (2) highlights methodological concerns in studies to improve future research, and (3) helps in determining whether the available evidence provides

answers to certain questions regarding the topic and further research may not be necessary (Peričić and Tanveer, 2019).

Data Collection

This study employed seven steps in this interdisciplinary systematic literature review (Figure 3). For the first step, it involved the determination of the research syntaxes. This step divided the syntaxes into two parts: a general search and specific search. Each of them featured a ten-page search on Google Scholar. In each page search, around ten studies were generated. Thus, every syntax had around 100 studies. Replicated studies were removed in other syntaxes to avoid duplication. For the search engine, Google Scholar was chosen given its accessibility as paid search engines were not available to all of us. Nonetheless, it provided a comprehensive inventory of studies available. Google Scholar also provided an avenue to search for studies written not just in English but also in Bahasa Indonesia. For general searches, there were three syntaxes: death and disasters, dying and disasters, and disaster risk reduction and management policy. Meanwhile, for specific searches, these included death and disasters and Philippines and Indonesia; dying and disasters and Philippines and Indonesia; and Philippine and Indonesian disaster risk reduction and management policy.

In the second step, there were two sets of inclusion criteria for the general and specific searches. For the general search, these included studies before March 2020 or prior to the Covid-19 pandemic. This timeline was crucial as Covid-19 considered as a "critical juncture" in the DRRM policies not just in the Philippines and Indonesia but around the world. Journal articles, policy papers, documents (e.g., RAs, transcripts, executive orders, memoranda, Department Administrative Orders, etc.), and newspaper clippings are part of the inclusion criteria. The full copy of the manuscript/article should be available for free. These can be journal articles, policy papers, documents (e.g., laws, transcripts, executive orders, memoranda, Department or Ministry's Administrative Orders, etc.), and newspaper clippings. The topics should cover the Philippines and Indonesia, and/or related international agreements. Likewise, a full copy of the manuscript/article should also be available.

Figure 3. Seven Steps undertaken in the Interdisciplinary Systematic Literature Review

For the third step, the studies were inputted in a matrix on Google Sheets. This step divided the syntaxes by sheets and organised them by the year in which they were published. There was a specific portion in the Google Sheets where the authors appraised the literature based on the exclusion and inclusion criteria which was elaborated in the succeeding paragraphs. A total of 295 documents and research were identified for the initial database in the Philippines, and 98 for Indonesia.

For the fourth step or the evaluation process, the authors collated all the searches and stored them on Google Sheets. The articles and documents were summarised in terms of abstract and conclusion for journal articles and book chapters, and description and findings for official documents and grey literature, if any. The authors conducted database cleaning based on inclusion and exclusion criteria.

The fifth step which was the exclusion criteria, also included the general and specific searches. For the general search, the literature that was included were those published during the Covid-19 pandemic, post-March 2019. For the specific search, the same treatment was used for the studies found. Also excluded were topics or sites of study abroad / outside the Philippines and Indonesia. Meanwhile, the sixth step focused on the second layer of putting literature in the database featuring studies that passed through the inclusion and exclusion criteria. They were divided into sheets in Google Sheets and organised by year. A total of 29 documents and scientific papers made the final shortlist in the Philippines and 48 were selected for Indonesia.

Data Processing and Data Analysis

The seventh step involved the processing of the literature gathered. The documents were labelled in terms of "D" for documents and policies and "P" for scientific papers such as journal articles, and book chapters, among others. The documents and papers for Indonesia were numbered first followed by the Philippines (see *Table 1* (Overview of documents and policies analysed in Indonesia and the Philippines – labelled as "D") and *Table 2* (Overview of death and disaster within scientific papers analysed in Indonesia and the Philippines – labelled as "P") in Appendix). A one-day workshop was conducted in November 2023 where all the researchers gathered in the University of the Philippines Los Baños, Laguna, Philippines. A template was prepared ahead of time as a heuristic tool to organise the emergent common and unique themes in the four dimensions of disaster risk reduction and management namely: disaster mitigation, disaster preparedness, disaster response, and disaster recovery and rehabilitation. Afterwards, the researchers determined the common and unique themes for each country based on the studies and documents gathered. Once these were generated, they were presented in matrices. These were used to construct a narrative to answer the research objectives.

Results And Discussion

State of Academic knowledge and Practise on Death and Disaster in Indonesia and the Philippines

Based on the results of the ISLR, it is critical to determine findings that are common and unique to both Indonesia and the Philippines. How the scientific literature and policy documents mention,

capture, or analyse the link between death and disasters. The data in this study is presented using the four dimensions of disaster risk reduction and management which include: (a) disaster mitigation, (b) disaster preparedness, (c) disaster response, and (d) disaster recovery and rehabilitation. In total, for disaster mitigation, there were two common themes, three were unique themes to Indonesia and 11 for the Philippines. For disaster preparedness, there were no common themes but a total of nine unique themes emerged from Indonesia and two for the Philippines. For disaster response, a total of three common themes came up, three unique themes for Indonesia and 11 for the Philippines. Finally, in disaster recovery and rehabilitation, a total of four unique themes emerged from the Philippines and no common themes and unique themes came up for Indonesia.

MITIGATION
Common: 2
Unique:
Indonesia: 3
Philippines: 11

PREPAREDNESS
Common: 0
Unique:
Indonesia: 9
Philippines: 2

RESPONSE
Common: 3
Unique:
Indonesia: 3
Philippines: 11

REHABILITATION
Common: 0
Unique:
Indonesia: 0
Philippines: 4

Figure 4. Summary of the Common and Unique Themes presented in the Four Dimensions of Disaster Risk Reduction and Management for Indonesia and the Philippines

For disaster mitigation, a common theme that came out was the increase in the incidence of disasters especially in Indonesia from 1815-2019 (P1). This reflects global trends in both countries wherein low-income states accounted for 89% of the fatalities (D13, P53). Many people in Indonesia and the Philippines are living in unsafe zones–West Java (Indonesia), for example, was the riskiest place for any type of disaster, especially flooding (D10, P5). Based on the Average Accumulated Data of villages that are prone to experienced natural disaster in Indonesia, West Java has a higher level of vulnerability to landslide, flood and earthquake as the cause (Supriyadi

et al., 2018). Unique attributes were also found. Indonesia considers the important role of spirituality such as lessons from the Quran to help survivors cope with the loss (P25). This was confirmed by a study which showed that through rumination of the history, values and descriptive approaches, a psycho-socio-spiritual interventions based in Al Qu'ran, using *tawakkul* (trust in God), *shukr* (gratitude), *sabr* (patience) could be attributed in the promotion of individual and community-level resilience (Fahm, 2019). It was also found that in disaster mitigation, there were challenges in supporting toddler nutrition to be integrated in DRRM (P14). This implies that vulnerable populations such as infants are further exposed to risks, and thus increased mortality and risk of injury (P14). To make sure that the infant and young children's future physical, mental and social health are adequate, a nutritional assessment of children and nutritional support in disaster situations are necessary (Adeoya *et al*., 2022). As such, the country has been developing the National Agency for the One Indonesian Disaster Data (SDBI) which would be shared among technical work groups for better coordination.

Global data was captured in the ISLR for the Philippines. It was noted that good governance is often associated with fewer disaster-related fatalities (P52). This reinforces further the idea that governance mechanisms play a key role in reducing mortalities from disaster risks and that DRRM should be integral to development planning. A study in an area prone to flooding in Bangladesh found that successful local-level disaster risk management is related to compliance to criteria of good governance which include financial and technical capacities, as well as independence and integrated institutional coordination (Choudhury, Uddin and Haque, 2019). In fact, democratic countries and increases in GDP per capita often mean that there are less deaths from disasters (P52). While, overall, the number of deaths around the world are decreasing given the progress in disaster risk reduction and management (P54), many challenges remain. It was found that Climate Change and Disaster Risk Management laws are not harmonised in the country (D15). This is particularly critical as the socio-economic and population exposure to hazards have greater influence on mortality than the hazard itself (P51, P52). Despite this, death itself is not properly considered in Philippine DRRM policies (D16). One article mentioned that challenges to mental health are often overlooked in the policy context (D10). However, there is growing appreciation with some studies already including death, for example, in determining public perception on Climate Change Adaptation (CCA) DRRM (D16).

For disaster preparedness, none were found to be common between Indonesia and the Philippines. However, more unique insights were found in Indonesia. These include the use of infographics to educate the community about disaster preparation (P11). On a larger scale, the mass media news/text reconstruction of how journalists write death to inspire people to mitigate and increase awareness to disaster evacuation protocols were found to be critical as well (P1). A study in Indonesia revealed that most people recently do prefer watching audiovisual media rather than reading text. Infographics are mostly made in digital format so that it is easy to share in unlimited distribution to the public.

The characteristics and types of shelters influencing mortality and injury were also discussed in one document (P41). Capacity building such as emergency simulation (P15, P28, P29), and involvement of the vulnerable population such as school-age children in performing bystander CPR and first aid (P10, P12, P24, P37) were also found. The involvement of community leaders in influencing the community's attitude and behaviours towards disasters was said to be essential (P3). This is confirmed in a case study that compares the role of community leaders in activating social capital in the post-disaster situation of Kobe (Japan) and Gujarat (India). It was apparent and vital for community leaders to leverage social capital and facilitate collective decision-making during the recovery process, so that the recovery programs are speedily achieved (Nakagawa and Shaw, 2004).

It was also found that there was a presence of a technical guidance on food preparedness during an emergency (P38). The ISLR also highlighted the importance of disaster preparedness among nurses using Disaster Preparedness Evaluation Tool [DPET] - (P17, P13 - for emergency preparedness information questionnaire). For the Philippines, it was seen that the lack of understanding of storm surge caused loss of life in the case of Haiyan (P56). People's ignorance and disregard of hazards also put them in harm's way (P55). This situation was also confirmed from the study on tsunami disaster that struck Sri Lanka in 2004 where a lack of awareness and knowledge of tsunamis among Sri Lankans and government officials have increased their vulnerability to destruction and loss. That means that strengthening communities' knowledge against disasters is effective to minimise its destructive effects (Seneviratne, Baldry and Pathirage, 2010).

In terms of *disaster response*, three common themes emerged. It was seen that natural and human-induced hazards were responsible for fatalities in both countries (D13, P54, P61, D14, P1). This magnifies the fact that both countries are in the Pacific Ring of Fire, which explains the presence of many nature-induced disasters. Due to their archipelagic nature, the remote location of many areas hinders recovery efforts (P60). In the case of the Philippines, Haiyan devastated many remote areas in the country which was mentioned in several documents in the ISLR (D11, D15, P56, P58, P62). The unique themes emerged in Indonesia including the involvement of community leaders was critical in response efforts (P3). It was also noted that addressing mortality from disaster risks included giving attention to children's (below 5) nutrition (P14). The study was relevant, as it was revealed also by a scoping review on Child Nutrition in Disaster who found that there was risk for increased mortality, morbidity from communicable diseases and mental health problems among children due to nutritional issue during disaster (Adeoya *et al.*, 2022). Immediately after a disaster, it was also noted that medical services were often overwhelmed and unable to function (D14). This calls for the need to strengthen disaster response mechanisms to not just retrieve dead bodies but also reduce mortality post-disaster. In addition, maintaining dark heritage to commemorate disaster victims was a noteworthy finding emerging from Indonesia that requires further attention in terms of research in the future (D14).

Several unique findings from the set of documents and articles were found in the Philippines for disaster response. First, it was found that health risks increased with overcrowding in evacuation areas (D14). In fact, it was noted that evacuation could even become death traps post-disaster (P53, P65) - as was in the case of Haiyan where evacuees perished from storm surge (P53). In other words, the presence of disease outbreaks contributed to mortality. There was also an issue of attribution of deaths post-disaster (P50), the lack of systematic listing of names of the dead and missing (P51) and underreporting of deaths (P64). Although in some literature, the number of deaths was analysed based on the type of hazard (P58, P63, P65). It was also found in this ISLR that post-traumatic stress disorder (PTSD) affected the families who have lost their loved ones (P51). All in the midst of a highly politicised estimation of the death toll (P51). In short, unidentified dead bodies are a problem in humanitarian disasters, infectious disease outbreaks, mass migrations on precarious and often deadly land and sea routes, as well as human trafficking.

and, ironically, these individuals are often denied the respect they deserve (Suwalowska *et al.*, 2023).

Finally, *for disaster recovery and rehabilitation*, data only emerged from the Philippines. Long-term development prospects were closely related to death during disasters. It was seen that economic development, proxied in the test by income per capita, was negatively associated with fatalities (P52). In the long term, one study also showed that current DRRM investment was mainly focused on historical direct impact rather than on welfare (D11). This entails that many rehabilitation efforts failed to address welfare considerations, which might include, efforts to address long-term grief (D11). In one case study, it was found that there was no deep introspection or processing of grief that would have helped individuals to come to terms with death, life, and loss as well as coping and ultimately finding meaning in the tragedy (P51). Interestingly, it was noted that experiences of injury and illness were predicted to have increased participation in training programs (P49). This was something that DRRM practitioners should hinge on in the future.

Areas for Future Research

Many areas for research have been identified. First, a relevant and highly needed topic to be researched is the effect of long-term psychological intervention for bereaved families. This can be approached from various interdisciplinary and transdisciplinary vistas. From clinical and community psychology in designing interventions to alleviate mental health concerns and promote the well-being of people who have lost their loved ones to valuation of the economic impact of long-term grief for economics.

Methodology-wise, future research can also look at scientifically robust ways of analysing grey literature on death and disasters. These may include content analyses of newspaper articles, visual arts, poetry, or current practises at the policy and community levels. It was found in the paper that looking into the scientific literature may miss critical practices that exist within the community that link death and disasters. Various disciplines such as, but not limited to, community psychology, public health, human ecology, development communication, fine arts, anthropology, and sociology, can work together to achieve this.

Other research may look at indigenous knowledge and practises on death and disasters using a decolonizing lens, among others. Both Indonesia, the Philippines, and many countries in the global south possess rich local and cultural practices on how to approach the loss of a loved one, individually and collectively. These need to be further unpacked to determine how indigenous practises can inform institutionally responsive and socially progressive initiatives at the level of government, private sector, non-government organisations, and higher education institutions to prevent mortality, manage dead bodies and missing persons, and humanely deal with families who have lost a loved one.

It should be noted also that the Philippines and Indonesia's populations are spiritual - being home to many multi-faith communities. Spirituality and institutionalised religious belief have critical roles to play in informing practices on managing the dead and the missing, as well as in providing direction, solace, and healing for those who have lost family members after a disaster. The full scope and potentialities of "spiritual capital" as it relates to death and disaster have not been fully explored. Spiritual capital is rooted from religious practices as the extent to which a person is proficient in and committed to a specific religious culture, which helps to explain why people engage in religion and find fulfilment in it (Finke, 2003). As such, it merits increased scholarly attention both for social scientists and scholars and practitioners of religion.

The gendered aspect of death and disasters should also be explored. Disasters are open moments that expose social inequalities and divides. Women, in particular female infants, were shown to have higher mortality than male (Anttila-Hughes and Hsiang, 2013). In many cases, women's vulnerabilities were exacerbated by disasters. While calls for gender-disaggregated data and approaches during disasters have been increasing in recent years, the gendered nature of mortality during catastrophes has not been fully explored. This opens for future interdisciplinary and transdisciplinary forms of inquiry from community psychology, human ecology, women's studies, public health, anthropology, and public policy, among others.

Finally, the mortality and coping mechanisms from the loss of loved ones for vulnerable groups is also a less explored topic based on the ISLR. As stated earlier, disasters as open moments means that social vulnerabilities are magnified during catastrophes. Therefore, it is important to open vistas for future research that looks at how children, disabled individuals, immigrants, minorities,

among others, are further socially excluded by disasters and what initiatives can be taken to address their concerns.

Areas for Future Policy and Community Actions

In analysing the ISLR data, it was seen that the insights in the Philippines are mainly on disaster mitigation and response, and less on preparedness and rehabilitation. Meanwhile, data for Indonesia are less on mitigation and none for rehabilitation while many insights were obtained on disaster preparedness and response. These findings can be valuable in reflecting on where each country is strong in terms of awareness and existing practises, and in determining future actions to bolster efforts to strengthen policy and community actions on death and disaster. While current efforts stipulate existing social services and institutions dealing with the management of the dead and the missing, there is a need to frame death in disaster from a wider disaster risk management perspective. One that looks at the whole spectrum of mitigation, preparedness, response, and rehabilitation. And that which is beyond the management of the dead and missing, but on preventing mortality in the first place, putting in place social services and institutions such as adequate funeral services, and access to support in addressing long-term grief, among others. Such an approach must be adequately considered in formulating and implementing disaster risk management plans.

Social services and institutions are the adequate infrastructure that would support initiatives linking death and disaster. For example, it is critical for disaster risk management planners to have an inventory of funeral services infrastructure that fits the culture and belief system of the local population. These may include the determination of whether crematoriums, funeral houses, and religious facilities to facilitate funerals, are present at the community-level, and among others. In the case of mass deaths from a disaster, this question is magnified as to whether local governments have the infrastructure and forensic tools to identify, store and properly bury dead bodies. These also include an early warning system (EWS) to prevent mortality and injury among the population. Such EWS should be tailored in providing anticipatory information or signals to local communities, covering various types of hazards affecting local communities. For the affected families, future practises may focus on providing trauma healing programs for those who have lost a loved one. These include services that must be in place before a catastrophe and provided

immediately and long after a disaster strikes a community. In the Philippines, it was shown that lack of access to long-term services for trauma healing meant that many individuals have a hard time coping and finding meaning in the tragedy after losing a loved one from a disaster (P51).

This was the reason an exit strategy is critical to any development intervention. Development organisations and governments should be able to look at mechanisms on what role external organisations can play to complement local actors and strengthen their capacity in long-term post-disaster efforts. For example, how local psychosocial providers can be capacitated, and a system can be built to deal with long-term grief once external organisations have left the community. Entry and exit strategies on death in a disaster can be incorporated in the wider DRRM plan and framework. Finally, Universities have a big role to play both in determining new vistas for research as well as in providing critical capacity-building skills for local communities. Best practises on how Universities play an important role on the matter should be unpacked, shared, and strengthened through various fora.

Limitations of the Study

There are several limitations of the study which were divided into structural and substantive limitations. Structural limitations, first, involve the limitations derived from the syntaxes used. Six syntaxes were used for both general and specific searches. This was done to manage the amount of the literature being examined in the study. However, future studies can expand or alter the syntaxes to map out further the current knowledge on the topic. Limitations may also emanate from the years of publication that this study covered in terms of journal articles, book chapters, documents, and grey literature. Of particular emphasis are the works published during the Covid-19 pandemic which radically transformed academic knowledge and practice of disaster risk management owing to its widespread and profound impact on societies around the world. Furthermore, reliance on Google Scholar made it difficult to look at policies, practises, and other insights from grey literature. Finally, the geographic scope mainly focuses on the Philippines and Indonesia for our specific search and, thus, affecting the ability of the findings to generalise. Nonetheless, the methodology for our systematic literature review remains robust as it yielded a respectable amount of literature and provided a thorough process for validation among the authors and reviewers.

In terms of substantive limitations, literature review does not always capture how informal institutions play out in the topic of interest. Informal institutions refer to rules of the game that are created, communicated, and enforced outside of official sanctioned channels (Helmke and Levitsky, 2004). This is because they are often reflected in development practises and processes which are not usually documented. Furthermore, it is inherent in the systematic literature review design that it is not meant for grounding or deep diving on the national disaster risk reduction and management policy. Rather it is designed for context building and landscape screening to aid further studies.

Conclusion

Death in the context of disasters is a less explored but critical topic. Every year, millions of dead individuals are not identified and many more who have lost a loved one suffer from the consequences of long-term grief. As such, this study conducted an ISLR to explore new vistas in linking death and disaster. About 47 scientific papers and documents in Indonesia and 29 in the Philippines or a total of 76 materials were analysed. The study contributes to unpack the current landscape in death and disaster literature in both countries, where the findings show that awareness and a coherent body of work linking the two are lacking. However, progress has been made already as death was somehow discussed in the national policy documents in both Indonesia and the Philippines, even though simply discussed the death tolls from disasters. This provides new vistas for future research and practise within the field of Community Psychology, Human Ecology, Public Health and others as well. Recommendations were also suggested to strengthen policy and community actions in the future. These could help in fostering culturally sensitive, socially progressive, and institutionally responsive pathways in the co-production of academic knowledge and practise.

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GENERAL COMMENTS

Annex 3. Communication with the Journal Publisher (Jamba: Journal of DRR)
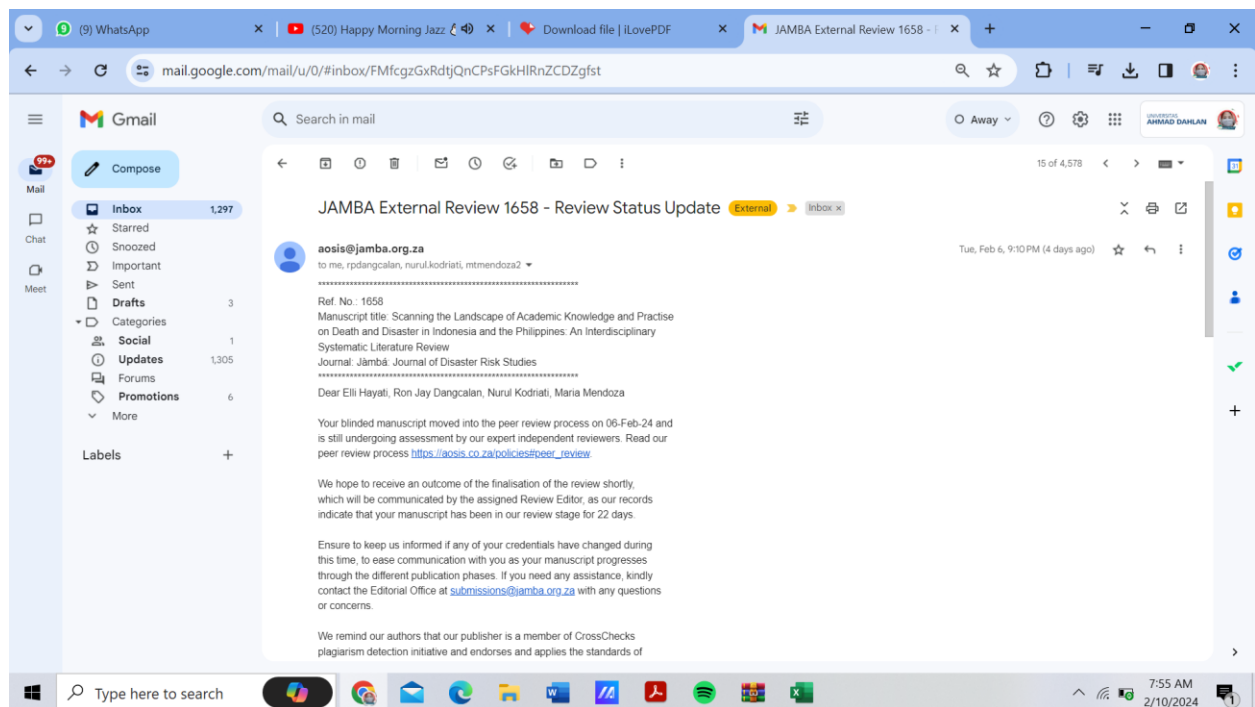
1. Submission
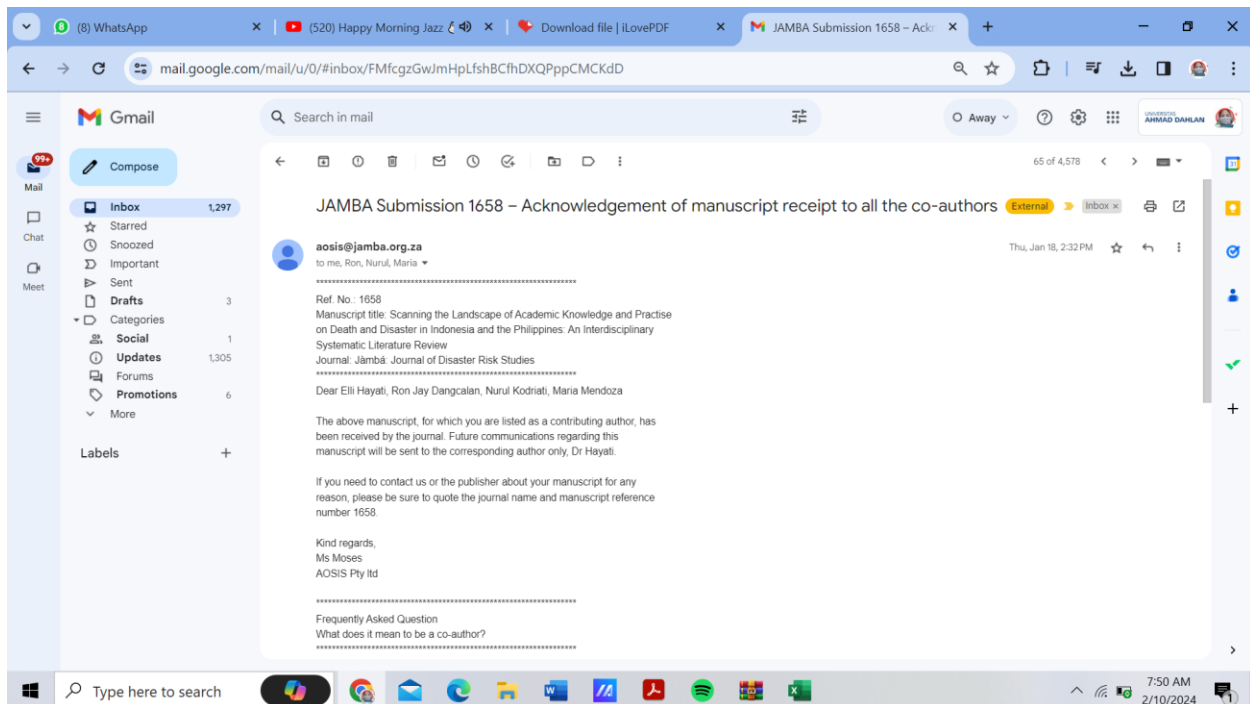
2. Proceed for initial desk review
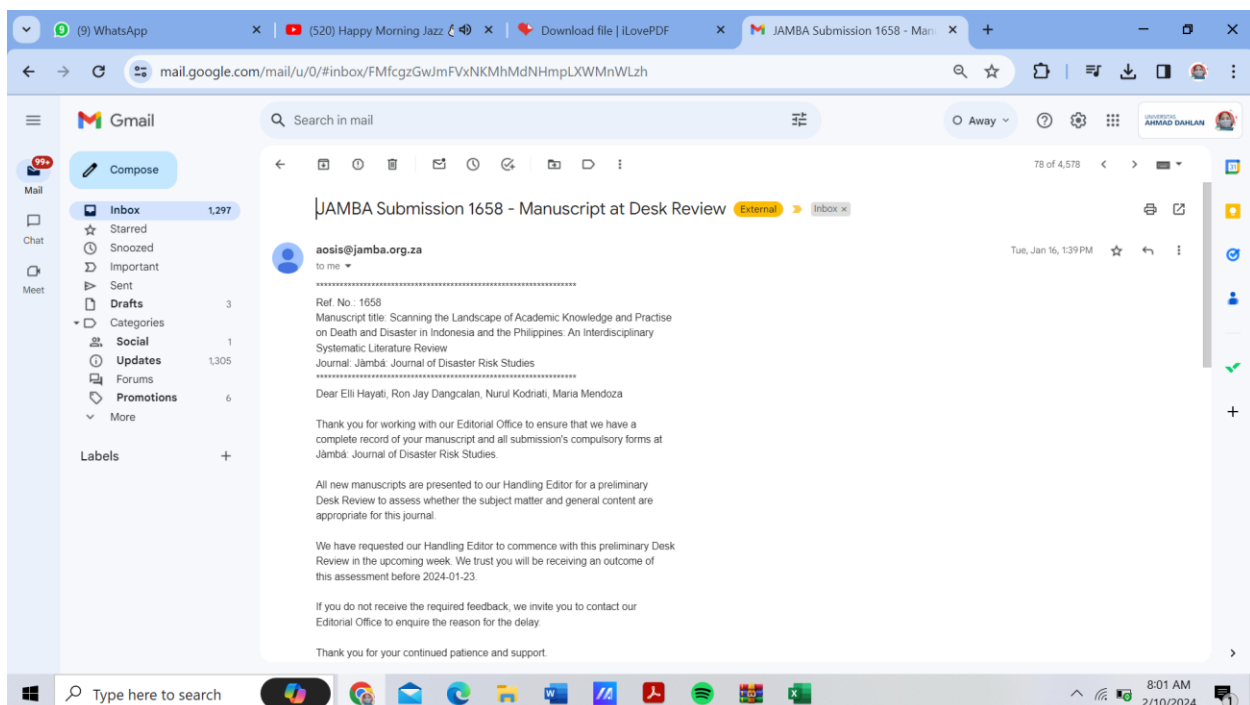
3. Proceed to the next step of independent reviewers

Annex 4. MOU between UAD and UPLB

MEMORANDUM OF UNDERSTANDING
BETWEEN
THE UNIVERSITY OF THE PHILIPPINES LOS BAÑOS
College, Laguna
Philippines
and
UNIVERSITAS AHMAD DAHLAN

This MEMORANDUM OF UNDERSTANDING (MOU), executed by and between:

The "**UNIVERSITY OF THE PHILIPPINES LOS BAÑOS**", a constituent university of the UNIVERSITY OF THE PHILIPPINES, the National University, created by virtue of Act No. 1870, as amended and reorganized and operating by virtue of P.D. 58 and R.A. 9500, with office address at College, Los Baños, Laguna, represented herein by its Chancellor, **DR. JOSE V. CAMACHO, JR.**, hereinafter referred to as "UPLB"

and

The "**UNIVERSITAS AHMAD DAHLAN**", a higher education institution with an official address at Kota Yogyakarta, Indonesia represented herein by its Chancellor, **PROF. DR. MUCHLAS, M.T**. hereinafter referred to as the "UAD".

The **UNIVERSITY OF THE PHILIPPINES LOS BAÑOS** and **UNIVERSITAS AHMAD DAHLAN** recognizing the benefits to their respective universities from the establishment of institutional links, conclude this MOU, to wit:

1. The purpose of this Agreement is to develop academic and educational cooperation and promote mutual understanding between the two higher education institutions;

2. Both higher education institutions agree to develop the following collaborative activities in the academic areas of interest, on a basis of equality and reciprocity, such as -

   a. Exchange of faculty and researchers
   b. Exchange of students
   c. Conduct of collaborative research and extension projects
   d. Conduct of lectures, symposia, capacity-building programs
   e. Exchange of academic information and materials, and
   f. Promote other academic cooperation as mutually agreed

3. The development and implementation of specific activities agreement based on this Agreement will be separately negotiated and agreed upon between the faculties, schools, or institutes which will carry out these activities in accordance with the laws of the Philippines, policies, rules and regulations of the respective countries after full consultation and approval.

4. It is understood that the implementation of any of the types of cooperation stated in Clause No. 2 may be restricted depending upon the availability of resources and financial support at the higher education institutions concerned.

5. All collaborative activities and exchanges under this general MOU shall not be conducted or enforced unless a Specific Activity Agreement is executed between the parties herein observing the same formalities and all limitations specified herein.

6. Should any collaborative research activity under this Agreement result in any potential for intellectual property, both higher education institutions shall seek an equitable and fair understanding as to the ownership and other property interests that may arise. The understanding shall be based on the laws, rules and guidelines then implemented at each university.

7. Nothing shall diminish the full autonomy of either institution, nor will any constraints be imposed by either upon the other in carrying out agreement.

8. This agreement may be amended or modified by a written agreement signed by the representatives of both higher education institutions.

9. Within thirty (30) days from the effectivity of this agreement, each party shall inform the other party in writing the name of its staff/office who/which will serve as its liaison officer/office with the other party under this agreement.

10. This agreement is valid for a period of **five (5) years** from the date of signing by the representatives of both higher education institutions. This agreement may be renewed subject to the review and renegotiation by both parties. Such review and negotiation shall be conducted within sixty (60) days prior to its expiration. This MOU shall take effect from the date of the latest signature below.

11. Should any disagreement arise out of the application, interpretation, or implementation of this Agreement, the universities shall endeavour to exercise best efforts to negotiate their differences. Alternative methods of dispute resolution shall be exhausted before resorting to court litigation.

12. This agreement may, at any time during its period of validity, be terminated by one of the universities, upon prior notice to the other in writing not later than six (6) months before the termination date.

13. In the event of any unforeseen incident during collaborative activities in either country, both universities agree to negotiate a mutually acceptable solution. As far as practicable, these solutions shall be incorporated to the specific agreements stated in paragraph 3.
14. This Agreement shall be executed in English.
15. This Agreement may be executed in two or more counterparts, each of which shall deemed an original, but all of which together shall constitute one and the same instrument.
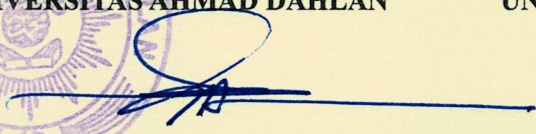
IN WITNESS WHEREOF, the parties hereto, through their duly authorized representatives, signed this MOU on the place and date indicated in the Acknowledgment.
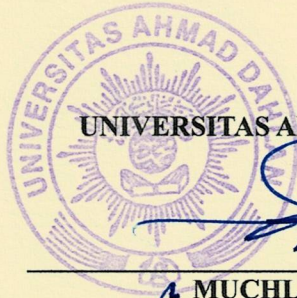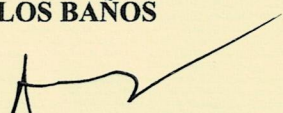
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MUCHLAS M.T.	**JOSE V. CAMACHO, JR.**
Rector	Chancellor
	NOV 2 0 2023
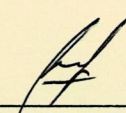
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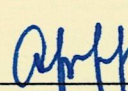
ELLI NUR HAYATI	**MARIA EMILINDA T. MENDOZA**
Dean, Faculty of Psychology	OIC Dean, College of Human Ecology
NURUL KODRIATI	**ANNA FLORESCA F. FIRMALINO**
Lecture, Faculty of Public Health	Director, Office for International Linkages

ACKNOWLEDGMENT

BEFORE ME, a Notary Public for and ___**LOS BAÑOS, LAGUNA**___
personally, appeared on ___**DEC 0 7 2023**___, the following persons
who presented their respective component evidence of identities indicated below:

Name	Passport No.	Date/Place Issued
JOSE V. CAMACHO, JR	P2082859B	03 May 2019 / DFA Manila
MUCHLAS M.T.	E2094112	12 Jan 2023 / Yogyakarta

Known to me to be the same person who executed the foregoing instrument denominated as a
Memorandum of Understanding between the University of the Philippines Los Baños and
Universitas Ahmad Dahlan, consisting of four (4) pages including this page, duly signed by the
parties and by their instrumental witnesses on each and every page hereof, having
acknowledged before me that it is their own, respective, free and voluntary act and deed.

WITNESS MY HAND AND SEAL this DEC 0 7 2023 day of _____, 2023 at
___LOS BAÑOS, LAGUNA___.

Doc. No. _____388_____
Page No. _____79_____
Book No. _____XIII_____
Series of 2023

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MCLE COMPLIANCE NO. VII-0010649; APRIL 14, 2025
PTR NO. 1059805; 01/03/2023; LOS BAÑOS, LAGUNA
IBP NO. 173748 (MEM. 2023) 11-09-2022, LAGUNA CHAPTER
BLK. 21 LOT 31 LOPEZ HEIGHTS, ANOS, LOS BAÑOS, LAGUNA

Annex 5. Financial report

Laporan keuangan dana hibah Penelitian KLN (Tim penelitian UAD – UPLB The Philippines)

Judul penelitian: *"Unpacking Scholarship and Practice on Death and Disaster: Insights from Indonesia and the Philippines".*

No.	Hari, Tanggal	Jenis Pembelanjaan	Dana Keluar	Saldo	Keterangan
		ARUS KAS DANA RISET LUAR NEGERI			
1	Juni, 2023	Dana Penelitian	-	Rp35,000,000	
2	Jumat, 7 Juli 2023	Allowance/Honorarium 2 mitra Philippines (@500.000)	Rp1,000,000	Rp34,000,000	
3	Selasa, 8 Agustus 2023	Konsumsi meeting offline (Emados Shawarma)	Rp113,200	Rp33,886,800	
4	Jumat, 18 Agustus 2023	Konsumsi Seduh Bumi	Rp82,000	Rp33,804,800	
5	Minggu, 29 Oktober 2023	Konsumsi meeting offline (Cold & Brew)	Rp146,000	Rp33,658,800	
6	Senin, 30 Okotober 2023	Pembayaran tiket pesawat YK-PHILIPPINE PP	Rp8,621,462	Rp25,037,338	
7	Rabu, 15 November 2023	Pembayaran bagasi pesawat YK-PHILIPPINE	Rp922,000	Rp24,115,338	
8	Minggu, 19 November 2023	Konsumsi Solaria Resto	Rp133,500	Rp23,981,838	
9	Minggu, 19 November 2023	Konsumsi PAUL Singapore (Changi Airport)	Rp170,766	Rp23,811,072	14.70 Dolar Singapura
10	Selasa, 21 November 2023	Biaya Menginap Hotel 3 Malam (Los Banos, Laguna)	Rp2,281,034	Rp21,530,038	5.342,40 PHP
11	Selasa, 21 November 2023	Honorarium Tim UPLB	Rp5,900,000	Rp15,630,038	20.000 PHP
12	Selasa, 21 November 2023	Honorarium Tim Indonesia	Rp4,600,000	Rp11,030,038	
16	Jumat, 24 November 2023	Konsumsi Bluesmith Coffee & Kitchen (Airport)	Rp245,548	Rp10,784,490	878.57
17		(Rencana) APC Jamba Jurnal of DRR	Rp15,000,000	-Rp4,215,510	
		Jumlah dana keluar	**Rp24,215,510**		
		Saldo akhir	**Rp10,784,490**		

FOTO-FOTO KEGIATAN SELAMA DI LOS BANOS (Philippine)

Ron jay Dancalan, Marife, Nurul Kodriati, Elli N Hayati, Maria Emilinda Mendoza
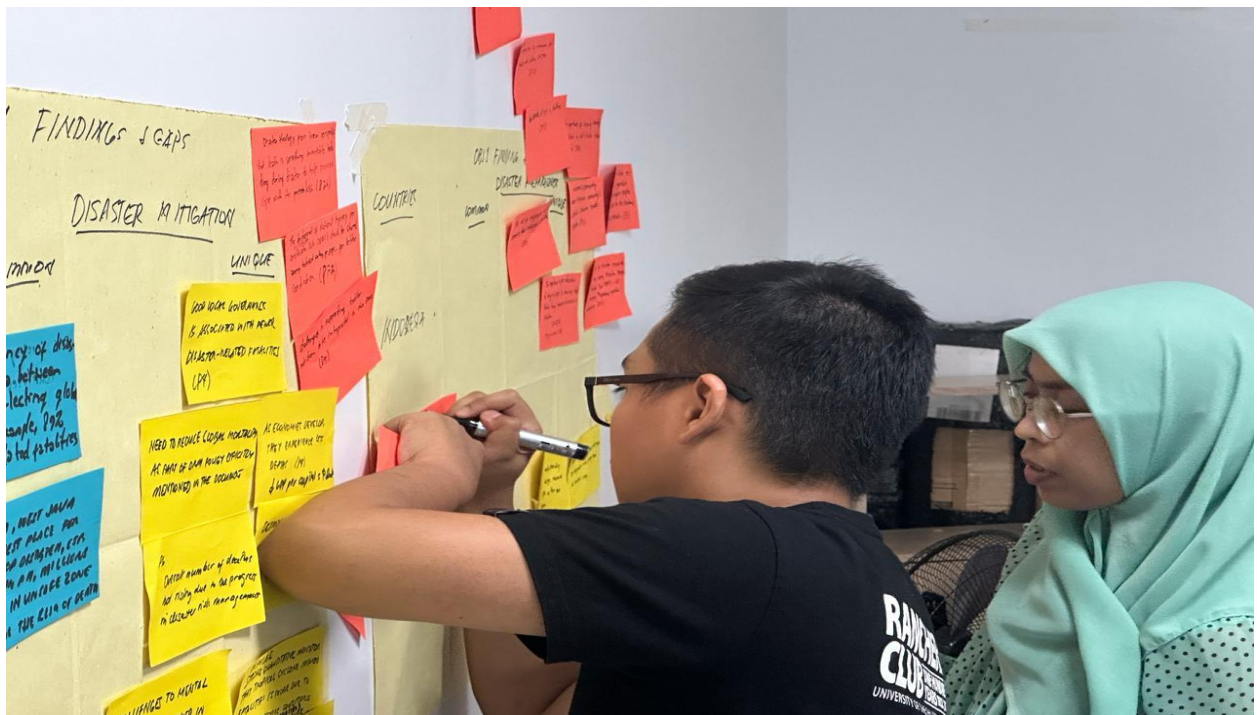
Ron J. Dancalan, Elli NH, Nurul Kodriati, Maria Emilinda Mendoza, OIA officer of UPLB

Data analysis at UPLB

ENH, NK, RJD, MEM.

RJD and NK

ENH and MEM

MEM and ENH

Official meeting for MOU signing with the Rector of UPLB

ENH and the Rector of UPLB