RESEARCH BRIEF

GENDER AND AGE INEQUALITY OF DISASTER RISK IN SOUTHEAST ASIA

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REGIONAL OFFICE FOR ASIA AND THE PACIFIC,
UN WOMEN

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ABBREVIATIONS

AADMER	ASEAN Agreement on Disaster Management and Emergency Response
ACDM	ASEAN Committee on Disaster Management
ADInet	ASEAN Disaster Information Network
AICHR	ASEAN Intergovernmental Commission on Human Rights
ARMOR	ASEAN Risk Monitor and Disaster Management Review
AHA Center	ASEAN Coordinating Centre for Humanitarian Assistance on disaster management
ASEAN	Association of Southeast Asian Nations
ASEAN-ERAT	ASEAN Emergency Response and Assessment Team
BPNB	National Disaster Mitigation Agency of Indonesia (Badan Nasional Penanggulangan Bencana)
COSE	Coalition of Services of the Elderly
CRED	Centre for Research on the Epidemiology of Disasters
CSO	Civil Society Organizations
DALA	Damage and Loss Assessment
DDPM	Department of Disaster Prevention, and Mitigation
DELSA	Disaster Emergency Logistic System
DMPTC	Disaster Management Policy and Technology Center
DRI	Disaster Risk Index
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
DRSF	Disaster-related Statistics Framework
EM-DAT	Emergency Events Database
EW	Elderly Women
FGD	Focus Group Discussion
GAR	Global Assessment Report on Disaster Risk Reduction
GBV	Gender-based violence
GFDRR	World Bank Global Facility for Disaster Risk Reduction
GIA	Gender Impact Analysis
IDI	In-depth Interview
IW	Indigenous Women
JRF	Java Reconstruction Fund
JSPADM	Joint Strategic Plan of Action on Disaster Management
KII	Key Informant Interview
LILAK	Purple Action for Indigenous Women's Rights
LM	Lactating Mother
LGBTIQ	Lesbian, Gay, Bisexual, Transgender, Intersex and Queer

MDF	Multi-Donor Fund for Aceh and Nias
MHE	Multi-hazards Exposure
MOSA	Ministry of Social Affairs
MV	Missing Voices
MVI	Missing Voices Interviews
NDMC	National Disaster Management Centre
NDMOs	National Disaster Management Organizations
NDPCC	National Disaster Prevention and Control Committee
NSOs	National Statistics Offices
NSSs	National Statistical systems
PDNA	Post-Disaster Needs Assessment
PKKK	National Rural Women Coalition (Pambansang Koalisyon ng Kababaihan sa Kanayunan)
PSA	Philippine Statistics Authority
PW	Pregnant Women
SADDD	Sex Age Disability Disaggregated Data
SDGs	Sustainable Development Goals
SEA	Southeast Asia
SEI	Stockholm Environment Institute
SFM	Sendai Framework Monitor
SGBV	Sexual and Gender-Based Violence
SIA	Social Impact Analysis
SM	Single Mother
STAR	Tsunami Aftermath and Recovery
UN	United Nations
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNICEF	United Nations Children's Fund
UNISDR	United Nations Office for Disaster Risk Reduction (now UNDRR)
UN Women	United Nations Entity for Gender Equality and the Empowerment of Women
UNYPHIL-WOMEN	United Youth of the Philippines-Women
VAWG	Violence against women and girls
VCDM	Village Committees for Disaster Management
WWD	Woman with Disability

UN Women/Christine Chung

EXECUTIVE SUMMARY

Overview of the report

Disaster risk is becoming increasingly complex, with risk drivers and consequences multiplying and colliding in unanticipated ways. Whilst mortality rates have decreased over the last decade, the overall number of people affected by disasters in terms of injury and disruption to livelihood appears to be growing. Vulnerability to hazards is multi-layered and multidimensional, and there is growing recognition that specific demographics (including women, children, and persons with disabilities) are often disproportionately affected. Structural inequalities in society result in distinct risks and varied capacities to prepare, respond and recover in disaster contexts. The extent of these differentials is dependent upon wealth, gender, age, disability, ethnicity, or a combination of those.

In particular, it has been noted that disasters persistently "kill more women than men or kill women at a younger age than men".[1] This higher mortality rate is not merely a result of biological and physiological differences between men and women, but rather a product of social norms and gendered roles and relations. At the same time, women should not only be seen as victims since they have shown resilience and strength when confronted with adversity. Their role in society and in disaster risk reduction should be recognized, valued and strengthened as crucial to effective disaster prevention and mitigation as well as sustainable recovery.

In an effort to better understand and manage these differential conditions, risks, impacts and potentials in disaster situations in Southeast Asia, this research on the Gender and Age Inequality of Disaster Risk in Southeast Asia was conducted between October 2020 and February 2021, building upon methodology developed through the global study developed in this area by UN Women and UNICEF.[2] The research aimed to consolidate and analyze information on the gendered and generational nature of disaster risks in preparing for, withstanding, and recovering from disasters in the region during this last decade. Such evidence is crucial to the countries of the Association of Southeast Asian Nations (ASEAN), namely Brunei, Cambodia, Indonesia, Lao People Democratic Republic (Lao PDR), Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam, since their region is one of the most prone to natural disasters in the world. Geographical and climatic conditions expose the ASEAN region to a multitude of disasters including seasonal typhoons, volcanic eruptions and tsunamis, which are expected to intensify due to the escalation of climate change. Climate change is further increasing both the frequency and intensity of such hazards. Disasters have furthermore been amplified by their intersections with an array of societal conflicts and the rise of violent extremism in parts of the region.

The research applied qualitative methods to collect evidence on the gender and age inequality of disaster risk in the ASEAN region and its member state countries. A desk review for the period 2010-2020 was conducted and later integrated into a meta-analysis of both published and unpublished (grey) literature on the impacts of disasters on women and girls in ASEAN Member States (AMS), which also assessed regional and national data sets in their degree of inclusion of gender and age disaggregated information. The comprehensive literature review was followed by field research in two specific regions to sharpen the analysis, namely the island of Mindanao in the Philippines severely impacted by floods and landslides and the earthquake-prone Sulawesi island in Indonesia. Information was collected through focus group discussions (FGDs) with vulnerable women and girls and semi-structured in-depth interviews (IDI) with key Informants (KIIs) and with women and girls whose voices may otherwise go unheard (Missing Voices Interviews or MVI). The research was revisited in November 2021 to align the recommendations with the ASEAN regional frameworks adopted in 2021, including the ASEAN Regional Framework on Protection, Gender, and Inclusion in Disaster Management.

1 Neumayer, E. and Plümper, T. (2007), p. 552.

2 UN Women and UNICEF (2019).

The integrated analysis from these methods is presented in six chapters. The first chapter provides a review of disaster risk in the ASEAN region (Chapter 2). Figures show from July 2012 to May 2020 a total of 1,899 disaster events took place in the region, with 90 per cent of annual disasters consisting of hydro-meteorological hazards (floods, winds, storms, landslides, and droughts). As a result of these disasters, at least 147 million people were affected, 18 million displaced, and almost 84,000 killed, injured, or missing, with estimated damage of USD 17 billion.[3] In the period 2004-2014 half of the global disaster mortalities (approximately 700,000 deaths) were in the ASEAN region due to a series of major disasters – foremost among them the 2004 Indian Ocean Tsunami, which badly affected four ASEAN countries with one in three people in the region experienceing some type of losses.[4] Within this general exposure of the region to hazards, the country profiles show wide differences across member states. In terms of multi-hazards exposure (MHE), a measure that takes into account the potential human and financial losses, the Philippines, followed by Indonesia and then Myanmar, ranks the highest, while Singapore and Brunei Darussalam are considered the safest.

The ASEAN region's diversity and frequency of disasters at times with transboundary impacts require a comprehensive and multi-layered approach from the local to the regional levels. All ten member states have detailed law and policy frameworks operationalized into complex management structures to respond to national disasters according to the specifics of each country. At the regional level, the ASEAN Agreement on Disaster Management and Emergency Response (AADMER) is the primary and legally-binding regional platform for disaster management that prioritises prevention and mitigation and demands immediate responses from ASEAN countries to natural disasters in a coordinated manner in order to achieve a substantial reduction of disaster losses in lives and the social, economic and environmental assets of Member States. The 3rd Work Programme 2021-2025 , formulated in close alignment with the inclusive disaster response and protection approaches of the Sendai Framework for Disaster Risk Reduction 2015-2030, sets five Priority Programmes and among the guiding principles fully recognizes 'Gender and Social Inclusion' and commits to the collection of disaggregated data on disaster management across ASEAN Member States to be utilized for disaster risk assessment.

This regional background serves to contextualize the discussion of gender and age inequality of disaster in ASEAN Member States starting with an analysis of available disaggregated data by gender and age of disasters in the ASEAN region (Chapter 3). The systemic collection of data for disaster mitigation and prevention has rapidly expanded and improved in the last decades due to the heightened concern with the increased frequency and severity of disasters in the region and because of the greater appreciation among policy-makers of the need to have a more solid evidence basis for risk analysis. However, when ASEAN Member States collect and submit disaster data, they generally do not include age, disability, and gender-disaggregated data. The lack of disaster-related data that are gender and age disaggregated is common across the various repositories, irrespective of the employed methodologies and geographic scope.

The scarcity of disaggregated data by gender and age precludes a systematic analysis of differential disaster impacts. From the segmented information available on the gender and age dimensions of disaster in the region (Chapter 4), it appears that gendered and generational differentials are available for three major disasters, namely the 2004 Indian Ocean Tsunami, the 2008 Cyclone Nargis and the 2012 Typhoon Haiyan and mainly relates to mortality, while no disaggregated data and analysis are available about affected persons and damage of properties. Key topics that emerge from the descriptive information, irrespective of the type of disaster, center on livelihoods and incomes; nutrition and health; education; lack of protection against gender-based violence; and access to services and aid, with minimal attention given to women's resilience and participation. In examining these differential impacts, it emerges that women's and girls' greater socio-economic vulnerabilities to hazards is because of pre-existing gender inequalities exacerbated by disasters. Thus, addressing women's disadvantages in disaster necessitates a comprehensive and transformative approach well before the disaster strikes.

3 Capili, A. et al. (eds.) (2020, August).

4 ASEAN (Association of Southeast Asia) and UN (United Nations) (2017).

The two case studies of Mindanao and Central Sulawesi (Chapter 5) confirm this general picture, adding some important nuances by showing that women are not homogenous as a group and that their needs and capacities are multidimensional. They also clearly show that women's participation and leadership is greater than is evident in the literature. It also appears that policies and services that are available fail short of addressing the needs of women's and girls' and that the many commitments on integrating gender into disaster response do not yet translate into actual practice.

This overview of the current status of gender and age inequality of disaster risk in Southeast Asia provides a better understanding of the context-specific dimensions of disaster and its differential impacts. Based on the gathered evidence, below are the main research findings and proposed recommendations for reducing inequitable gender impacts and increasing attention for generational and other differentials such as ethnicity, religion, and sexual orientation, and disability.

Main Findings

Normative:

- **Gender responsive approaches, aligned with commitments to advance the Sendai Framework, that respond to disproportionate disaster impacts are needed.** The Sendai Framework recognizes that vulnerability to hazards is multi-layered and multidimensional, and specific demographics (including women, children, and persons with disabilities) are often disproportionately affected. This is extremely relevant to the ASEAN region, being one of the areas most prone to disasters in the world. Understanding and managing the differential conditions, risks, potentials and experienced impacts of the varied groups is essential to saving lives and reducing disaster damage and loss. There is an urgency in implementing gender- and age-responsive, or better yet –transformative, disaster risk reduction and recovery policies and interventions.

  Coordinated regional approaches will be needed to tackle the multi-dimensional nature of gendered risks: The ASEAN region's diversity and frequency of disasters, which can have transboundary impacts, requires a comprehensive and multi-layered approach from the local to the regional level. The region's strong approach to international coordination in support of nationally led responses presents a key opportunity to integrate gender, age and other diversity concerns in this multi-level structure to ensure inclusive disaster responses.

- **AADMER provides an opportunity for the formulation and implementation of transformative and inclusive policies and interventions.** Related to the above, the primary and legally-binding regional platform for disaster management, AADMER formulated in close alignment with the Sendai Framework, clearly recognizes the importance of gender and social inclusion for disaster risk reduction, preparedness, and response and proposes priority outcomes and actions. In this regard, the adoption of the ASEAN Regional Framework on Protection, Gender, and Inclusion in Disaster Management 2021-2025 represents a global example of a coherent, coordinated approach to gender in DRR across sectors, including to address gender-based violence.

Data, assessment, and analysis:

- **Across national, regional, and global databases, disaggregated data is by and large incomplete; where it is present it concentrates on disaggregation of mortality.** As also recognized in AADMER, disaggregated data are essential to the realization of gender- and age-responsive and -transformative disaster risk reduction and response. This concern was recognized early on in studies of disasters in the region and in global and national statements. Yet, decades later, there is still a scarcity of disaggregated data at the community, national and regional level.

- **As noted in previous studies, "the disproportionate impact of disasters on [diverse] women and girls is not well- documented"** in the ASEAN region.[5] The scarcity of disaggregated data by gender and age, as shown by the review of main disaster data sets concerning the ASEAN region precludes a systematic review of differential disaster impacts. As this report shows, practitioners are dependent on the mostly qualitative information on the gender and age dimensions of particular disasters mainly from non-government sources.

5 Nair, T. (2018).

This information is silo-ed and with a strong bias towards major disasters and adult population with little examining of differentials, thus overlooking serious and at times longer-term impacts of less 'significant' disasters as well as the diversity of the population. However, regional level investment in research on the specific impacts of disasters on women and girls, such as a study on SGBV in disasters led by the ACDM and the IFRC, and on institutional gaps to gender mainstreaming in disaster management, led by AIHCR, form valuable contributions to the evidence base and for informing future action. In addition, Post-Disaster Needs Assessments (PDNAs) started in 2015 to integrate gender considerations, representing critical progress since PDNAs support development of recovery interventions.

Differential impacts:

- The available mortality data and observations seem to concur that in the majority of cases, women die more than men because of gendered roles and norms relating to the household. It is important to note, however, that in few occasions the same gender roles in the family lead to opposite outcomes. Here lies the **importance of better understanding context-specific gender dynamics** in all their complexity.
- In reviewing the differential impacts of disasters, the factors that place women (and girls) at a distinct disadvantage in the aftermath of natural disasters are often pre-existing socio-economic gender inequalities, and disasters exacerbate these. The case studies further show that **disasters and their impacts are amplified by their intersecting with additional threats including conflicts, pandemics (e.g., COVID-19), and climate change**. Thus, addressing women' and girls' disadvantage in disaster implies a comprehensive and transformative approach well before the disaster hits.
- The themes that consistently emerge from the available literature related to women's and girls' vulnerability in disaster are livelihoods and incomes, nutrition and health, education, lack of protection and gender-based violence (GBV), and access to services and development or humanitarian assistance. Among them, **GBV and to a lesser extent reproductive health are the topic most extensively studied in recent years** thanks to women's groups and donor organizations' efforts.
- **Social factors such as gender and age are analysed in isolation.** From the literature, we learn little about the intersection of gender and age and almost nothing about the intersection of gender and disability, ethnicity, sexual orientation and other structural factors. Yet, as the case studies and the findings from the Missing Voices Interviews show, these intersections imply differentiated needs, risks and capacities and remind us once more that women are not a homogenous group,.
- The case studies and the Missing Voices interviews also clearly show that **women's participation and leadership is greater than documented in the literature**. Studies are biased in terms of portraying women as victims and have limited attention for women's capacities and resilience in disaster, thus underestimating the contribution of women to disaster prevention, mitigation, preparedness, response, and recovery.

Recommendations

In light of the findings of this study, the following recommendations can be made to respond to the urgency of formulating and implementing transformative and inclusive disaster risk reduction and response:

- **Translate commitments to inclusion into operational guidance:** Recognition of people's differential conditions, risks, vulnerability, potentials and experienced impacts in disaster situations as stated in formal regional, national and sub-national directives needs to be translated into detailed operational guidelines. Moreover, gender, age and other diversity concerns ought to be systematically integrated at every administrative level to ensure inclusive and transformative disaster responses in the ASEAN region.
- **Strengthen monitoring against gender and social inclusion commitments at national and regional levels:** The newly established Technical Working Group on Protection, Gender, and Inclusion (TWG-PGI), comprised of the ACDM, ASEAN Committee on Women, and Senior Officials Meeting on SOMSWD, presents a key opportunity to better monitor the implementation of the protection and gender commitments made in the AADMER Work Programme 2021-2025.

- **Strengthen accountability towards the disaggregation of disaster data:** A clear, step-by-step strategy needs to be developed to ensure that disaster data in international, regional and national datasets and databanks are disaggregated based on gender, age and other differentials. Detailed targets, time schedule and resource allocation for achieving the objective of producing disaggregated data ought to be set at both the regional and the national level. Given the multitude of global databases, ADI-Net as the primary ASEAN database presents an opportunity for a uniform approach to the systematic collection, reporting, and usage of sex, age, and disability disaggregated data in disasters.
- **Invest in government capacities to mainstream gender and operationalize guidance:** Advancement of the above agenda requires building the capacity of disaster agencies to understand gender and diversity comprehensively in their complexity, with actions being taken to (a) address gender roles, norms, and practices that impact vulnerability pre-, during and post-disaster; (b) enhance understanding of the intersection of gender and age and the intersection of gender with disability, ethnicity and other structural factors (c) work to change gender roles and relations in the household and in society (d) counter entrenched discrimination against diverse groups. These efforts must be informed by systematic integration of a gender and age perspective in all assessments, including through application of PDNA guidance on gender mainstreaming.
- **Recognize and tackle the root causes of SGBV in disasters:** Disaster management actors ought to recognize the root causes of SGBV and address them head on through specific programmes to change gender norms. Among other activities, campaigns and education on gender-equitable norms targeting all genders should be implemented.
- **Ensure disaster recovery programmes address unpaid care work and women's economic empowerment:** Education and empowering programmes also need to be formulated to address the increase in domestic burden following disaster. Fostering discussion on redistribution of household roles and relations is at the core of achieving more gender equality in disaster and beyond. The economic role of women needs to be recognized in recovery programmes and women need to be provided resources and skills to recover their assets and expand their skills and opportunities. Support for childcare should also be an integral part of disaster response.

While many challenges can be expected in trying to undertake the proposed recommendations, pursuing them will ensure that disaster response in the ASEAN region continues to build upon existing momentum to become truly gender-responsive, inclusive and transformative, enabling ASEAN to become a global leader in disaster management as envisioned.

Balay Rehabilitation Center

UN Women/Rash Caritativo

1. INTRODUCTION

1.1 Gender (and age) inequality and disaster impacts

Disaster risk is becoming increasingly complex, with risk drivers and consequences multiplying and colliding in unanticipated ways. Over the last 20 years, 7,348 disasters have been recorded worldwide. These disasters have claimed approximately 1.23 million lives, affected over 4 billion people, and caused approximately US$2.97 trillion in global economic losses.[6] Whilst mortality rates have decreased over the last decade, the overall number of people affected by disasters in terms of injury and disruption to livelihood appears to be growing.[7] In 2017 alone, 318 disasters affected 96 million people, internally displacing 18.8 million and causing an estimated US$314 billion in economic damage.[8]

Vulnerability to hazards is multi-layered and multidimensional, and specific demographics (including women, children, and persons with disabilities) are often disproportionately affected. Structural inequalities in society result in distinct risks and varied capacities to prepare, respond and recover in disaster contexts.[9] The extent of these differentials is dependent upon wealth, disability, ethnicity, age and gender or a combination of those. In particular, it has been noted that disasters persistently kill "more women than men or kill women at a younger age than men".[10] This higher mortality rate is not merely a result of biological and physiological differences between men and women, but rather a product of social norms and gendered roles and relations.

According to the literature,[11] gendered disaster impacts derive from the imbalances and biases in political, social, economic and cultural structures that increase women's vulnerability and exposure to disaster. Disaster risk is affected by the gender values that determine the roles and responsibilities of women and men. For example, women and girls are more likely to take on the role of caregivers for children, the elderly and for persons living with disabilities, increasing their propensity to remain in unsafe locations during a disaster when unable to transport their dependents safely.[12] Girls may also not be taught potentially life-saving skills, such as swimming and climbing, if considered 'boy activities' and thus socially unacceptable.[13] During disasters, culturally-appropriate female clothing may inhibit women's escape.[14] The subordinate domestic role of women also often reduce their access to hazard warnings and resources in post-disaster situations.[15] All of these discriminatory conditions put women and girls at a disadvantage during disasters. At the same time, it has been argued that women should not only be seen as victims since they have shown resilience and strength when confronted with adversity. Their role in society and in disaster risk reduction should be recognized, valued and strengthened as it crucial to effective prevention and mitigation as well as sustainable recovery.[16]

Understanding and managing these differential conditions, risks, impacts and potentials is essential to saving lives and reducing disaster losses, as is recognized in the Sendai Framework for Disaster Risk Reduction 2015-2030. This global agreement endorsed by the United Nations General Assembly in March 2015 guides the actions of governments and other actors to reduce disaster risk and build resilience. To this aim, the Framework seeks to integrate gender, age, disability and cultural perspectives in all policies and practices. It further highlights the need to engage women, youth and children as key agents in designing and implementing gender- and age-sensitive disaster risk reduction (DDR) policies.[17] A consensus has also emerged that more robust efforts to disaggregate

6 CRED (Center for Research on the Epidemiology of Disasters) and UNDRR (UN Office for Disaster Risk Reduction) (2020).

7 EM-DAT (The Emergency Events Database) by Center for Research on the Epidemiology of Disasters (CRED) (2009).

8 GFDRR (Global Facility for Disaster Reduction and Recovery) (2019).

9 Ibid.

10 Neumayer, E. and Plümper, T. (2007), p. 552.

11 Ariyabandu, M. M. and Fonseka, D. (2009).

12 Ginige, K., Amaratunga, D. and Haigh, R. (2014), p. 328.

13 UN Women (2017).

14 Neumayer, E. and Plümper, T. (2007), p. 554.

15 Aguilar, L. et al. (2009), p. 44.

16 Gerbais, J. (2020), p.32.

17 Brown, S. et al. (2019).

statistics by gender and age in disaster risk analysis ought to be made as otherwise the response may fail to address gender and age disparities.[18]

1.2 Integrating a gender lens in the ASEAN disaster framework

Such inclusive, intersectional and context-specific approach is particularly relevant to the countries of the Association of Southeast Asian Nations (ASEAN), namely Brunei, Cambodia, Indonesia, Lao People Democratic Republic (Lao PDR), Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam, since their region is one of the most prone to disasters in the world. Geographical and climatic conditions expose ASEAN to a multitude of disasters including seasonal typhoons, volcanic eruptions and tsunamis,[19] which are expected to intensify due to the escalation of climate change. Disasters have also been amplified by their intersecting with an array of societal conflicts and the rise of violent extremism in parts of the region.[20]

In the past 15 years, the region has seen three catastrophic disasters, namely the 2004 Indian Ocean Tsunami, the 2008 Cyclone Nargis and the 2013 Typhoon Haiyan, and a multitude of severe as well as smaller-scale disasters of various types.[21] In these and other crises, those most affected and exposed to sexual exploitation and abuses were women, children, youth, and people with disabilities, and especially the poorest among them. More recent Post-Disaster Needs Assessments (PDNA), as well as research and observations by diverse actors including UN agencies, academia and civil society, have pointed out that the impacts of disasters in ASEAN countries in terms of casualties, affected people and estimated losses were disproportionately distributed among different socio-economic, gender and age groups. Studies increasingly note that gender could impact on crucial factors such as access to information, isolation, security and mobility, thus leading to differentiated disaster risks.[22] At the same time, there has been growing recognition, that to fully understand and address the short- and long-term consequences of these differentials and the structures that determine them, more research is required including data disaggregation at the micro-level.[23]

As the main regional body, ASEAN has committed mainstreaming gender and social inclusion into its regional response to disasters. Together with other partner organizations, UN Women has strived to ensure that disaster response programmes – such as that in the wake of severe flooding in Myanmar in 2015 –are shaped by women's perspectives[24] and is looking forward to expanding this scope regionally. The collaborative programme "Strengthening Gender-Responsive Disaster Management in ASEAN," funded by the European Civil Protection and Humanitarian Aid Operations (ECHO) and implemented by UN Women with the ASEAN Secretariat, aims to support key relevant ASEAN sectoral bodies – particularly social welfare development, disaster management and health – with evidence-based policy research and technical capacity to integrate gender and protection framework in order to mitigate and prevent sexual and gender-based violence (SGBV).[25] More specifically, the programme works to integrate a gender, inclusion and protection (including SGBV and child protection lens into the design and implementation of the new ASEAN Agreement on Disaster Management and Emergency Response (AADMER) Work Programme 2021-2025. It also advocates for disaggregating statistics by gender and age.

As part of these efforts, UN Women commissioned Rapid Asia to undertake the study presented here to better understand how different gender and age groups in the ASEAN region are impacted by and respond to disasters and what commitments to gender-responsiveness and disability inclusion have been made to address their specific realities and needs. The timing of the research coincides with ASEAN Committee on Disaster Management (ACDM) 's adoption of the five-year AADMER work

18 Aguilar, L. et al. (2009), p. 141.

19 Gupta, S. (2010).

20 ADB (Asian Development Bank) (2019).

21 AHA Center (Asean Coordinating Center for Humanitarian Assistance on Disaster Management) (2018).

22 Phyu, N. P. and Myo, K. M. M. (2016).

23 Ibid.

24 UN Women (n.d.).

25 In line with more recent studies, we use the more comprehensive term SGBV instead of only Gender-Based Violence (GBV) as the umbrella term. This to enphazise that GBV often takes sexual connotations, to distinguish gender from sexuality and to stress the urgency of comprehensive protection measures (for a definition see p. 74. See also Ward, J. and UN Women (2013).

programme adopted in November 2020, and the joint development of the ASEAN-UN Joint Strategic Plan of Action on Disaster Management (JSPADM) by ASEAN and its UN partners to guide their collaboration in disaster management and relief,[26] in order for the findings to inform implementation of both. A deeper acknowledgement of the gender and age inequality of risk will help ASEAN and other stakeholders in formulating strategic measures to foster a disaster-resilient region and meet the needs of its diverse people.[27]

1.3 Objectives and research questions

The objective of this short-term research conducted from October 2020 to February 2021, was to consolidate and analyze information on the gendered and generational nature of disaster risks in preparing for, withstanding, and recovering from disasters in the ASEAN region during this last decade. Specifically, the intensive qualitative inquiry sought to:

1) Identify opportunities and gaps in the evidence base to inform development and implementation of the AADMER Work Programme 2021-2025 and the JSPADM 2021-2025.

2) Identify opportunities at national and regional levels to advance the work of the ACDM, including the ACDM Prevention and Mitigation Working Group, especially in relation to protection (SGBV and child protection).

The guiding research questions were:

1) What evidence exists on the gender and age dimensions of disaster in the ASEAN region?

2) What are the risks and impacts of disasters experienced by women and girls in ASEAN countries? (Risks and impacts)

3) What are the needs of women and girls in ASEAN countries, and how can these needs be more effectively met by public/external interventions? (Needs)

4) What are the women's and girls' individual and collective strategies to reducing risks, preparing for, responding to, and recovering from disasters in the ASEAN region? (Participation)

It needs to be stressed that the focus was on the gender and age dimensions of disaster risk and therefore other equally important societal structures such as socio-economic status, ethnicity, and disability were outside of the main scope of the research. They are discussed only briefly when specific links with gender or age are made in the literature, although they emerge clearly from the case studies. Furthermore, there was a marked lack of literature on diverse sexual orientations, gender identities and expressions, and sex characteristics.

1.4 Methodology

Qualitative methods were applied to collect evidence on the gender and age inequality of disaster risk in the ASEAN region and its member state countries. The field research focused on two specific regions to sharpen the analysis, namely the island of Mindanao in the Philippines battered by floods and landslides and earthquake-prone Sulawesi island in Indonesia. In both these locations, disasters have occurred in a context of long-standing inter-faith and inter-ethnic tensions, raising important issues on the need for comprehensive, multi-hazard emergency preparedness plans and responses.

The first step was to conduct a desk review later integrated into a meta-analysis of both published and unpublished (grey) literature on the impacts of disasters on specific groups, particularly on women and girls, in ASEAN member states and particularly in the two selected research locations of Mindanao and Sulawesi. The gathered information consisted of past research reports, project reports, peer-reviewed studies and other relevant material mainly concerning the period 2010-2020 so as to chart recent development in the region. Regional and national data sets were also assessed in their degree of inclusion of gender and age disaggregated information. More particularly the meta-analysis was informed predominantly by the following sources:

a) Quantitative disaster impact data, including where available disaggregated data, in disaster data set, especially the Disaster Inventory System, in its last version renamed Desinventar Sendai as it serves to monitor the implementation of the Sendai Framework.

b) Publicly available disaster data from regional and national sources in the ASEAN Member States.

26 ASEAN (2016).

27 Nair, T. (2018).

c) Gender and age responsiveness related studies in Asia and the Pacific.

d) Available PDNAs from the ASEAN Member States.

e) Various rapid gender analyses and gender alerts from previous disasters in the region.

f) Research works on SGBV in disasters and crises in the ASEAN region.

Besides providing valuable knowledge of disaster management in the ASEAN region, the review and meta-analysis also served to identify critical gaps and issues to be further investigated through qualitative research in the Philippines and Indonesia. More specifically, fieldwork was conducted in the selected areas of Davao, Zamboanga and Cotabato in Mindanao and in Palu municipality and Sigi regency in Central Sulawesi respectively. Information was collected with focus group discussions (FGDs) with vulnerable women and girls and semi-structured in-depth interviews (IDI) with key Informant (KIIs) and with vulnerable women and girls whose voices may otherwise go unheard (Missing Voices Interviews or MVI). In doing so, the research employed the so-called Missing Voices (MV) approach of identifying who is missing from existing analysis and target them for interviews as proposed from a recent UN Women and UNICEF study, conducted by Practical Action, that explores the gender and age inequality of disaster risk from an intersectional perspective.[28]

First, the FGDs were carried out by trained facilitators with semi-structured guides to explore and capture in-depth information around gendered and generational issues in the communities during and after disasters. Several women (young, adults, and elderly) with different backgrounds and degrees of vulnerability were recruited to participate in a total of six FGDs (three in Mindanao and three in Central Sulawesi). In Indonesia, one of the FGDs also included men to get a better understanding of gender issues also from their perspective. Persons with disabilities (PWD) were included in both countries. Participants were selected with inputs from local community leaders and local organisations. In the Philippines, because of the strict COVID-19 measures, the FGDs were conducted using Zoom, while in Indonesia, they were conducted face to face with the proper social distance. This affected the number of participants as Zoom calls proved more difficult to arrange, with each group in Indonesia having an average of nine participants and those in the Philippines only six participants each (as summarized in Table 1). It also meant that the FGDs in Mindanao were less localized than in Sulawesi as participants in the same FGD were not from the same location, but came from the three locations of Davao, Zamboanga and Cotabato on Mindanao island. From the FGD participants and from recommendations of local women groups in the areas, individual interviewees representing groups at disproportionate risk in disasters were identified -- including women with disabilities, older women, minority women, pregnant women or with young babies, persons of diverse sexual orientations and gender identities, and single mothers. To understand their often-ignored insights and agency, MVIs were conducted with them in their local language in person in Sulawesi and via phone in Mindanao. The MVIs recorded the respondents' first-person accounts of their experiences during disasters to bring their "missing voices" to the fore and feed them into disaster policies and interventions so as to make them more responsive to intersectional vulnerabilities.

Interviews were also conducted with key stakeholders in the selected localities including government officials, experts and representatives of local NGOs, international organizations and the ASEAN Coordinating Centre for Humanitarian Assistance on disaster management (AHA) (see Table 3). Again, KIIs were conducted through phone interviews and chat services in the Philippines and with a mix of in-person and via other means in Indonesia. In total, 12 key informants were interviewed, ten women and two men. In particular, the objective of these KIIs was to explore institutional arrangements at the national and regional levels on the protection of vulnerable women and girls and prevention and control of SGBV with a focus on service providers, disaster management, and women-focused organisations. In addition, the KIIs also aimed to identify opportunities and gaps of regional disaster plans and programmes on risk assessment and resilient recovery.

28 Brown, S. et al. (2019).

TABLE 1

Details of Focus Group Discussions (FGDs)

Category FGDs	Sulawesi, Indonesia	Mindanao, The Philippines
FGD1	Location: Palu Type of Disaster: Earthquake and tsunami Approach: Face-to-face Participants: 11 women, 14-70 year old, of whom 3 were people with disabilities (2 deaf, 1 paralyzed)	Location: Mindanao Type of Disasters: Earthquake, typhoon and flood, armed conflict Approach: Online interview (Zoom) Participants: 6 women, of whom 1 woman using wheelchair
FGD2	Location: Sigi Type of Disaster: Earthquake and liquefaction Approach: Face-to-face Participants: 7 women aged 24-85 years old	Location: Mindanao Type of Disaster: Typhoon and flood Approach: Online interview (Zoom) Participants: 5 women aged 19-45 years old
FGD3	Location: Palu Type of Disaster: Earthquake, liquefaction and tsunami Approach: Face-to face Participants: 9 persons including 6 men and 2 women aged 16-40 years, of whom 4 were people with disabilities (2 women, one paralyzed and one blind and 2 men, one blind and one with intellectual disability)	Location: Mindanao Type of Disaster: Typhoon and flood, Earthquake, and armed conflict Approach: Online interview (Zoom) Participants: 6 women aged 20 -60 years old, including 1 woman with intellectual disability.
Total participants	**27**	**17**

The findings from the various methods were coded and triangulated according to the multilevel combinations approach, which foresees that results are analysed separately before core findings are linked to the main research questions and the reviewed literature and finally examined across the different information sources.[29]

This report presents an integrated analysis into four sections. After this introductory section (Chapter 1), a review of disaster risk in the ASEAN region is provided (Chapter 2) to contextualize the discussion of gender and age inequality of disaster in ASEAN Member States in the following three chapters. The core theme of the report begins with an analysis of available disaggregated data by gender and age of disasters in the ASEAN region (Chapter 3), followed by a discussion of the gender and age dimensions of disaster in the region (Chapter 4), illustrated in more detail with two case studies of Mindanao and Central Sulawesi (Chapter 5). A brief summary of the main findings and recommendations will end the report (Chapter 6).

29 USAID (United States Agency for International Development) (2013).

UN Women/Kash Caritativo

2. ASEAN AND DISASTER RISK REVIEW

2.1 A brief regional overview of risk and vulnerability

The ASEAN region covers a geographically diverse area of 4.5 million km^2, which stretches between the Pacific and Indian Oceans and is surrendered by several tectonic plates along the Ring of Fire, a seismically active area enfolding across the Pacific Ocean.[30] The climate is generally hot and humid, and a large part of the over 650 million population lives on river deltas and in riverine and coastal plains as the region abounds in major rivers and water bodies.[31] The region is also affected by El Niño and La Niña --the meteorological patterns caused by variations in ocean temperatures in the Equatorial Pacific-- with drier-than-average rainfall conditions followed by warmer temperature during El Niño and abundant rainfall and colder temperature during the La Niña years.[32] These geographical and climatic conditions, compounded by unchecked environmental degradation and exploitation of natural resources to fuel growth, make it one of the most disaster-prone regions globally.[33]

Millions of people in the region have been affected by a wide range of hazards including tropical cyclones, monsoonal flooding, earthquakes, landslides, volcanic eruptions, and tsunamis --most significantly by those weather-related. In general, floods are the most common, while tropical cyclones are the most destructive. It has been recorded that one in every ten disasters occurred in Southeast Asia during the past 120 years[34] and that the frequency and intensity of disasters have been consistently increasing and can be expected to exacerbate further with the escalation of climate change.[35]

According to the ASEAN Disaster Information Network (ADInet) from July 2012 to May 2020 a total of 1,899 disaster events took place in the region, with 90 per cent of annual disasters consisting of hydro-meteorological hazards (floods, winds, storms, landslides, and droughts) (Table 4). As a result of these disasters, at least 147 million people were affected, 18 million displaced and almost 84,000 killed, injured, or missing, with estimated damage of USD 17 billion.[36] In the period 2004-2014 half of the global disaster mortalities of about 700,000 deaths were in the ASEAN region due to a series of major disasters and about one in three people in the region experienced some type of losses.[37] Numbers are not always consistent across sources, but some often cited estimations by the global Emergency Events Database by the Centre for Research on the Epidemiology of Disaster (EM-DAT by CRED) of the number of deaths, affected people and economic damage by disaster event in the ASEAN region during the last ten years can be seen in figures 1, 2 and 3. The seriousness of disaster impacts may even be underestimated here, since regional and global statistics are often lower than the figures reported in national sources.

30 PEI (2013).

31 Gupta, S. (2010).

32 ASEAN Specialised Meteorological Centre (ASMC) (2021, 8 February).

33 Capili, A. et al. (eds.) (2020, August).

34 EM-DAT (The Emergency Events Database) by Center for Research on the Epidemiology of Disasters (CRED) (2021).

35 Simm, G. (2018), p. 120.

36 Capili, A. et al. (eds.) (2020, August).

37 ASEAN (2016a).

TABLE 2

Number and Type of Disaster Events in ASEAN Member States (July 2012 – May 2020)

ASEAN Member Statesc	Tsunnami	Volcano	Earth-quakes	Drought	Landslide	Storm	Wind	Flood	Subtotal
Brunei Darussaalam	-	-	-	-	1	-	-	3	4
Cambodia	-	-	-	1	-	7	1	6	15
Indonesia	2	28	43	28	119	21	196	731	1,168
Lao PDR	-	-	1	-	2	4	1	13	21
Malaysia	-	-	2	-	6	6	1	88	103
Myanmar	-	-	3	1	9	19	6	38	76
Philippines	-	5	19	2	19	67	32	78	222
Singapore	-	-	-	-	-	-	1	3	4
Thailand	-	-	2	11	5	35	22	70	145
Viet Nam	-	-	-	3	20	48	20	50	141
Subtotal	**2**	**33**	**70**	**46**	**181**	**207**	**280**	**1,080**	**1,899**

Source: ADInet, 2020[38]

Some of the most significant disasters since the turn of the millennium include the Indian Ocean Tsunami in 2004, the serious drought in Thailand in 2005, the Yogyakarta earthquake (Indonesia) in 2006, the Viet Nam flooding in 2007, Cyclone Nargis (Myanmar) in 2008, Typhoon Ketsana (known as Ondoy in the Philippines) in 2009, the Bangkok flooding in 2011, Typhoon Bopha in Mindanao (the Philippines) in 2012, Typhoon Haiyan affecting the Philippines in 2013, the Lao PDR flooding in 2018 and the Jakarta flooding in 2020.[39] Several of these disasters affected multiple countries in the region and beyond. The most wide-spread and catastrophic disaster was the 2004 Indian Ocean Tsunami, which badly affected four ASEAN countries --in order of seriousness, Indonesia, Thailand, Myanmar and Malaysia-- and up to 10 other countries along the ocean coast, killing more than 240,000 people and displacing over a million, with tens of thousands missing and presumed dead.[40] Regionally, Typhoon Ketsana impacted the Philippines, Viet Nam, Cambodia, Lao PDR, and Thailand. The latter four of these countries were jointly affected by recurrent flooding of the Mekong River, a transboundary river in mainland Southeast Asia and East Asia among the longest in the world. Some human-induced disasters also have transboundary impacts, such as the land burning to clear up plantations in Indonesia and Malaysia that causes haze and affects air quality also in Singapore, and to a lesser extent in Brunei Darussalam, the south of Thailand and the Philippines.[41]

38 Capili, A. et al. (eds.) (2020, August).

39 Ibid.

40 Arumbinang, M. H. (2016, 30 May).

41 Ibid.

Within this general exposure of the region to hazards, there are wide differences across member states. In terms of multi-hazards exposure (MHE), a measure that takes into account the potential human and financial losses, the Philippines, followed by Indonesia and then Myanmar, ranks the highest, while Singapore and Brunei Darussalam are considered the safest (Figure 1). The Philippines even tops the MHE global ranking, and Indonesia and Myanmar make it to the top five countries together with Bangladesh and Japan. However, when vulnerabilities are measured taking into account the availability of resources to address disasters, the less-resourced countries of Myanmar and Lao PDR, along with the Philippines (because of the large number of disaster events) are considered among the most vulnerable in the region (Figure 2).[42] This diverse regional distribution of exposure and vulnerability also implies that the number of deaths and the number of people affected by natural disasters varies significantly between different ASEAN countries.

Exposure also varies by type of disaster, with earthquakes and cyclones affecting a larger part of the ASEAN population (Figure 2). They frequently occur in countries located on the Ring of Fire, especially the two insular countries of Indonesia and the Philippines with the largest populations in the region (in 2020 about 270 million people in Indonesia and 109 million people in the Philippines).[43]

FIGURE 1 AND 2

ASEAN Region Map of Multi-Hazard Exposure and Vulnerability[44]

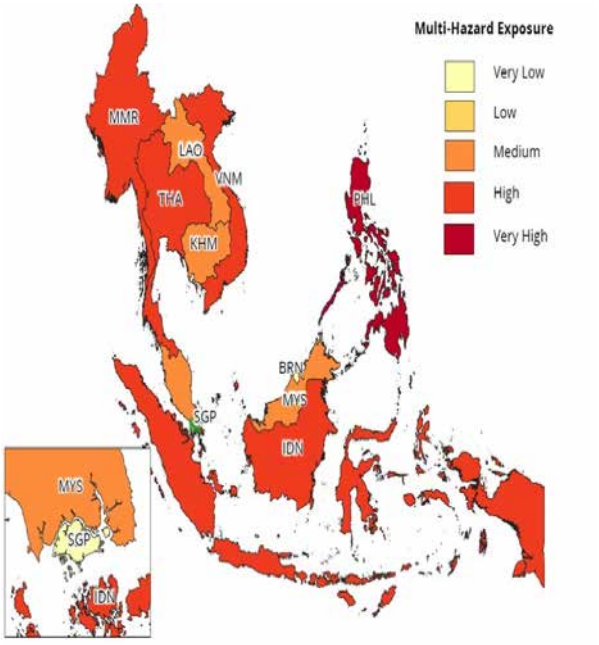


Figure 2.4

*A map of the MHE scores of the ASEAN Member States showing the Philippines as having very high *MHE (0.876) and Brunei Darussalam and Singapore as having very low* MHEs (0.1665 and 0.1555, respectively). *Based on equal intervals (0.2) of the normalised average index, which ranges from 0 to 1.*

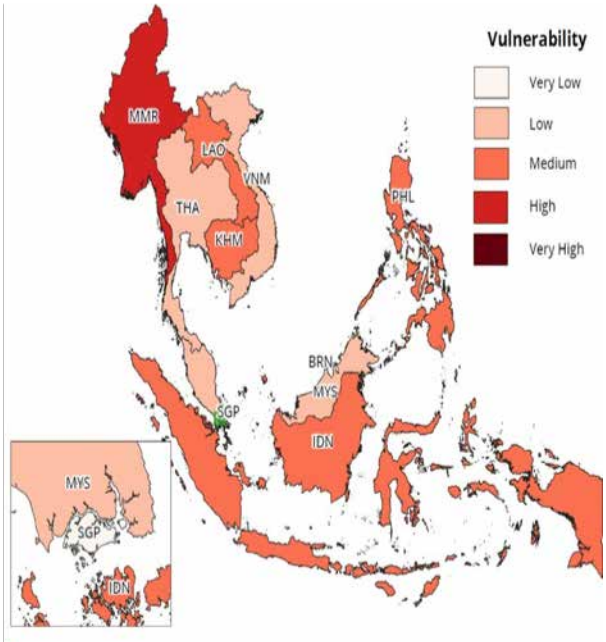


Figure 2.6

A map of the normalised average of INFORM and RVA V scores for the ASEAN Member States showing Myanmar as having high V (0.6175) and Brunei Darussalam and Singapore as having very low* Vs (0.16 and 0.086, respectively). *Based on equal intervals (0.2) of the normalised average index, which ranges from 0 to 1.*

42 Capili, A. et al. (eds.) (2020, August).
43 World Population Review (2020).
44 Ibid.

2.2 ASEAN frameworks for disaster management

The ASEAN region's diversity and frequency of disasters at times with transboundary impacts require a comprehensive and multi-layered approach from the local to the regional levels. All ten member states have detailed law and policy frameworks operationalized into complex management structures to respond to disasters according to the specifics of each country, as the case studies in Chapter 5 will illustrate for Indonesia and the Philippines. These varying types of national disaster response mechanisms operate independently but are supported at the regional level by an overarching structure.

The first regional agreement was the Declaration on Mutual Assistance on Natural Disasters issued ten years after ASEAN's establishment in 1976. However, more concrete cooperation arrangements gained momentum only after the 2004 Indian Ocean tsunami and the devastation it caused across the region. In 2005, the ASEAN Agreement on Disaster Management and Emergency Response (AADMER) was signed in Vientiane, Lao PDR. After that, ASEAN Member States worked together to develop a regional framework 'on disaster-resilient nations and safer communities', which entered into force in 2009.[45] As the primary and legally-binding regional platform for disaster management, AADMER prioritises prevention and mitigation and demands immediate responses from ASEAN countries to natural disasters in a coordinated manner[46] in order to achieve a substantial reduction of disaster losses in lives and the social, economic and environmental assets of Member States.[47] This commitment was strengthened in 2016 with the signing in Vientiane of the ASEAN Declaration One ASEAN One Response, which looks at three strategic elements (i) institutionalization and communications; (ii) partnership and innovation; and (iii) finance and resource mobilization, with the aim "to increase the speed, the scale and the solidarity of ASEAN's response" by engaging all stakeholders in ASEAN beyond governments to include civil society organizations (CSO), private sector and international organizations.[48]

The adoption of AADMER and the commitment to realise the vision of "One ASEAN, One Response" has resulted in the establishment of a phlephora of regional mechanisms on preparedness and response. As they are many (see Figure 3), a description goes beyond the paper's scope. The ASEAN Committee for Disaster Management (ACDM), composed of National Disaster Management Organizations (NDMOs) of the ten member states, is responsible for facilitating and monitoring progress on AADMER s the main regional policy backbone and common platform for disaster response through five-year work programmes, and reporting to a ministerial-level Conference of the Parties for AADMER. Implementation is entrusted to the ASEAN Coordinating Centre for Humanitarian Assistance (AHA Centre) established in 2011 as mandated by AADMER and the ASEAN Declaration on One ASEAN, One Response to coordinates all operational activities. The AHA Centre facilitates and coordinates the member states' efforts during a disaster. It mobilizes ASEAN's standby assets and personnel through the Disaster Emergency Logistic System (DELSA) and deploys the ASEAN Emergency Response and Assessment Team (ASEAN-ERAT) whenever needed in the region, and possibly in the future also outside.[49]

This extensive framework and structure for disaster preparedness is meant to provide gender- and age-responsive and inclusive social protection in disaster. As part of the 2015 Vision and the shift towards a multi-level "people-centered, people-oriented, financially sustainable and networked approach" it is stated that ASEAN's "humanitarian initiative will ensure gender equality and empowerment for women, girls, the youth, and children so that they can act as agents of their own response."[50] Disaster management in ASEAN is also supposed to be informed by larger regional programmes, such as the Asia-Pacific Economic Cooperation (APEC) DRR framework that stresses women and vulnerable sectors' inclusion in building regional resilience.[51] As noted by the recent Review of Gender-Responsiveness and Disability-Inclusion in Disaster Risk Reduction in Asia and the Pacific conducted by the Stockholm Environment Institute (SEI) with UN Women and other partners,[52] the first AADMER work plan (2010-2015)

45 Simm, G. (2018) p. 122-125 and ASEAN (2020), p. 14.

46 Simm, G. (2018) p. 122-125.

47 ASEAN (2006), p. 4.

48 ASEAN (2016a) and ASEAN (2016).

49 ASEAN (2016b).

50 ASEAN (2016a), p.13.

51 Ibid.

52 Nguyen, H., Pross, C., and Yi-Chen, J. (2020), p. 20.

FIGURE 3

ASEAN-Related Mechanisms and Platforms for Humanitarian Assistance and Disaster Relief

under upheld a commitment for inclusive disaster response and recognized:

> the unique needs and potential contributions of various groups of stakeholders, particularly children, women, older people, and people with disabilities, in the processes of disaster risk reduction, response, and recovery and the necessity to include gender perspectives, human security and social equity issues, and transparency and accountability in the Work Programme implementation and monitoring.[53]

The second workplan (2016–2020), structured along eight programmes related to risk assessment, disaster prevention and mitigation, disaster preparedness and emergency response, disaster recovery, and knowledge and innovation, was formulated in close alignment with the inclusive disaster response and protection approach of the Sendai Framework for Disaster Risk Reduction 2015-2030 (SFDRR). It also subscribed to the Paris Agreement on Climate Change, followed the 2030 Agenda on Sustainable Development including Goal 3 on gender equity, and promoted youth leadership, particularly of young women and girls.[54] In 2018, at the 32nd ACDM Meeting, the need to set priorities for women was recognized. It was also agreed to pursue new initiatives on women, peace and security, and promote gender mainstreaming in disaster management.[55]

For the period 2021-2025, the mission is to "enhance and support ASEAN's disaster risk reduction and disaster management capabilities through inter-sectoral cooperation, capacity building, scalable innovation, resource mobilisation, new partnerships, and stronger coordination among ASEAN Member States" through five priority programmes focusing on risk assessment and monitoring; prevention and mitigation, preparedness and response, resilient recovery and global leadership.[56] Most importantly in the context of this report, among the guiding principles for activities to be pursued under each priority programme to attain the set goals for the next five years 'Gender and Social Inclusion' can be found as defined below:

53 Ibid, p. 19-20.

54 UN Women (n.d.).

55 ASEAN (2016a).

56 ASEAN (2020), p. 14).

Gender and Social Inclusion: To inculcate a whole-of-society approach in disaster management that leaves no one behind by recognising the key roles and unique needs of the communities, especially those that are most affected during disasters including women, children, youth, elderly, the poor and people with disabilities as well as other vulnerable groups.[57]

Dedicated outcomes on empowerment of women and other vulnerable groups, as well as key outputs that examine women's position in the context of disaster, promote women's participation in disaster response and integrates gender and social inclusion in selected priority programmes have been formulated. Collection of disaggregated data on disaster management across ASEAN Member States to be utilized for disaster risk assessment is foreseen. The work plan further encourages women participation and leadership in ASEAN disaster mechanisms and recovery efforts and promote partnerships with other ASEAN sectoral bodies and key partners to strengthen cross-sectoral collaboration on inclusive disaster response in order to build a more resilient region.[58]

This comprehensive and operationalized workplan offers new opportunities to integrate gender and generational concerns into ASEAN disaster management and response. Furthermore, ASEAN adopted in November 2021 the ASEAN Regional Framework on Protection, Gender, and Inclusion in Disaster Management 2021-2025, which was launched at the ministerial level at the Commemoration for the ASEAN Day on Disaster Management. It will serve as the protection, gender, and mainstreaming strategy for implementation of the ASEAN Agreement on Disaster Management and Emergency Response (AADMER) Work Programme 2021-2025, and outlines a series of 28 target actions that fill in the "missing links" between disaster management, GBV, child protection, disability inclusion, and gender actors in the region.

57 ASEAN (2020), p. 25.

58 ASEAN (2020), p. 14.

Oxfam in the Philippines

3 DISAGGREGATION BY GENDER AND AGE IN DISASTER DATASETS

3.1 Disaggregation by gender and age in global disaster datasets

To be able to analyse the differential disaster-related risks, impacts and vulnerabilities of societal groups, it is crucial to consult disaggregated data. In particular, gender and age disaggregated data are essential to understand the different experiences of women, youth, children and elderly people in order to inform policy decisions, reduce disproportionate disaster risks, and build these vulnerable groups' resilience. Yet, as global reviews have indicated, currently there is a lack of disaggregated data.[59]

The Sendai Framework acknowledges the importance of disaggregating disaster data at least by gender, age and disability, but falls short of making it compulsory for countries' submissions. Not surprisingly then, a 2015 technical review of the indicators to monitor the Framework concluded that "very few countries collect disaster loss data disaggregated this way".[60] Of the countries in the DesInventar Sendai repository only 11 out of 85 countries (or 13 per cent) have any data that is disaggregated by gender or age, and when they have it mainly refers to disaster mortality.[61]

The ASEAN region is no exception in this regard. The following review of international, regional and national datasets concerning disasters in Southeast Asia show that when ASEAN Member States collect and submit disaster data, they generally do not include age and gender-disaggregated data. This, notwithstanding the fact that the systemic collection of data for disaster mitigation and prevention has rapidly expanded and improved in the last decades due to the heightened concern with the increased number and severity of disasters in the region --as presented in the previous section-- and because of the greater appreciation among policy-makers of the need to have a more solid evidence basis for risk analysis.

The lack of disaster-related data that are gender and age disaggregated is common across the various repositories, irrespective of the employed methodologies and geographic scope. Prominent sources of disaster-related quantitative data include the EM-DAT by CRED, the INFORM Risk Index, DesInventar Sendai, the ASEAN Disaster Information Net (ADInet), Analysis of Post Disaster Needs Assessment (PDNA), and national statistics and datasets. Of these, only a few have limited age and gender-disaggregated data available, not always of quality and not necessarily directly related to disaster impacts, but potentially helpful to understand women, youth and children's vulnerability in general. The availability of these scarce and incomplete data sources is summarized in Table 5, with more details provided in the following short descriptions of each source.

The Emergency Events Database (EM-DAT by CRED)

EM-DAT is a global database by the Centre for Research on Disasters' Epidemiology (CRED) on natural hazards and technological disasters. It contains essential core data on the occurrence and effects of more than 21,000 disasters worldwide from 1900 to present compiled from a variety of sources varying from UN agencies and CSOs to insurance companies and media. The objective is to provide evidence for decision-making for disaster preparedness and vulnerability assessment and priority setting, thus contributing to humanitarian action.[62] Still, age and gender-disaggregated data are unavailable in EM-DAT by CRED because the national organizations supplying the database's data do not collect and/or submit them.[63]

59 Brown, S. et al. (2019).

60 UNISDR (United Nations Office for Disaster Risk Reduction) (2017), p. 12 .

61 Brown, S. et al. (2019), p. 5.

62 EM-DAT (The Emergency Events Database) by Center for Research on the Epidemiology of Disasters (CRED) (2009).

63 Bradshaw, S. and Fordham, M. (2013).

TABLE 3

Data Sources Related to ASEAN Countries with Limited Gender and Age Disaggregation

Data source Country	DesInventar		PDNA		National Socio-Economic Statistics	
	Gender disaggregated	Age disaggregated	Gender disaggregated	Age disaggregated	Gender disaggregated	Age disaggregated
Brunei Darussalam			✓		✓	✓
Cambodia	✓	✓			✓	
Indonesia	✓	✓			✓	
Lao PDR				✓	✓	
Malaysia					✓	✓
Myanmar			✓	✓	✓	✓
Philippines				✓	✓	✓
Singapore					✓	✓
Thailand				✓	✓	✓
Viet Nam				✓	✓	

Table prepared by Rapid Asia

INFORM Risk Index

INFORM is a complex, open-source global indicator developed by the Inter-Agency Standing Committee Task Team for Preparedness and Resilience and the European Community, which identifies countries in the humanitarian crisis and disaster risk would affect national response capacity. INFORM has three dimensions: hazard and exposure, vulnerability and lack of coping capacity.[64] Each dimension generalises in different categories, and 'vulnerability', does include 'inequality' and 'vulnerable groups', but no gender and age specifics are presented except for 'infant mortality' (in general, and not disaster-related).

Disaster Inventory System (DesInventar) Sendai

The Sendai Framework works with the other 2030 Agenda agreements, including the Paris Agreement on Climate Change and the Sustainable Development Goals (SDGs) endeavour to prevent new and reduce existing disaster risks. Four priorities for action have been set: understanding disaster risk, strengthening disaster risk governance, investing in disaster reduction for resilience, and enhancing disaster preparedness for effective response, rehabilitation and reconstruction. These, in turn, have been operationalized into seven targets (A to F) to monitor Member States' efforts in reducing disaster mortality, the number of affected people, economic loss, damage and disaster risk.[65]

64 EU (European Union) (2017).

65 UNISDR (United Nations Office for Disaster Risk Reduction) (2015).

FIGURE 4

Sendai Framework and 2030 SDGs Agenda: Common Indicators[66]

DesInventar Sendai provides "a conceptual and methodological tool for the generation of National Disaster Inventories and the construction of databases of damage, losses and in general the effects of disasters." This with the aim to enable systemic and evidence-based analysis of disaster trends and their impacts in order to improve disaster prevention, mitigation, and preparedness planning and to reduce disasters' effects on the communities.[67] Its GAR (Global Assessment Report) Consolidated Disaster Loss Database uses records of disasters of geological and weather origin derived from 65 datasets covering 85 nations after applying strict quality standards.

Of the countries included in Desinventar Sendai, 18 countries are in Asia, and three are in the ASEAN region, namely Indonesia, Myanmar and Cambodia. A recent UNDRR assessment of reporting trends for the years 2018-2019 concluded that the level and quality of data Asian countries submitted online varies with some having nominal information and others mixing validated and un-validated data.[68]

The highest reported data are for target A and B on mortality and affected people respectively (see Figure 4) and "disaggregation by hazard, income, sex, age and disability is minimal". This is the case also for the three ASEAN countries in DesInventar Sendai. The disaggregated information by sex and age they submitted concerns target A and B and is indeed minimal. This can clearly be seen in Table 6 for Cambodia and Indonesia for three types of disaster reported. It has been calculated that of the total percentage of disaggregated data submitted by sex is as follows:

- 2.69 percent by age and 3.47 per cent by sex for Cambodia,
- 0,03 percent by age and 0,46 per cent by sex for Myanmar
- 0.6 percent by age and 0,79 per cent by sex for Indonesia.[69]

66 UNDRR (United Nations Office for Disaster Risk Reduction) (2019).

67 UNDRR DesInventar Sendai (2020).

68 Ibid.

69 UN Women and UNICEF (2019), p.14.

3.2 Disaggregation in regional and national disaster datasets

The ASEAN Disaster Information Net (ADInet)

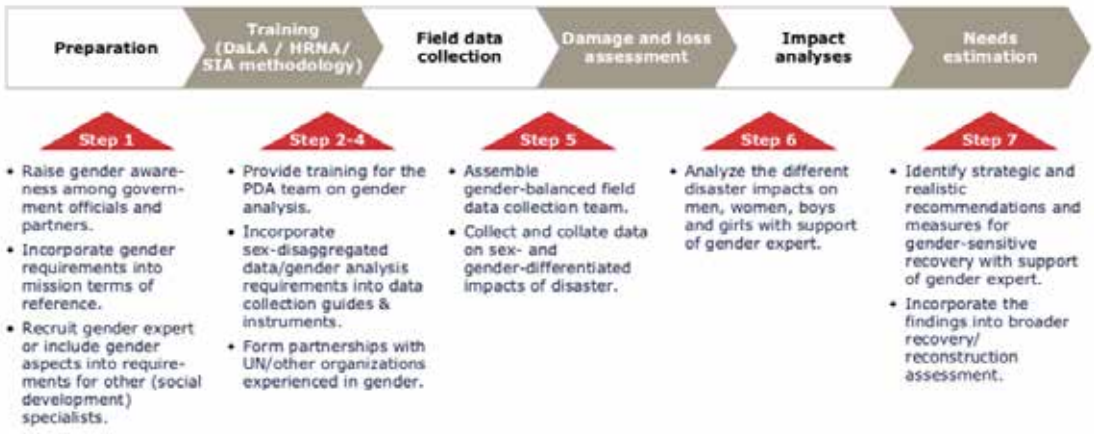
The ASEAN Disaster Information Net (ADInet) is a repository of the AHA Centre recording hazards and disasters that occurred in the region from 2012 to now. It is an open platform and information submitted by the public is validated by the AHA Centre. The submitted reports contain various type of information, but are not specifically concerned with the differential impacts of disasters.[70]

Post Disaster Needs Assessment (PDNA)

A Post-Disaster Needs Assessment (PDNA) is a government-led effort, with integrated support from national and international actors, to gather consolidated information on the physical, economic and human impacts of disasters, identify early and long-term recovery needs and priorities, and allocate required resources. PDNAs comprise two perspectives: the valuation of physical damage and economic losses caused by disaster and, based on those findings, the formulation of a holistic recovery strategy including financial and technical planning.[71]

In the PDNA, the SIA (Social Impact Analysis) section is meant to provide: "i) a better understanding of the impacts of disasters on affected communities including social accountability and negative coping strategies; (ii) the perspectives of affected communities and their key priorities, and iii) community dynamics and how these affect recovery".[72] This section allows for the discussion of the needs and concerns of women and other community groups as well as their recomendations of priorities and recovery actions. Importantly, in more recent years, gender has been identified as a cross-cutting issue due to the growing recognition of disasters'differential impacts. In the guidelines developed to help countries conduct a gender sensitive PDNA, a detailed analytical framework is presented for gender assessment for each of the four PDNA assessment elements namely: "1) pre-disaster situation; 2) effects of the disaster, including estimation of the economic value of damage and changes in flows; 3) disaster impact on the macro-economy and human development; 4) recovery and reconstruction needs, including building back better (BBB) considerations".[73] Following of these guidelines and integrating gender and diversity concerns in every step of the process as per Figure 9 is crucial to attain more equitable and inclusive disaster responses. Considering that the PDNAs support recovery planning and resourcing, the lack of gender and diversity perspectives would in fact result in gender-blind and potentially exclusive recovery intervantions.

FIGURE 5
Steps for a gender-sensitive PDNA[74]



70 AHA Center (2018a).

71 IRP (International Recovery Platform) (2008).

72 World Bank and GFDRR (2015).

73 EU et al. (2018) p. 5-7.

74 World Bank and GFDRR (2015). p. 5).

For the ASEAN region, 12 PDNAs were conducted from 2008 to 2018 following disasters in seven ASEAN Member States, i.e., Lao PDR, Viet Nam, Cambodia, Myanmar, Thailand, Indonesia, Philippines.[75] In the most recent PDNAs, countries did provide some information on gender and disaggregated data on socio-economic sectors under the SIA. Still, there is very little focus on the gender dimension of the disaster itself. No analytical linkages are further made to relate disaggregated socio-economic data to post-disaster conditions to identify the root causes of women's vulnerability and their disproportionate disaster risk.[76] With the exception of the 2015 PDNAs of floods in Myanmar and the Lao PDR 2018 that used a GIA (Gender Impact Analysis) approach, the option to provide disaster data disaggregated by gender and age has been disregarded. Gendered impact, loss and damages are not quantified. Several countries provided some qualitative and anecdotal gender and generational information, but not always consistently and no specific action was proposed to address the mentioned issues. Also, qualitative data related to social conditions and human development parameters are not available in comparable formats. Frequently, they are not readily compiled by households or at local community scales. Information on discriminated groups is succinct when available and few countries employ gender-sensitive methodologies and indicators (see Table 5 for a summary by country). The establishment of the PDNA assessment team clearly needs more gender and disaster experts, and the proposed gender-sensitive data collection and validation process is hampered by the lack of baseline disaggregated data. As the Lao PDR 2018 PDNA demonstrates, a GIA can lead to gender-responsive recovery strategies; without this gender impact analysis, PDNAs can lead to gender-blind or at best gender neutral recovery planning. This makes improvement of PDNAs' practices urgent.

TABLE 4

Gender and inclusion related issues in ASEAN PDNAs

PDNA Country/ Disaster event	Gender analysis based on primary data	Gender and age disaggregated data from national statistics		Inclusion of vulnerable groups	Disaggregated data based on age and sex	Use of gender-sensitive qualitative methods	Inclusion of gender-sensitive indicators	Gender in recovery strategies/ recommendations
		Quantitative	Qualitative					
Cambodia								
Cyclone Ketsana 2010		✓						
Indonesia								
West Sumatra earthquake 2009								
Sulawesi PDNA 2019								✓
Lao PDR								
Floods 2018		✓	✓	✓	✓	✓	✓	✓
Typhoon 2011								
Cyclone 2009								
Myanmar								
Flood 2015	✓	✓	✓	✓	✓	✓	✓	✓
Cyclone Nargis 2008								
Philippines								
Typhoon Haiyan 2014			✓	✓				
Cyclone 2009								
Thailand								
Flood 2011			✓	✓				
Viet Nam								
Typhoon Damrey 2018		✓		✓				

Table prepared by Rapid Asia

75 EU et al. (2018).

76 Ibid.

National Statistics and Datasets

Official statistics are produced by government agencies from the collection and processing of data in all major spheres of citizens's lives, such as economic and social development, population, living conditions, health, education, and the environment.[77] National statistics in ASEAN Member States have some level of disaggregation by gender and age in selected sectors, mainly in education and health. Still, no comprehensive baseline data are available to allow the identification of vulnerable groups and needs pre and post-disaster, nor there are efforts to link general socio-economic data to disaster ones when available. As a result, women are discriminated in recovery efforts. For instance, the lack of specific data on women's informal and unpaid work (including farming) implies inaccurate estimations of damage and subsequent failure to allocate compensation resources.[78]

National disaster-specific datasets in the ASEAN region are generally gender and age blind. Just to give an example, the Myanmar Disaster Loss and Damage database, hosted by the Department of Disaster Management in partnership with the United Nations Development Programme (UNDP), can filter disaster data related to deaths, injuries, missing people, victims, relocated people and evacuated people by sex (but not by age and disability). However, no disaggregated data are available.[79]

TABLE 5

National databases on disaster by the ASEAN Member States

No	Country	Institution	Started	Publically available disaggregated data by age and sex
1	Indonesia	Indonesia One Disaster Data: BNPB and National Statistic[80]	2020	In progress
2	Myanmar	Myanmar Disaster Loss and Damage database by the Department of Disaster Management[81]	2017	Not available
3	Viet Nam	Technology Application and Database Management Division, under the Disaster Management Policy and Technology Center (DMPTC).[82]	2020	In progress
4	Malaysia	Disaster portal[83]	2014	Not available
5	Thailand	National Statistic Office and the Central Disaster Management Center		Not available
6	Lao PDR	National Disaster Prevention and Control Committee (NDPCC) under Department of Disaster Management and Climate Change[84]	2015	Not available
7	Cambodia	National Committee for Disaster Management[85]		Not available
8	Philippine	The Philippine Statistics Authority (PSA): Pilot Test of Disaster-Related Statistics Framework (DRSF) in the Philippines[86]	2015	Not available
9	Singapore	The National Disaster Council		Not available
10	Brunei	The National Disaster Management Centre (NDMC)		Not available

Prepared by Rapid Asia from various sources

77 United Nation Statistic Division (UNSD), 2017.

78 Nair, T. (2018).

79 Nguyen, H., Pross, C., and Yi-Chen, J. (2020) .

80 BNPB (Badan Nasional Penanggulan Bencana) (2015) .

81 UN Women (2017, 18 May).

82 CFE-DM (2018d).

83 MyGovernment (2019).

84 ADPC (Asian Disaster Preparedness Center) and UNDRR (United Nations Office for Disaster Risk Reduction) (2019).

85 National Committee for Disaster Management, 2006.

86 Philippine Statistic Authority (n.d.).

4 GENDER AND AGE INEQUALITY OF DISASTER

4.1 Gendered and generational differentials in disaster mortality

The scarcity of disaggregated data by gender and age, as shown by the review of main disaster data sets concerning the ASEAN region, precludes a full systematic analysis of differential disaster impacts. From the literature search it appears that disaster information on gendered and generational differentials largely concerns three major disasters, namely the 2004 Indian Ocean Tsunami, the 2008 Cyclone Nargis and the 2012 Typhoon Haiyan. Moreover, it only relates to mortality, while no disaggregated data and analysis are available about affected persons and damage of properties. A possible exception is some data available on displaced persons in the 2018 Sulawesi Tsunami and Earthquake presented later as part of the case study in Chapter 5.

The greatest and deadliest disaster in the region, the 2004 Indian Ocean Tsunami is the event most studied, with literature showing that socioeconomic status, age, and sex characteristics shaped survival patterns. In the Indian Ocean Tsunami, like for most other disasters, the poorest suffered the most as their living conditions made them relatively more exposed and they lacked the necessary resources to respond. Studies also note that in Indonesia like in the tsunami-impacted South Asian countries, a larger proportion of children and older adults died than prime-age (age 15–44) adults[87] Among the adults in these countries; women had a higher mortality rate when compared to men.[88] It has been argued that physical differences (strength and stamina) between men and women may have accounted for the gendered differential in mortality, as well as their respective running and swimming capacity.[89] Women's family and occupational roles and their effort to save their children and other family members have played a role in the most affected Indonesian province of Aceh,[90] like also women's restrictive clothing. According to Oxfam, on Sundays (like when the tsunami struck), typically women stay at home with the children, while men are away from the house working or doing errands and, in coastal communities, fishing at sea.[91]

Data from the detailed longitudinal Study of the Tsunami Aftermath and Recovery (STAR) published in 2011[92] shows how multiple factors play a role in mortality patterns and gender and age differentials. For instance, in the way distance intersects with age and gender. About half the children and prime-age females died in communities within 1 km of the coast compared with about one-quarter of prime-age men. Among older women, 7 out of 10 died. The further from the coast, the age-gender gaps in mortality diminish and at 5 km inland, about 1 in 20 people died, regardless of age or gender.[93] In 20 communities with the highest mortality, more than 70 per cent of the overall population died, including over 80 per cent of women and children. Disaggregating by age and gender, it appears that in heavily damaged areas, young males in their twenties have the lowest mortality rate at about ten per cent less than females in the same age group. The gender gap is the most significant in the age range 15-45, with narrowing for children and older adults have the highest mortality (see Figure 6).[94]

87 Frankenberg, E. et al. (2011).

88 Oxfam (2005).

89 Neumayer, E. and Plümper, T. (2007).

90 Frankenberg, E. et al. (2011).

91 Oxfam (2005).

92 US DHHS (US Department of Health & Human Service) (n.d.).

93 Frankenberg, E. et al. (2011).

94 US DHHS (US Department of Health & Human Service) (n.d.).

Women constituted the majority of casualties also in more recent major hydro-meteorological hazards in the ASEAN region. During Cyclone Nargis, 61 per cent (or 85,000) of the estimated 140,000 were women and about a third (or 46,620) were children. The gender gap was the greatest among adults in the 18-60-year-old age group, with twice as many women than men dying in some severely affected villages. A notably higher proportion of girls (aged 0-5 and 5-12) died compared to boys, as shown in Figure 7.[95] The skewed adult death differential has been related to family roles with men away from home and women taking care of children and elderly relatives at home. For the younger group it need investigation whether the capacity to swim, climb or physical prowess may have played a role.[96]

FIGURE 6

Gender, sex and damage level by the Indian Ocean tsunami in Aceh

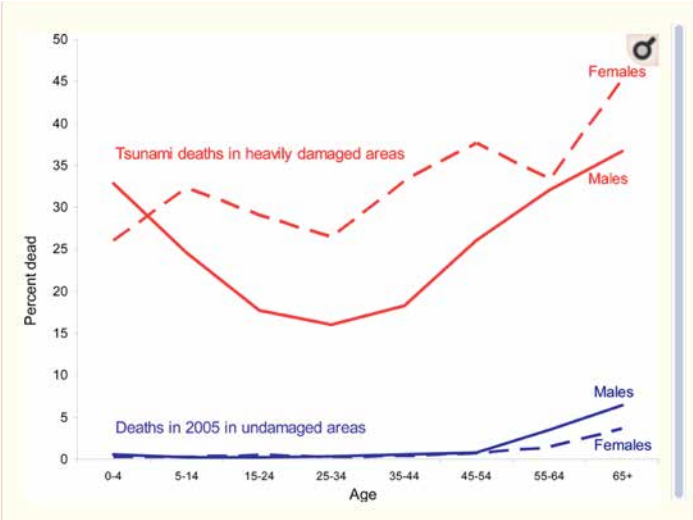
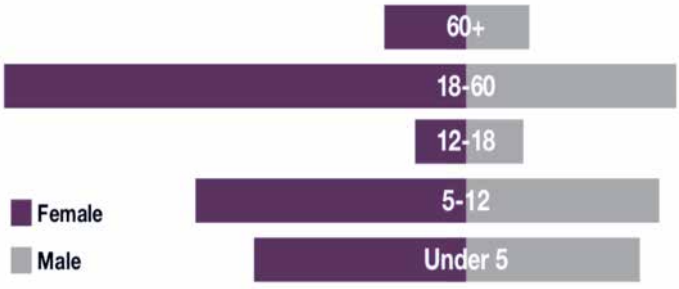


FIGURE 7

Indicative deaths by age and sex in 10 severely affected villages in Myanmar[97]



95 IFRC (International Federation of Red Cross and Red Crescent Societies) (n.d).

96 Ibid.

97 Ibid.

Estimates of Typhoon Haiyan' casualties for women reached 64 per cent in the Philippines, and mainly Leyte province according to several sources,[98] albeit in some areas there seemed not to be any significant difference and even, in some districts, more men died than women, because of the predominantly male fishing population (see also next paragraph).[99] A study looking on the longer-terms disaster impacts further found an increase in infant mortality mainly of baby girls in the 24 months after the typhoon, totalling an estimate of 11,300 female infant deaths. The authors argue that the households' economic deprivation in the wake of the disaster brings to 'disinvestment' in girls' health. Breastfeeding is likely stopped earlier for the mother to work, while malnutrition and polluted water in weaning foods can be fatal. The fact that mortality is low for first born, doubles when female infants have older sisters and double again if there are older brothers, is an indication about female infant mortality is being driven by resource scarcity within households in combination with gender values associated with girls and boys.[100]

Mortality data on other disasters is fragmented, and when reported, their source is not always clear. Still, the available observations seem to concur that in the majority of cases, women die more than men. As noted in the global literature, there are exceptions, which interestingly reflect the same gender roles in the family, but instead result with more male deaths than female.[101] For example, in Indonesia, a report of the Multi-Donor Fund for Aceh and Nias (MDF) and the Java Reconstruction Fund (JRF) noted that of all the disasters of various nature (tsunami, earthquakes and volcanic eruptions) that they covered during the period 2004-2010, only in the 2010 Mount Merapi eruption more men died than women. It is argued that men stayed behind to safeguard property and livestock as part of their 'productive' role, while women took care of evacuating the children as part of their 'reproductive' responsibility.[102] Likewise, contrary to the general pattern, in some fishing districts affected by Typhoon Haiyan, specifically Barangay 88, most of the fatalities were men who stayed to secure their houses and property.[103] The sex-disaggregated analysis of the 122 deaths during the 2015 floods and landslides in Mynamar, as reported in the PDNA (see Table 7),[104] further shows that while more girls drowned than boys, more men died of landslides and floods when compared to women. As the PDNA reports:

> The patterns of these deaths are intrinsically linked to the traditional division of roles between men and women [....] Most women, 30 out of 33 in the age bracket 15–65+ years, were swept away with children by water flowing at high velocity, or when boats capsized as they were seeking safe ground or refuge, or moving to collect fuel, food, or water—that is, while performing traditional domestic or care-giving roles. Men also drowned in high velocity waters while trying to move to safety or when houses were damaged, but they drowned under different circumstances: they were trying to retrieve goods from the waters or to take large equipment to safety; going to worksites; rescuing others; trying to swim to safety; or rowing children to school.[105]

98 APLWD (Asia Pacific Forum on Women, Law and Development) (n.d).

99 IRC and GWI (International Rescue Committee and Global Women's Institute) (2015).

100 MacKenzie, D. (2013), p. 35-38.

101 Bradshaw, S. and Fordham, M. (2013), p. 13.

102 World Bank (2012).

103 Canete, K. Z. (2018, 18 July).

104 Government of the Union of Myanmar (2015).

105 Ibid, p. 148.

UN Women/Joser Dumbrique

TABLE 6

Number and proportion of deaths in flood and landslide disasters in Myanmar

Age	Female		Male		Female and male
	Number	% of all deaths	Number	% of all deaths	Total
0-14 years	17a	14%	10	8%	27
15-64 years	33	27%	54	44%	87
0-14 years	1	1%	4	3%	5
65+ years	0	0%	3	2%	3
Total	**51**	**42%**	**71**	**58%**	**Disag**

Source: Raw data from the Relief and Resettlement Department (RRD) under the Ministry of Social Welfare, Relief and Resettlement (MSWRR) October 2, 2015; tabulated and analyzed by UN Women Myanmar.[106]

4.2 Gender and age dimensions of disasters

Descriptive information on the gender and age dimensions of disaster is somewhat more available, mostly from academic journals and reports by international and national NGOs rather than government sources. Still, it is not systematically and regularly collected, and a bias remains towards major disasters and adult populations. It also generally looks at gender as an binary category and little if any is noted on persons of diverse sexual orientations and gender identities. We also learn little about the intersection of gender and age and almost nothing about the intersection of gender and disability, ethnicity and other structural factors. As the cases in the next chapter will show, these intersections imply differentiated needs simply missing in the overall literature. As a result, it can only be concluded in agreement with a 2018 study that "the disproportionate impact of disasters on [diverse] women and girls is not well- documented" in the ASEAN region.[107]

Having said that, the review does help us identify some key topics to start understanding the multi-dimensionality of women's and girls' vulnerability and discrimination in disaster. The themes that consistently emerge in the literature, irrespective of the type of disaster, are: livelihoods and incomes; nutrition and health; education; lack of protection and gender-based violence; and access to services and aid. Among them, gender based violence (GBV) is the topic most extensively –albeit still insufficiently— studied in recent years. In examining the differential impacts of disasters as presented below, it emerges that women's and girls' greater socio-economic exposure to hazards is because of pre-existing gender inequalities exacerbated by disaster.[108] Thus, addressing women's disadvantage in disaster implies a comprehensive and transformative approach well before the disaster strikes.

106 Ibid, p. 148.

107 Nair, T. (2018) and Neumayer, E. and Plümper, T. (2007).

108 Neumayer, E. and Plümper, T. (2007).

Incomes and Livelihoods

Disasters, irrespective of the type, reduce the average incomes of --often already underprivileged-- households for years after the event. This is due to the direct damage they cause as well as the longer-term disruption of economic activities. For instance, the Indonesian Statistical Agency recorded an increase in poverty levels in 2015 and attributed 1.1 million additional poor households to El Niño and price increases due to shortage of food staple.[109] Available information neglects urban settings and mainly concerns disasters' impacts on rural communities. For people in the countryside, destruction of agriculture processes and related assets (including land and livestock) is the most detrimental disaster impact as it reduces households' incomes and opportunities for subsistance.[110]

In this context, women are impacted to a greater degree than men with disasters exacerbating their higher vulnerability to chronic poverty due to "gender inequalities in the distribution of income and access to credit, and unequal control over the property and natural resources"[111]—conditions that are often overlooked in post-disaster assessments and recovery efforts.[112] In Thailand, the gendered division of labour in small-scale agriculture places women and girls at greater climate-induced heat stress risk.[113] In Indonesia, in the aftermath of the 2018 Sulawesi Earthquake and Tsunami, women lost food gardens, a crucial source of food for the household and of additional incomes when there is surplus.[114]

The marginalized position of women in agriculture also hampers their capacity to recover and restart economic activities.[115] For Viet Nam, similarly to other ASEAN countries, it has been noted that since women are mostly involved in smallholder farming and subsistence agriculture, they have more limited access than men to credit, extension services and other necessary resources.[116] This also because land and home titles are generally in the men's names. Loss recording and related compensation is inherently biased in that it prioritises bigger assets, such as land, buildings and large equipment generally owned by men. In contrast, domestic and farm utensils or home livestock owned by women are generally not recorded, so their losses become 'invisible'.[117] Only in a few cases, PDNAs specifically mention gendered losses. For example, after the Myanmar floods in 2015, it was recorded that 80 per cent of the livestock lost to floods belonged to women,[118] but it is not clear whether women's specific intervention were formulated in recovery.

Meanwhile, women's capacity to work and earn incomes outside of the household may become more restricted by the increased domestic burden. In the aftermath of disasters in Indonesia, women were the ones entrusted with caring for sick and injured family members and neighbours, and they had to spend more time nurturing their children when schools were destroyed or closed. In some cases, household cores, such as fetching water or cooking, took them more energy and time in the post-disaster settings.[119]

At the same time, post disaster migration can also open up new gender roles in disaster recovery. For instance, in Viet Nam, a common coping strategy for households has been for men to migrate, with women taking over traditionally male roles.[120] However, some observers contend that these compulsory changes, in Viet Nam as in other countries, may not be sustained over time. Women may end up overburdened with both their usual domestic tasks and those previously carried out by men, without time or support to acquire the necessary capabilities to fulfil 'men's roles' adequately.[121] Reports of various disaster events across the region also observe that widows and single women are among the most vulnerable. In Sulawesi, Indonesia, widows and single mothers were among the poorest members of the community and had "difficulty purchasing essential goods such as food or water and getting help to (re)construct shelters and are at high risk of sexual exploitation in exchange for such resources".[122]

109 BNPB (Badan Nasional Penanggulan Bencana) (2015).

110 UNESCAP (United Nations of The Economic and Social Commission for Asia and the Pacific) UNISDR (2010).

111 Oxfam (2012), p. 2.

112 ASEAN and UN (United Nations) (2017).

113 Croppenstedt, A., M. Goldstein, and N. Rosas (2013), p.16.

114 Cole, H. (2018).

115 UNESCAP (United Nations of The Economic and Social Commission for Asia and the Pacific) UNISDR (2010) .

116 UN Women (2020).

117 Bradshaw, S. and Fordham, M. (2013), p. 14.

118 Government of the Union of Myanmar (2015).

119 World Bank (2012).

120 ASEAN (2016a).

121 UNESCO (2006).

122 Cole, H. (2018), p. 1.

Economic loss is often estimated at the household level rather than the individual level.[123] In comparing female-headed and male-headed households, the first appear more disadvantaged. For instance, in the urban and peri-urban setting of Metro Manila in the Philippines, studies showed that female-headed households had a more difficult time recovering and rebuilding their assets from disaster than male-headed households.[124] An assessment following Cyclone Nargis identified a rise in the number of female-headed households, the majority of them headed by widows. These households made up the highest proportion of low-income groups, with many still in debt to relatives and friends and with 60 per cent living in unsatisfactory shelters. Children in these households also had to stop schooling because of the costs and to contribute to household labour.[125] The same fate also befalls children from most impoverished families affected by intensive drought in Myanmar and Lao PDR, as discussed below.[126]

Education

Disasters impact the education sector damaging the often fragile school infrastructure in rural and peri-urban areas and interrupting educational programs and children schooling in multiple ways. Apart from the buildings being ruined and children getting injured or dying, educational supplies including text books, teaching aids and recreation kits also get destroyed. Traumatized parents become afraid to send their children back to school[127] when schools restart to function. As said above, families may also lack the incentives to keep children in schools in post-disaster conditions of scarce human resources and diminished incomes. When it comes to choices, it is often girls who first have to drop out of schools.[128] In the wake of Cyclone Nargis, for instance, the dropout rates were 34.7 percent for boys and 42.3 percent for girls. Inability to cover fees and other school expenses and need to supplement the household incomes were mentioned by 80 percent of the children as the reasons for their having to leave school. Boys were relatively more successful than girls in finding a job due to labour conditions[129] and because girls were needed at home. In post-disaster settings across Southeast Asia, it is in fact common for girls to take over domestic and caring tasks due to the need to attend sick and injured people, or because mothers have to work outside the home.[130] Increased time to fulfil small-scale agricultural tasks is another reason for children, particularly girls, to miss classes or drop out from school altogether.[131]

Early marriages and pregnancies have also been identified as a significant cause for girls to stop schooling. A feature observed across the ASEAN region is the surge of early marriages in the wake of disasters as one of the poor households' coping strategies and due to increased demand by male widowers following the death of many adult women. A multi-country study of the International Federation of Red Cross and Red Crescent Societies with ASEAN and other partners with a survey of 1,779 disaster affected individuals (846 men and 933 women) across three countries, found that 18 percent of respondents in Indonesia "reported that women and girls felt distressed by the rise in child marriage post-disaster".[132] Comparative figures in the Philippines were as high as 30 percent and 47 percent in Lao PDR.[133] The same study also highlights that the risks of SGBV are exacerbated during disaster situations, as discussed in more details below. In the context of education, it is important to stress that fear of violence also keep girls away from schools in situations where a temporary building is far, and no safe transportation is available. The lack of clear SGBV-prevention policies and enforcing mechanisms in the temporary schools, as frequently the case after disasters,[134] is also seen as contributing to girls' absenteeism.[135]

123 Bradshaw, S. and Fordham, M. (2013), p. 14.

124 Ibid.

125 WP TWG (Women Protection Technical Working Group) (2010).

126 Carmi, D. (2016).

127 UNICEF (2005).

128 WP TWG (Women Protection Technical Working Group) (2010), p. 14.

129 Ibid.

130 EU et al. (2018).

131 Ibid.

132 The survey question was "if any incidents caused women and girls distress after the disaster.

133 IFRC and ASEAN (2018) p. 11-12.

134 IFRC (2017).

135 IFRC and ASEAN (2018) .

Nutrition and Health

The reduction of agricultural production following disasters limits access to sufficient and nutrient-dense food, especially for poor populations. Deteriorated and unhygienic conditions also play a role in malnutrition as the 2016 ASEAN regional report on nutrition states:

> Natural disasters such as earthquakes, floods and tsunamis are associated with food shortages, lack of safe drinking water, inadequate health-care systems, overcrowding, poor hygiene practices, and breastfeeding abandonment. Such situations, invariably translate into a rapid increase in acute malnutrition cases and worsen pre-existing nutritional deficits of the most vulnerable populations.[136]

When combined with inequitable gender and generational factors, this general situation results in greater exposure of women and children to food shortfalls and deprivation. For instance, during the 2016 El Niño-induced drought and saline intrusion in Viet Nam, it was estimated that 520,000 children and a million women experienced a shortage of water and food, which exacerbated malnutrition prevalence and communicable diseases.[137] Biased cultural practices also play a role, such as the societal expectation in many ASEAN countries that mothers waits for their husband and children (boys before girls) to eat first. As a result, in post-disaster situations of food scarcity, women and girls are left with smaller and less nutritious portions.[138]

Health risks are also great for pregnant or lactating women due to the lack of clean water, hygiene supplies, reproductive health care and safe birth facilities. Pregnancy numbers can be significant in large disasters. For the 2018 Sulawesi Earthquake and Tsunami, Jejaring Mitra Kemanusiaan (JMK), a network of local and international organizations, estimated that 45,300 women out of the 352,000 impacted women in reproductive age were pregnant, 13,000 were expected to deliver within three months, and 2,100 would require emergency care due to expected complications.[139] However, health services had been heavily impacted, with 68 per cent reported as not functional a week after the disaster, and were overwhelmed with injured people in addition to regular patients. The death of local health personnel worsens the picture. During the tsunami in Aceh, it was estimated that 1650 midwives died or were missing, representing a third of the entire personnel in the province.[140]

Unwanted pregnancies and other reproductive health issues also deserve attention. A lack of, or diminished access to contraceptives, is a severe concern for disaster-affected people who do not intend to become pregnant in such uncertain circumstances.[141] Another worry is about sanitary necessities during menstruation as sanitary kits, including menstrual pads, distributed by national agencies and local and international organizations, are not always sufficient or available. Some of the sanitary kits also had to be adapted to meet the context-specific needs better. After the tsunami in Aceh, for instance, sanitary kits came to include long-sleeved blouses or shirts, headscarves, sarongs, underwear, and prayer mats in addition to the standard hygiene goods.[142] Moreover, the destruction of latrines may lead to inadequate access to safe, hygienic, and private sanitation facilities like in the 2015 floods and landslides in Myanmar, which was "a source of shame, physical discomfort, and insecurity for women and girls, particularly those menstruating, pregnant, or lactating".[143] Privacy and sanitation are scarce resources also during evacuation, with girls and women feeling uncomfortable, insecure and unsafe due to inadequate arrangements in temporary settlements (see also below).

The difficult disaster and post-disaster conditions cause a high level of stress that affect women's mental health. Eighteen months after Cyclone Nargis, an assessment revealed that a large majority of female respondents still had mental health issues, and felt depressed (32.9%), confused (22.9%), hopeless (21.9%), angry (6.4%) and had no desire to plan for the future (3.9%). Men responded to disaster-induced stress differently and were coping with an increased use of alcohol and drugs[144] –a behaviour also found in other post-disasters settings.[145]

136 Ibid.

137 EU et al. (2018).

138 EU et al. (2018).

139 JMK (Jejaring Mitra Kemanusiaan) (2018).

140 Carballo, M. et al. (2005).

141 JMK (Jejaring Mitra Kemanusiaan) (2018).

142 Carballo, M. et al. (2005).

143 Government of the Union of Myanmar (2015), p. 14.

144 Ibid.

145 WP TWG (Women Protection Technical Working Group) (2010), p. 66.

Protection & Sexual and Gender-Based Violence (SGBV)

There is evidence that emergencies increase the risk of violence against women and girls due to the breakdown of family and social structures, unsafe temporary housing arrangements and the disruption of law enforcement and protective systems. A lack of personal resources or social support may also augment women's dependency during disaster times, compelling them to endure abusive relationships.[146]

The Philippines has been leading the way in putting SGBV on the disaster agenda. In a country with high SGBV levels, recurring disasters "mean that women and girls face continued cycles of heightened risks of violence".[147] Among young women aged 18 to 24 years in the areas impacted by the 2012 Typhoon Bopha in Mindanao, for instance, nearly one-quarter experienced intimate violence in their lifetime, during or directly after the typhoon throughout the long-standing conflict. Other cases of SGBV included rape, human trafficking, and commercial sexual exploitation of children. Similarly, Typhoon Haiyan increased pre-disaster SGBV levels and fostered girls' recruitment from impoverished families for prostitution and forced labour. When thousands took shelter in the Tacloban Astrodome traffickers lured women and young girls with food and aid supplies.[148]

A gender assessment conducted by Oxfam in collaboration with local and international partners in camps for displaced people few months after the Central Sulawesi 2018 Earthquake and Tsunami, also recorded an increase of SGBV along with a possible increase in early marriages in attempts to secure additional resources and offset disaster impacts.[149] Sourced data from the Office of Women's Empowerment and Child Protection (DP3A) in Central Sulawesi's capital Palu indicated that the dominant SGBV types consisted of: attempted rape, sexual harassment, and domestic violence including child abuse.[150]

Evacuations and relocations can also increase risk. For example, during the 2013 floods in Cambodia, women and girls evacuated to so-called safety areas, shelters and temporary housing expressed concern that their privacy was not protected and felt insecure, unsafe and at risk of being abused by 'strangers'.[151] As a representative of Kep Province Provincial Department on Women's Affairs stated:

> As you know, women are aware that they should go to 'safe places' or evacuation sites when natural disasters happen. But how safe is 'safe places'? During these situations, couples fight, which may lead to domestic violence; or parents leaving their children to find food, making them vulnerable to rape by strangers or other people in the evacuation areas. These are possibilities.[152]

In other countries too, similar situations occur. In the aftermath of Cyclone Nargis, evacuation facilities were experienced as gender insensitive lacking separate rooms for women; sleeping quarters were hardly segregated, no trash bins for women's sanitary napkins, and no separate shower rooms for women.[153] In the wake of the 2018 Central Sulawesi Tsunami and Earthquake as discussed also in the next Chapter, conditions were unsafe with almost no electricity, overcrowding and no privacy or security as people had to stay in the open space or only tents. The shared toilets without adequate lighting and at more than 20 minutes walk from the shelter heightened the risk of SGBV.[154] Likewise, in the Philippines, the post-disaster assessment concluded that evacuation centres and relocation sites were perceived as unsafe for women and girls. There was a need to enforce more vigorously the Philippines' Magna Carta of Women on Women Affected by Disasters, Calamities and other Crisis Situations (Further, Section 13 of RA 9710), which states that evacuation centres and relocation sites should ensure:

146 Ibid.

147 IRC and GWI (International Rescue Committee and Global Women's Institute) (2015), p. 20.

148 Ibid.

149 Fatimah, D. And Roberts, F. (2019).

150 Ibid, p.17.

151 Ibid, p. 38.

152 ASEAN (2016a).

153 Ibid, p. 84.

154 Fatimah, D. And Roberts, F. (2019).

(1) security and safety of women as key criteria for selection of evacuation sites; (2) separate functional and well-lit latrines for men and women with locks; (3) bathing facilities with privacy; (4) regular security patrols preferably by female police officers; and (5) prohibition of alcohol, drugs and gambling, among others.[155]

Risks of domestic and intimate partner violence seems to be particularly exacerbated in disaster situations. In the previously-mentioned multi-country study of the International Federation of Red Cross and Red Crescent Societies in Indonesia, Philippines and Lao PDR, along with feeling worried about early marriages, respondents had heard or felt distressed about the increase in domestic violence.[156] Explanations of men's greater tendency to engage in aggressive behaviour toward their wives, partners, and children during disaster at times fail to stress that SGVB is never justified and that its root cause is unbalanced gender values and relations. Focus tend to be on the more visible contributory factors of emotional stress (including alcohol intake) and economic hardship.[157] The increase of domestic violence cases in Banteay Meanchey and Svay Rieng during and after the 2013 floods, for instance, is seen as revolving around economic matters and due to higher alcohol intake by men, who according to women's organisation, drink more because of their having more time in their hands.[158] This and similar explanations are important as they reflect people's perception and may help in formulating control interventions. However, there is a risk that more transformative approaches are passed over and short-term actions (say restoration of potable water and sanitation facilities to avoid domestic conflicts) are seen as 'the' solution to domestic violence, and more generally SGBV, in disasters and beyond.

Access to services and aid

Women are also discriminated in the provision of disaster relief. They tend to have more limited access to recovery aid, and their specific protection needs are insufficiently met by the services provided, similarly to what previously discussed in relation to health and evacuation services. In Central Sulawesi, a recent post-disaster gender analysis noted that, because of the dominant gender roles, women and girls were dependent on their husbands and other male relatives for information on support sources and were more disconnected from assistance and services.[159] Similarly, in Thailand, the PDNA conducted after the 2011 floods, found that the government's cash-for-work scheme followed dominant gender roles and therefore limitd participation of women. Women in the affected areas felt excluded from temporary work opportunities because the program focused on heavy work usually done by men, except for cooking activities. The provision of agricultural inputs, such as seeds and tools, also seemed not to have considered women's productive roles or needs. This situation was partly related to the fact that women were initially not included in the post-disaster assessment process.[160]

Elderly women, as generally also older people, are often missed by relief efforts, which increases their dependency on younger household members. For those living alone, the lack of relief is more direly felt. For instance, after the 2009 earthquake in Padang, Indonesia, many older people found themselves without a home and care and at a loss of how to access relevant information—no wonder that their recovery took longer when compared to younger people.[161]

A strong bias across the ASEAN region is that assessment processes and consequently relief focus on households and that men are considered the household heads. This approach limits access to aid for female-headed households and determines the type of aid offered according to men's priorities. As an example, across disaster-prone West Sumatra due to widespread male migration, the many de-facto female-headed households (especially when lead by older women) were missing available disaster support until gender-sensitive policies were applied.[162]

155 ASEAN (2016a).

156 IFRC (2017), p. 11.

157 Tanaka, Y. and Nonoguchi, A. (2016).

158 Chanthy, S, and Samchan, H. (2014, January).

159 Cole, H. (2018).

160 World Bank (2012), p. 3.

161 BNPB (Badan Nasional Penanggulan Bencana) (2015), p. 25-26.

162 Oxfam (2012), p.2.

T efib `^pe mo l do^ j j fkd fk e r j ^kfq^of^k ` l kqbuqp mobpbkqp j ^kv kb t l mm l oq r kfqfbp) bumbofbk`bp ab j l kpqo^qb the need for pqo l kd ^qqbkqf l k q l dbkabo avk^ j f`p+ In the Philippines, following Typhoon Haiyan, researchers noted that in livelihood assistance programmes, "the women seemed to be used as an entry point for aid organizations to reach out men and their children" and that lsuch programmes "tended to utilize women as superficial beneficiaries to fill the demand of funding organizations".[163] P r `e bu^ j mibp efdeifdeq qeb `ofqf`^ifqv l c obabpfdkfkd fkfqf^qfsbp in such a way that fosters greater women agency) ^ka c l ii l t fkd bpq^_ifpeba d l l a mo^`qf`bp c l o `^pe mo l do^ j j fkd. UN Women e^p f j mib j bkqba dbkabo*obpm l kpfsb `^pe ^ka s l r `ebo mo l do^ j j bp that enhance women's capacity to meet immediate post-disaster needs, while empowering them to decide on the use of cash for the most urgent household needs and create assets. In Viet Nam, UN Women recently assisted women with unconditional cash support during the floods emergency and is planning to continue in the early recovery phase. In the Philippines, Indonesia and Myanmar, cash transfer projects to alleviate the impacts of the COVID-19 pandemic are giving encouraging results in fostering women's participation and leadership.[164] These efforts if proven successful may serve as model for other disasters since, as discussed in the next section, there is still much that can be done to strenghten women's resilience and participation in the ASEAN region.

Women's Resilience and Participation

Women's resilience and participation are two aspects of gender transformative and social inclusive disaster response that is often cited in the literature but are somehow poorly documented in the ASEAN region and beyond. In stressing gendered vulnerability, studies often portray women merely as victims, failing to highlight their resilience in life and disasters. As some concerned observers note, there needs to be greater recognition that gender shapes capacity as well as vulnerability, and that women possess unique knowledge, capacities and resources essential to hazard reduction and disaster management.[165] Therefore, investment in women's resilience and capacity is vital not only to women, their families and communities, but also to managing the risks of climate change and disasters.[166]

Women's Resilience

Experiences from many disasters in the ASEAN region indeed show that women play a crucial role before disaster sharing information and contributing to the preparedness of their families and communities; during disasters in saving lives of their children, parents and others; and after disasters as providers -- including providers and managers of clean water[167]--, care-takers of sick and persons with disabilities, and community organizers.

Women and girls contribute to nurturing and restoring community life.[168] In Indonesia, women have been found to be effective in disaster response due to their their resilience in facing critical conditions and because of their capacity to identify and meet their family's basic needs.[169] The 2006 Yogyakarta Earthquake saw women ensuring food and water supply, operating community kitchens, and providing health care, trauma healing and caring for survivors, the sick and the dying. Women with disability were also involved in extending care to other women with disability.[170] Older women were an important resource for their affected female relatives seeking advice and played a key role in providing psycho-social support.[171]

163 Tanaka, Y. and Nonoguchi, A. (2016), p. 34.

164 Email communication of UN Women Thailand with Rapid Asia on 19 February 2021.

165 Mehta, M. (2007), p.19.

166 GGCA (Global Gender and Climate Alliance) (2016).

167 Ibid.

168 Kusumasari, B. (2015).

169 Ibid.

170 BNPB (Badan Nasional Penanggulan Bencana) (2015), p. 24.

171 AICHR (ASEAN Intergovernmental Commission on Human Rights) (2018).

Observations of post-disaster situations in Indonesia, the Philippines and Viet Nam also concur that women's roles were significant in leading and organizing resilience actions to disaster, especially at the local level.[172] Their social skills and informal networks served to seek food, fuel, and temporary shelters and to voice their family and community demands for help.[173] In Kep Province, Cambodia, for instance, were women who informed the authorities on the family needs, including health and waste management during the two-week permanence in "safe places".[174]

At the community level, in regular times, the majority of health and community volunteers are women and they can be quickly deployed after disaster.[175] Slowly, some of the grassroots women organizations in the ASEAN region (for instance in Indonesia, the Philippines, and Viet Nam) are starting to collaborate more formally with local government units "to assess, prioritize, negotiate, and influence resource allocation for resilience investments targeted at vulnerable communities".[176] More generally, women groups and other civil society groups and non-governmnt organizations (NGOs) lead by women are involved during mitigation and rehabilitation efforts. In Banda Aceh, six months after the tsunami, the large majority or 70 percent of civil society organizations providing relief assistance and services were women's groups or women-staffed organizations. Yet, they were not given due representation in decision-making disaster management bodies nor recognition[177]-- a situation common also to other ASEAN Member States as shown below.

Women's Participation

The inclusion of women into the entire cycle of disaster risk decision-making both at the national and local level is vital for implementing effective disaster risk governance and resilience and for challenging the system that perpetuates gender inequalities. At present, however, opportunities for women's participation in disaster risk management remain limited due to socio-economic factors, cultural traditions, and legal and institutional barriers.[178] As a result, women and girls are not adequately engaged, despite their capacity to act as valuable agents of change.[179]

Lack of women's participation can aggravate the loss of lives. In many ASEAN Member States, women and girls have had less access to disaster preparedness training and emergency simulation drills. Greater efforts are being made to reach inclusion for the new generation with programs such as the ASEAN Safe Schools Initiative (ASSI) established in 2013 to prepare boys and girls for disaster.[180] In some countries, like Myanmar, it was found that greater isolation and less engagement in community activities implied less awareness of early warnings.[181] The absence of women among humanitarian and rescue workers can also compromise lives in situations, like in Aceh during the 2004 Tsunami,[182] where some women shied away from rescue to avoid contact with men, especially when they perceived themselves to be in 'indecent' attire. And yet, it has occurred in various settings, including after the floods in Myanmar,[183] that female humanitarian workers' participation was restricted by discriminatory practices citing safety reasons or cultural views on women's perceived weakness.[184]

More generally, lack of women's participation leads to low prioritizing if not outright overlooking of women's specific needs. In the aftermath of Typhoon Haiyan, women and girls and local women's groups were not adequately consulted, which resulted in lack of understanding of the gendered disaster impacts and limited involvement of women's groups in recovery efforts. Even if later efforts tried to engage them, women's initial absence meant that their specific needs had

172 GGCA (Global Gender and Climate Alliance) (2016).

173 Nair, 2018, p.10.

174 ASEAN (201a), p. 38.

175 AICHR (ASEAN Intergovernmental Commission on Human Rights) (2018).

176 GGCA (Global Gender and Climate Alliance) (2016).

177 Chew, L. and Ramdas, K. N. (2005), p. 3.

178 Twigg, J. (2004, March).

179 Ibid.

180 ASSI (ASEAN Safe Schools Initiative) (2019).

181 Phyu, N. P. and Myo, K. M. M. (2016).

182 Nair, T. (2018), p.11.

183 Phyu, N. P. and Myo, K. M. M. (2016).

184 Ibid, p. 7.

already become 'invisible' when deciding allocation priorities and thus could not be resourced.[185] A study of four countries, including Indonesia, the Philippines, and Thailand, further confirms that a lack of participation by women in disaster relief management led to the overlooking of women's hygienic needs and of the health needs of pregnant and breastfeeding women.[186]

Slowly, there is greater recognition of the value of greater women participation and leadership in disaster. A precursor, at the community level, has been Oxfam, which in the early 2010s begun to enable programmes in selected countries in the ASEAN region, namely Cambodia, Indonesia, Myanmar and Viet Nam, which were directed at "overcoming the disproportionate vulnerability of women in disaster-prone areas and making use of their capacities".[187] Examples of this work include the building of women's leadership and participation mechanisms in the Village Committees for Disaster Management (VCDMs) as part of the Takeo flood mitigation programme in Cambodia and the fostering of women's participation in village disaster preparedness teams in floods-prone North Lombok in Eastern Indonesia.[188] Today, a variety of small-scale programmes are being implemented across the region that aim to foster women's inclusion at least in local communities, including through organizations such as the Lao Women's Union and Viet Nam Women's Union.

At the national level, few countries have appointed gender officers in disaster risk reduction committees and bureaucracies. For instance, in Thailand, a gender focal point has been mandated in the Department of Disaster Prevention, and Mitigation (DDPM) and collaboration with the Office of Women's Affairs and Development is ongoing.[189] There is also more attention for the still skewed representation of women in disaster management bodies. Recently, a report by the Asia Development Bank stressed that along with collection and analysis of sex-disaggregated data and a rights-based approach, there is a need for 'women-focused investments' and inclusive processes that engage women at all levels of decision-making in order to attain climate and disaster resilience.[190]

To realize this intent and shift attitudes about women's capabilities in disaster (and in general) is a long-term and challenging process as it implies the change of deeply-ingrained biased value systems. Pre-disaster exclusion from decision-making processes limits women's potential to express their views and fully participate when opportunities arise, as this testimony from Cambodia makes clear:

> In Cambodia, participation and engagement of women are still low — it is not yet the norm; it is not yet recognized by the society that is still dominated by men. Therefore, in most instances, it is still difficult to ask women what they need pre-, during, and post-disaster, what exactly are their problems, their challenges. In practice, it is good to initiate planning at the local level, but we still need to strengthen practices where women can really be part of this process. But there is still a reluctance to make women part of the process in village levels, as this reflects the same reluctance of society to recognize the importance of women's participation in management and decision-making. That is why women do not seem to be more engaged in the process.[191]

Empowerment of women and their full-participation in disaster risk management requires substantial societal changes in attitudes and beliefs about gender roles and relations at the community and higher levels before, during and after disaster. In turn, this demands gender-transformative approaches that are at the moment sorely lacking in development programmes as well as disaster risk management in the ASEAN region.

185 IRC and GWI (International Rescue Committee and Global Women's Institute) (2015), p. 15.

186 APEC (Asia-Pacific Economic Cooperation) (2009), p. 34.

187 Oxfam (2012a), p. 3.

188 Oxfam (2012a), p. 3.

189 ASEAN (2016a), p.114.

190 ADB (Asian Development Bank) (2020).

191 AICHR (ASEAN Intergovernmental Commission on Human Rights) (2018), p. 39.

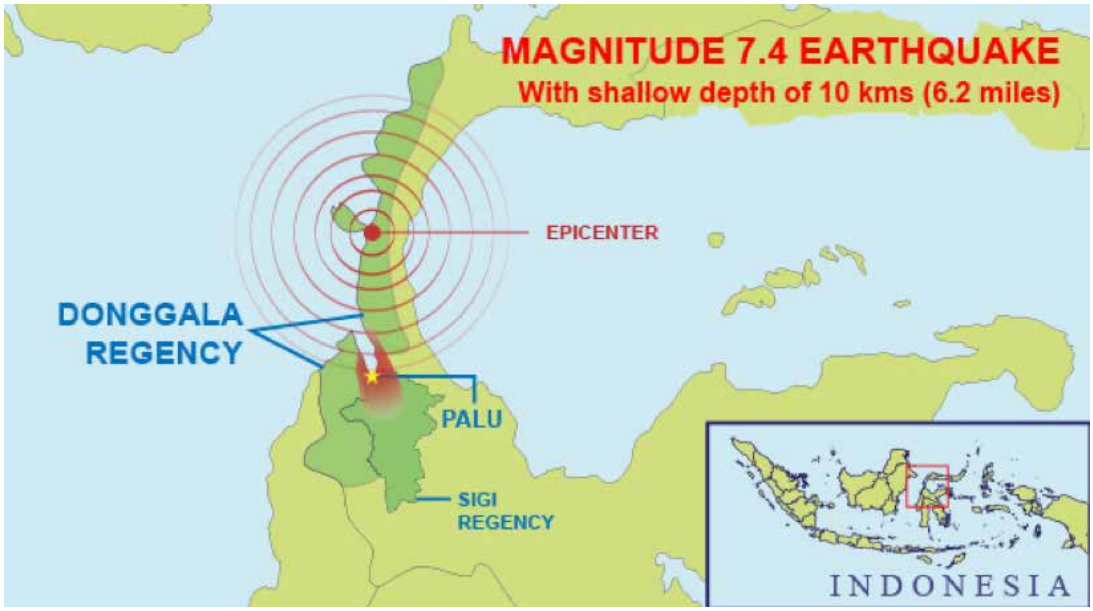
5 CASE STUDIES ON DIFFERENTIAL DISASTER IMPACTS

5.1 The 2018 Central Sulawesi earthquake & tsunami

The Indonesian study case focused on Central Sulawesi in between the southern and northern part of the island of Sulawesi, and more particularly on the provincial capital of Palu, and Sigi regency, south of Palu city. Both these locations were badly affected when on 28 September 2018, a series of earthquakes and aftershocks struck the island. The strongest earthquake with a 7,4 magnitude triggered a near-field tsunami, massive soil liquefaction and mudslides in Palu municipality and the two regencies of Donggala and Sigi (Figure 8) with impacts also felt to a lesser extent in the Parigi Muontoung regency. According to the National Disaster Management Agency, at the end of the emergency period on 26 October, the disaster had killed 2,087 and injured 4,400 people out of a population of 1.2 million people before the disaster. Another 1,084 people were missing, over 211,000 people were displaced across Central Sulawesi into informal settlements and in tents outside of their homes and almost 20,000 had left to other provinces.[192]

FIGURE 8

Map of the the epicenter and impact zones of the 2018 Sulawesi Earthquake[193]



192 REACH (2019, February).

193 Aprilia, K. (2018).

The disaster also caused wide-spread devastation of infrastructures and buildings, destroying an estimated 15.000 houses totally and 17,000 houses severely, with an additional 35,000 families needing emergency shelter.[194] in Sigi regency, massive soil liquification –considered to be one of the largest occurrence of this rare phenomenon globally-- and the mudflows that followed, submerged buildings and made land unproductive. Formal displacement sites and informal settlements were mainly located in Sigi and Donggala. However, it soon appeared that only a small percentage of the displaced households were in the settlements. As a REACH assessment found four months after the disaster, only 9 percent of the 26 percent displaced households were staying in the informal settlements, which had been targeted by interventions. The remaining displaced households were hosted by other households or stayed in houses provided to them by their acquaintances (about 10 percent) or lived in tents outside of their homes (5 percent).[195] Material damage by the disaster was calculated at about US$ 910 millions, but economic repercussions can be expected to have been much larger as the main productive sectors, agriculture and fishery, were distrupted and many farmers and informal workers lost their, already precarious, livelihoods. Psycho-social consequences are unquantifiable as this MVI's quote testifies:

> On 28 September 2018, I worked at the Palu Nomoni Festival at the beach when the earthquake occurred. I was thinking of tsunami coming soon, and I tried to run, but it was too late and I was carried away by the wave. Someone helped me and took me to the hills till late at night. Covered in mud, I managed to go home, but my house was destroyed, so I went to the shelter. I still feel traumatized when I think about it.[196]

The 2018 disaster was not the first to strike Central Sulawesi, but its impacts surpassed previous disasters, among the most notable the earthquake in 2005 in Palu, the 2008 earthquake that rocked Buol regency, and the 2012 earthquake in Sigi and Parigi Moutong regencies. Based on the Indonesian Disaster Risk Index, Central Sulawesi is considered a province at high risk with a score of 158. The districts affected by the 2018 Earthquake and Tsunami were also classified as multi-threat risk zones.[197] The province has also experienced sectarian and arm conflict, of which the most serious was between the Muslim majority and the Protestant minority in Poso regency following the fall of then President Soeharto, in December 1998 When the conflict ended in December 2001, more than 1,000 people had been killed and about 110,227 had become refugees mainly to Palu regency.[198]

National and Provincial Responses

The government-led response followed established procedures as mandated by the 2007 Disaster Management Law No. 24 and overseen by the national disaster agency BNPB, which was founded in 2008 as the primary agency responsible for coordinationg disaster preparedness, emergency respond, prevention and mitigation, and rehabilitation and recovery. Along these six disaster phases and corresponding actions, BNPB employes an intersectoral approach structured in a so-called national cluster (Klaster Nasional, KlaNas) with eight operational areas supervised by line ministries, namely search and rescue operations, logistics, shelter and protection, facilities and infrastructure, health, early recovery, economy and education (see Figure 9). In line with the Law, disaster management was entrusted to the provincial and regency governments in the affected zones and particularly to the provincial and regency BNPN chapters, integrated in local government programmes and carried out according to the national cluster structure and derived guidelines. In particular, the Central Sulawesi provincial administration's disaster response was formulated in three phases. The initial emergency response stage, where humanitarian relief was provided (28 September 2018 - 26 December 2018), was followed by a rehabilitation stage lasting two months (26 December 2018 - 23 February 2019), and finally a reconstruction stage expected to last two years (23 February 2019 - 23 February 2021). During the just ended reconstruction phase, the provincial government is working to rebuild areas and communities affected by disaster according to an intersectoral and inclusive approach that involves disaster victims, experts, NGOs representatives, and the business sector.[199]

194 REACH (2019, February), p. 1.

195 REACH (2019, February).

196 Female MVI Interviewed on 14 December 2020.

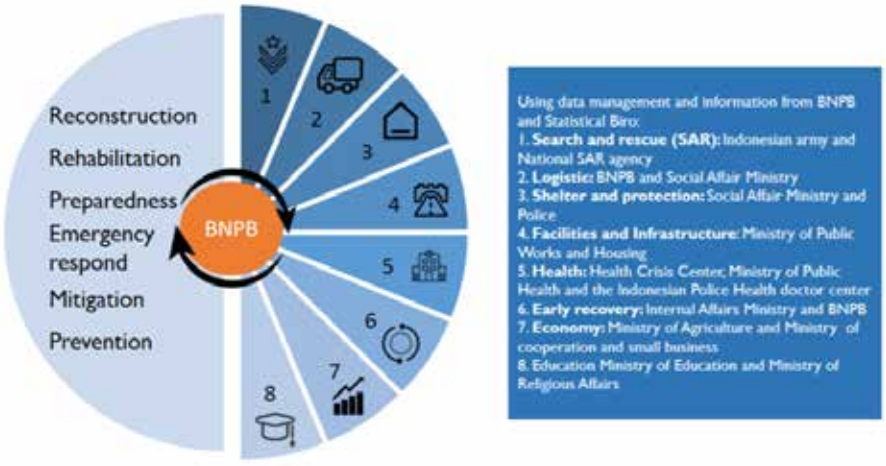
197 Central Sulawesi PDNA (2019).

198 McRae, D. G. (2008), p. 2 6.

199 Central Sulawesi PDNA (2019).

FIGURE 9

The National Cluster structure, set up by BNPB in 2014



Source: Kusmadiana, (2020).

Financially, disaster relief coordinated by KLASNAS totalled US$ 8,475,085 and covered about 3.442, activities within the sub-clusters of water, sanitation and hygiene (WASH), shelter and protection. The provincial government further allocated resources for cash-for-labor programmes, non-cash services assistance, and non-cash provision to micro, self-employed, enterprises among others. In its disaster response, Indonesia also received regional support by ASEAN through AHA, and internationally support of UN agencies, as well as International NGOs such as Oxfam and Care International. Many secular and faith-based Indonesian NGOs and civil society also played crucial roles, especially in the initial emergency phase.

According to a key informant from the Ministry of Social Affairs (MOSA),[200] the humanitarian effort of the provincial government could be considered effective as it integrated existing disaster management structures, mechanisms, and arrangements and allocation and programme decisions could be decentralized thanks to the 2015 Law. However, the local respondents'[201] perception varied as they felt that programme implementation and monitoring was lacking and did not always follow the guidelines. As one of the women put it "The people could coordinate themselves to help each other while the government's response was very ineffective and uncoordinated".[202] Some of the measures considered, were unpratical and irrelevant to the specific local context and type of disaster, especially with regards to the impacts of liquefaction, and there was scarce coordination between local, regency, provincial and national level as well as between vulnerable groups to advocate shared needs. Interviewed women experienced the government's response as slow in the first two weeks, and when eventually needed goods and services were provided not all could be reached:

> It was difficult to access basic needs such as food, clean water, and shelter. A week after the disaster, there was no help from the government, my friend and took goods from the supermarket and many others also did so. I could only take sand cave, apples, and cooking oil. But because I did not have cooking utensils, I was forced to exchange the foodstuffs with a family that had built a makeshift tent, so that I could eat.[203]

According to the FGDs' participants and the MVI help from the government was too little and inaccessible, with immediate relief rather coming from private individuals and NGOs. A women also felt that aid was not delivered properly:

200 Male KII, Government staff, interviewed on16 December 2020.

201 FDGs; Female MVI Interviewed on 14 December 2020.

202 Female MVI Interviewed on 14 December 2020.

203 Female MVI interviewed on 11 December 2020.

> Once I was looking for assistance from the Mayor's office, but it was already crowded with people who had a similar intention as mine. The place was packed with people and food was just thrown to us.. It was very degraded and undignified. I decided to leave without any food. The way they distributed food was not appropriate.[204]

The coordination of donor assistance was also not always effective, as for the beneficiaries the vertical provision of aid (with organizations providing dedicated assistance for persons with disabilities, pregnant and lactating women, and children) was not always clear not being familiar with organizations' mandates nor their programmes. As a MVI commented: "Many organizations distributed aid, but I could not access as I did not know the exact programmes and their priorities and for whom the aid is intended to".[205]

All FGDs participants further noted that they were not aware of the early warning given and therefore did not know how to prepare and reduce the risks. According to them, no information was provided regarding disasters and there was no preparation, training and preventive programmes by the government, in spite of the provinces and districts being high risk. School did not have any curriculum about disaster preparedness and early warning and there were no evacuation routes, no designated shelter, no food stockpile. As a result people panicked and in a situation of misinformation, lack of relief and scarce security they were prompted to loot whatever they could. In their view, there is a need to include training with actual simulation on disaster preparedness and resilience including early warning system in rebuilding efforts and establish community-based disaster recovery and reconstruction systems that include community women also at the leadership level as they are the most aware of the needs of the their families and communities.[206]

Gender Mainstreaming in Disaster Response

Gender mainstreaming in disaster management is mandated by several regulations including the 2014 BNPN Chief Regulation no. 13 and the Minister of Social Affairs (MOSA) and Minister of Women Empowerement and Children Protection Regulation No 6/2015. The government also included a gender section under the PDNA's SIA section, which identified key gender issues and gendered disaster impacts. Various non-government organizations also conducted gender assessments soon after the disaster, like CARE's Indonesia's Rapid Gender Analysis[207] or the Oxfam's initiated gender assessment in camps for internally displaced persons in affected areas, which habe provided useful information on the differential gender impacts of disaster for this review as presented in the previous chapters.[208] As previously mentioned too, the humanitarian network of local and international organizations, Jejaring Mitra Kemanusiaan (JMK), published a Gender and Inclusion Alert that reviewed and analysed existing data to highlight gender-specific concerns and make reccomendations for action.

Official gender and generational disaggragated data also in this case are lacking, except for pre-disaster sex disaggregated population in the impacted zones and the previously mentioned data on affected displaced persons by age and sex (see Table 9 and 10 respectively), with both not showing any significant difference. The value of the complementary assessments is more in their providing a comprehensive profile of the position of women and men in Central Sulawesi and the prevailing gender inequalities that result from this gender structure and affect disaster impacts. As the JMK Gender and Inclusion Alert summarizes these includes:

204 Female MVI interviewed on 11 December 2020.

205 Female FGD participant in Palu on 8 December 2020.

206 Female MVI Interviewed on 14 December 2020.

207 Cole, H. (2018).

208 Fatimah, D. And Roberts, F. (2019).

TABLE 7

Pre-disaster sex disaggragated population data in Impacted zones in Central Sulawesi, 2017

Disaster Zones	Population Total	Men	Percentage	Women	Percentage
Palu	385,619	193,847	50.2%	191.772	50.8%
Donggala	301,591	154,073	51.1%	147.518	48.9%
Parigi Moutong	482,794	247,293	50.9%	238, [incomplete in source]	48,8%
Sigi	234,588	120,418	51,3%	114,170	48,6%

Source: Sulawesi Tengah dalam Angka, 2017.

TABLE 8

Percentage of Displaced Persons by Age and Gender in Central Sulawesi, 2018

Female	Percentage	Male	Percentage
Girls (0-5)	5.4%	Boys (0-5)	5.8%
Girls (6-17)	13.4%	Boys (6-17)	14.5%
Women (18-59)	27.9%	Men (18-59)	27.4%
Elderly women (>59)	2.8%	Elderly men (>59)	2.8%

women's limited control over resources within the household, marginalization from educational and economic opportunities, limited access to productive resources including land rights, limited participation in public life and community decision-making, and gende-based violence, including child marriage. Women bear the burden of domestic labour and unpaid care work including including collection of water, provision of food and cooking, childcare, and provision of care for the sick and elderly. Men are traditionally understood to be the heads of the household, and have more access to community meetings and public information, thus often becoming the gatekeepers to the information their wives and children receive. Men also bear responsibility for securing income, and have greater access to inheritances and land rights.

The identified pre-disaster conditions lead to specific gender concerns after disaster. In particular, women's livelihoods were compromised differently from men, since their activities were generally home-based or related to cleaning and selling fish, while men's livelihoods were mainly related to fishing. They also faced increased domestic workload due to increased caring tasks for children, ill and injured relatives and disapled persons and more burdersome undertaking of 'female' tasks such as procuring food, cooking or catching water. The high number of pregnant women experienced greater nutritional and health risk and girls from the lower socio-economic classes were at enhanced risk of early marriage and sexual exploitation. Overcrowding and lack of privacy in shelters caused women to feel uncomfortable and unsafe, but they had limited space to voice their concerns as camp's management was male dominated.[209]

209 Ibid.

Differential Gender Impacts

The gender assessments' findings are confirmed from our interviews with affected women as they shared their experiences with gender inequalities and the resulting differential impacts on their well-being and livelihoods.[210] During and after the disaster they were worried and felt responsible for the safety of family members. When the disaster struck, some of the women who were outside the house felt they had to return home to check on their family before evacuating.[211] After the disaster, they had to take care of many domestic tasks in difficult circumstances at times helped by their out-of-school girl children (see Box 1). Limited access to food and clean water made it more difficult for women to maintain hygienic standards and family nutrition.[212] Yet, there were no changes in the distribution of household tasks even if men were not working during the emergency as attending to domestic tasks even if increased was still seen as women's and girls' responsibility as these quotations make clear:

> In post-disaster, the destruction of houses caused difficult to access clean water and latrine, and makes working conditions for cooking or washing clothes more difficult because I need to fetch water far away in the river.[213]

> Since women have domestic roles to take care of their children and other dependant family members -elderly and sick-during the crisis, women face more workload because of children were not at school, and encountered more difficulties to access basic necessities (water, food).[214]

Women also felt that their economic activities were not really appreciated by the government, and they were not (or not sufficiently) offered compensation for the loss of their livelihoods, while for them additional incomes from agriculture or home work were essential to manage their household. They also noted that jobs were mainly offered to men and the cash-for-labor programme mainly targeted men. Access to financial resources is also more constrained for women due to a lack of asset ownership, especially for the majority of women who are in a lower socioeconomic group. Since people lose their income and could not find jobs, for living cost, they cope with taking a loan. According to a key informant, many women from poor households ended up in debt: "Women do not receive debt relief, but they need to carry out economic activities. Most are in debt for motorcycle loans as they need transportation."[215]

Reproductive health was a shared concerns of both key informants and interviewed women. Pregnant and lactativing women were seen as vulnerable and with special needs:

> Lactating mothers have difficulties to breastfeed. They were the ones who had to save their infants and could not afford to panic. After the disaster, they were put in crowded shelters, while they ought to have a quiet and private place to breastfeed.[216]

Many mentioned that disaster directly of indirectly impacts on reproductive health outcomes resulting in miscarriages, early pregnancy losses, premature deliveries and still births. A MVI shared her experience with a successive disaster:

> In recent flooding on Sept 16, 2020, my entire house sank in the water flooding. First time to experience deep waterflood. The stress from the flood caused my miscarriage. We were evacuated to the area of our father-in-law. We are not able to go back to our town anymore as everything was destroyed.[217]

Yet, pregnant women and lactating mothers were not given special consideration in evacuation and resettlement operations and had to endure the same procedures as everyone else.[218] Interviewed women also stressed that their needs related to menstruation and pregnancy were not sufficiently met due to lack of sanitation kits and access to clean water. SGBV was a concern in temporary shelters with no segregated spaces for men and women and where the bathrooms and toilets were far outside the shelter and with no lighting.

210 Female FGD participant in Palu on 8 December 2020.

211 Female KII, INGO representative interviewed on 14 December 2020.

212 Female MVI interviewed on 15 December 2020.

213 Female MVI interviewed on 13 December 2020.

214 Female KII, local NGO, interviewed on 16 December 2020.

215 Female KII, NGO representative, interviewed on16 December 2020.

216 Female FGD participant in Palu on 8 December 2020.

217 Female MVI interviewed on 15 Decemebr 2020.

218 Female FGD participant in Palu on 10 December 2020.

Women with disabilities also felt isolated and abandoned during the disaster as in the chaotic situation that ensued "no one paid attention as everyone priorities saving their own lives"[219] and they could not get the necessary assistance. A person with hearing imparment complained that she was not able to follow the instructions from the mosque, radio or TV.[220] As a KII with an international organization explained, women with intellectual disabilities were at higher risk of sexual violence and harassment.[221] The elderly too had felt vulnerable during disaster, dependent on their family for their survival, and sidelined in relief efforts as they did not know how to access it.[222]

In line with the literature, sexual and gender minorities relied on their network more than on official aid also in the 2018 Central Sulawesi disaster. Facing discrimination in society and being stigmatized "for bringing bad luck", non-binary individuals sought aid outside of government's programmes. As a self-identified transgender woman stated:

> I have never received any assistance from the government. Likewise, my friends from the transgender community. We are almost never been reached by aids. People like us are often being stigmatized by society. he first week after the disaster, I took refuge at a friend's workplace (salon) which was not damaged. The building can still be occupied but the toilet is broken and there is no water so we had to walk to the river in Kawatuna to be able to bathe and fetch water. Two days after the disaster, I went to look for my transgender friends. We contacted each other and coordinated rescue and relief activities for our community and whoever in need.[223]

Women's resilience and participation

Interviewed women complained that disaster management officials only see women as vulnerable and needing help, and do not recognize that women have a voice and capacities. This is contrary to the resilience that women have showed since the disaster occurred. A MVI shared her experience of rescuing her child and ensuring there would be enough to eat:

"It was very difficult to save myself because the shaking of the ground was very strong, I hugged my child and ran but we fell, many houses were also destroyed. After that, it was difficult to get rice because supplies had run out, fortunately, there were yam and banana trees. (MVI with pregnant women, 15 Dec) "

Women also actively participated in the disaster response, participating in relief programs and organizing and staffing essential services, such as health clinics and public kitchen during their stay in the shelter. They also sought solutions for their families and self-organized and mobilized their networks to provide support to their communities, like in the case of the elderly indigenous leader Rum, who managed aid distribution for her community and promote disaster preparedness with her ancestral knowledge (see Box 2). Women in the impacted zones recognized the importance of participating in disaster management and were eager to more fully engage, but they felt that they were not given the due opportunities.[224] For instance, women were excluded from the camp management structures when those existed and rarely participated in camp committess and in disaster management committee, but as one WVI put it:"We want to participate in disaster management forums because we also want to contribute and learn."[225]

219 Female with disability FGD participant in Palu on 10 December 2020.

220 Female with disability FGD participant in Palu on 8 December 2020.

221 Female KII, INGO representative, interviewed on 14 December 2020.

222 "Elderly have different food needs" Female KII, regional organisation representative, interviewed on 21December 2020.

223 Female MVI (self identified transgender) interviewed on 11 December 2020.

224 Male KII, Government staff, interviewed on16 December 2020.

225 Female MVI (pregnant women) interviewed on15 December 2020.

Other respondents also felt that women should be given a greater role in disaster in view of their capacity and effectivity as also shown by the prominent role of women organizations. Many national and local women organizations including LBH Apik, KPKPST, Libu Perempuan, and SKP-HAM, have played a key role in providing humanitarian aid and services, including counseling for victims of violence, collaborating with both government and international agencies. An alliance of 23 participants from national and local NGOs, the Indonesian Red Cross, and international agencies, co-chaired by UNICEF and UNFPA worked together to prevent sexual exploitation and abuse to affected population. More generally, a variety of programmes for women and children were undertaken ranging from protection from SGBV to fostering economic entrepreneurship and improving women's livelihood. An interviewed woman mentioned: "SKP-HAM funded me to start baking and selling cakes by giving tools and ingredients".[226] Local women's organisations are also engaged in promoting women's leadership in disaster management. An example is the local NGO Sikola Mombine (SM or Women Institute). In the words of a SM representative:

> Since the disaster on 28 Sep 2018, SM strategic plan has come to consider disaster management as one of our institutional priority because all our work areas are risk-prone locations on the Ring of Fire. One of SM strategy is to encourage women's leadership so women who can fight for their rights in disasters.

BOX 1

Rum, indigenous women lives in Palu.[227]

Rum is "Tina Ngata" or Female Elder or Village Mother of the Indigenous Council of Ngata Toro Community lying on traditional land within Lore Lindu National Park in Sigi Regency. As Tina Ngata she leads decision-making in collaboration with village authorities and she is responsible to maintain and manage commonal life also in relation to the forest environment She also manages the local indigenous school for kids and is an active member of AMAN – Alliance of Indonesian Indigenous People, Central Sulawesi. As a divorced woman, she also take care of the needs of her three children and a grandchild, working as a farmer in her village, Petobo.

On the 18 September 2018 when the earthquake and tsunami hit, she was in the hotel next to the beach, Palu, but survived the tsunami wave. As soon as it was possible she went to look for her children in Petobo, but the access was closed because of mud all over the road. She then went to AMAN office and found a message on the wall that said" Mama, we are all save and going to a safer place in Kalukubula". This made her relieved and she joined them in house of her relative in Kalukubula. Her village, Petobo, was affected by liquefaction and her home destroyed. People had difficulties having clean water and food. She immediately mobilized and received support from friends from other district and province:

> during the crisis we need to be fast and active to find a solution and cannot be passive. Especially, after we receve aids from many people, we need to distribute it to the most needed and remote areas. We setup the camp for displacement. There are several local organization (NGO) that have a big roles in the crisis situation. We worked together with common kitchen, and reconstruction and doing advocacy and awareness of DRR.

Two years after tsunami, her house is still destroyed and she cannot afford to rebuilt so the family had to move to Palu. She complaints that the local government has send staff three times to assess the damage for assistance, but to this day she hasn't received anything.

This was not Rum's first disaster, as she had experienced two previous earthquakes with high magnitude that caused hundreds of fatalities. As a child she was prepared for the eventuality of disasters according to ancestral knowledge, which she also try to transmit to the new generation: "In the old days, it was forbidden to have no rice at home, you always need to keep a stock and also prepare firewoods before the rainy season, as with rice and firewoods one can survive". Currently she teaches the children in her school and community about the importance of taking care of the environment, including forest and nature, to reduce disaster. Based on my experiences, there is an urgent need to have programmes at the village level on disaster preparedness and management based on local wisdoms.

226 Female FGD participant in Palu on 8 December 2020.

227 Female MV interviewed on 14 December 2020.

5.2 Mindanao complex crisis

Mindanao, the second largest island in the Philippines, is a land with long weathered conflict and disasters. Located in the southern region of the Philippine Archipelago, Mindanao is divided into six administrative regions: the Zamboanga Peninsula, Northern Mindanao, the Caraga region, the Davao region, Soccsksargen, and the autonomous region of Bangsamoro. In 2015, the population of Mindanao was about 24 million people,[228] of whom 50.4 percent males and 49.6 percent females.[229] Three main ethno-religious groups can be identified, namely the Lumads, a collective term to indicate 15 indigenous groups native to Mindanao (around 3,5 million), the Muslims who self identify as Moros who are the majority population in the five provinces of Basilan (except Isabela City), Lanao del Sur, Maguindanao, Sulu and Tawi-Tawi forming the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) (about 5 million) and Christians who initially migrated under government policies and eventually became the majority population on the island (12,5 million).[230]

A century long trend of displacement and dispossession internal lead to the Bangsamoro loosing most of their traditional land and become a minority. Historically divided by cultural differences and degrees of Islamic orthodoxy, Moros have been hostile to each other, yet shared a common fight to the central authorities, since colonial times. The decade-long bloady conflict involving the Moro National Liberation Front (MNLF), the splinter Moro Islamic Liberation Front (MILF), and the Armed Forces of the Philippines (AFP) came to a pause in 2014, with the Government of Philippines and the MILF signing of the Comprehensive Agreement on the Bangsamoro that lead to the establishment of the regional BARMM government.[231] In 2017 a five-months long urban battle erupted between national armed forces and more radical Islamist groups in Marawi, making of this once busling city a ghost town.[232] Another long-term conflict has been between the government and the New People's Army (NPA) as the armed arm of the Communist Party of the Philippines. The region remains unstable as poverty and political tensions contribute to local conflicts or "rido" (clan wars) and their intertwining with ingrained conflicts between the State and armed groups.

These prolongued and recurring unrest has had a high human cost with hundreds of thousand people killed and many more jnjured and displaced. As of the end of December 2020, 59,626 families (or 274,327 individuals) were displaced in Mindanao, of which the great majority or about 95 percent was long-term internally displaced persons (IDPs). Displacement was mainly caused by armed conflict and secondly by disaster. In particular, in Davao del Sur, 27,400 families (or 114,852 individuals) and in Cotabato province 1,780 families (or 8,900 individuals) were displaced because of earthquakes, while in Northern Mindanao 29 families (or 145 individuals) had been displaced by the 2017 Typhoon Vinta (internationally known as Typhoon Temblin) and 14 families (62 individuals) by the 2019 Typhoon Falcon.[233]

Typhoons and floods during the mondoon seasons and earthquakes are common in Mindanao. Typhoon Vinta was the deadliest tropical cyclone to strike Mindanao island since the 2012 Typhoon Bopha, killing 170 people and damaging houses and livelihoods in the northern and central parts of the island. Typhoon Falcon mainly affected Luzon island, but provoked heavy rains and flooding and destroyed houses and infrastructures. In the same year, a series of earthquakes affected about 30,000 families or 150,000 individuals.[234] On 29 October 2019, two potent earthquakes struck the province of North Cotabato, the first one of magnitude 6.6 in Tulunan, and the second one of magnitude 6 in Mindanao. Just two days after, on 31 October 2019, another tectonic magnitude 6.5 earthquake shook central and eastern Mindanao. The death toll of these two quakes reached 24, with 563 people injured, and 11 still missing.[235] A state of calamity was proclaimed for the two hardest hit provinces of Davao del Sur on 30 October and Cotabato on 5 November 2019. Many aftershocks, ranging from magnitude 1.5 to 5.5 were later recorded, with the most powerful hitting the region's largest city, Davao, in December 2019.

228 Population City (2015).

229 Sameen, L (2016).

230 Ulindang, F. (n.d.).

231 Conciliation Resources (n.d.).

232 Simanga, D. (2019, 1 May).

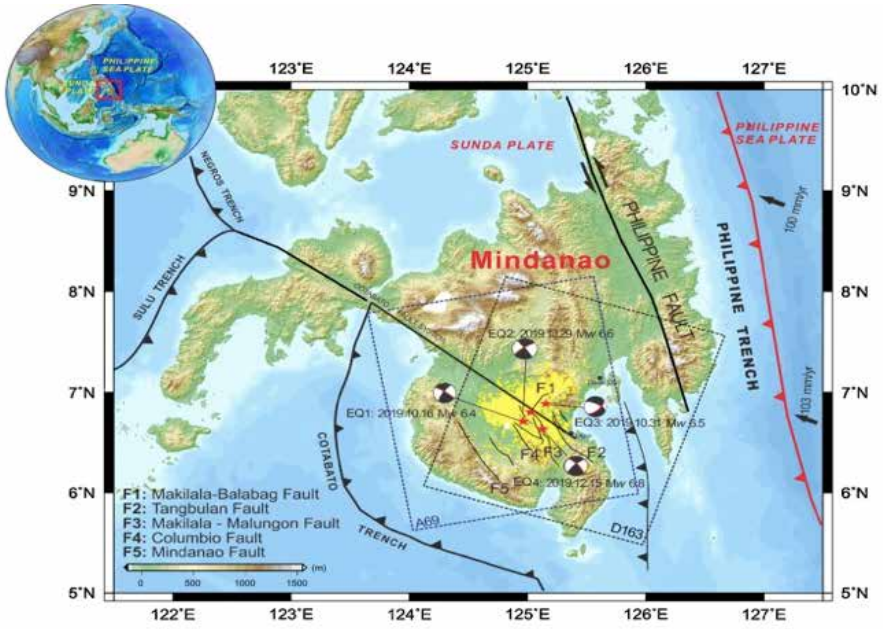
233 UNHCR (The UN Refugee Agency) (2020, December).

234 NDRRMC (National Disaster Risk Reduction and Management Council) (2020).

235 IFRC (International Federation of Red Cross and Red Crescent Societies) (2019).

FIGURE 10

2019 Mindanao Earthquakes, 2019[236]



The intersection of conflict with disaster places an additional layer of risk and vulnerability. For example, during the typhoons Pablo (2012) and Yolanda (2013), Martial Law Instruction No. 02 issues by the government to deal with the NPA closed out conflict zones in Davao del Sur and North Cotabato and created a barrier for relief to get the peoplein need. Gender-related vulnerabilities and violence during evacuation and displacement are also compounded when women are left at home and taking care of family while men go for hiding or fighting in (armed) conflict.[237]

Disaster governance structure

In 2010, the Philippines government revitalized its approach to disasters shifting from disaster response and preparedness to disaster risk reduction/management. Congress approved the Philippine National Disaster Risk Reduction and Management Act of 2010 (DRRM Act 2010 or Republic Act No. 10121), which established the National Disaster Risk Reduction and Management Council (NDRRMC), istituzionalized the National Disaster Risk Reduction and Management Plan 2011-2028 (NDRRMP) and created a multi-level disaster risk management system centered on the three Response Pillars of 1) hydro-meteorological hazards; earthquake and tsunami; consequence management for terrorism-related incidents.

The Council is headed by the Secretary of the Office of Civil Defense and has 39 members, mostly representatives of line departments and government units, but also of four civil society organizations and one from the private sector. There are four vice-chairs from key departments overseeing the key areas of disaster reduction and management namely: (1) the Department of Science and Technology oversees disaster prevention and mitigation; (2) the Department of Interior and Local Government oversees disaster preparedness; the Department of Social Welfare and Development is responsible for disaster response and the National Economic and Development Authority is entrusted with rehabilitation and recovery.[238] Similar overseeing councils as well as implementing offices are established down the administrative structure (see Figure 15).

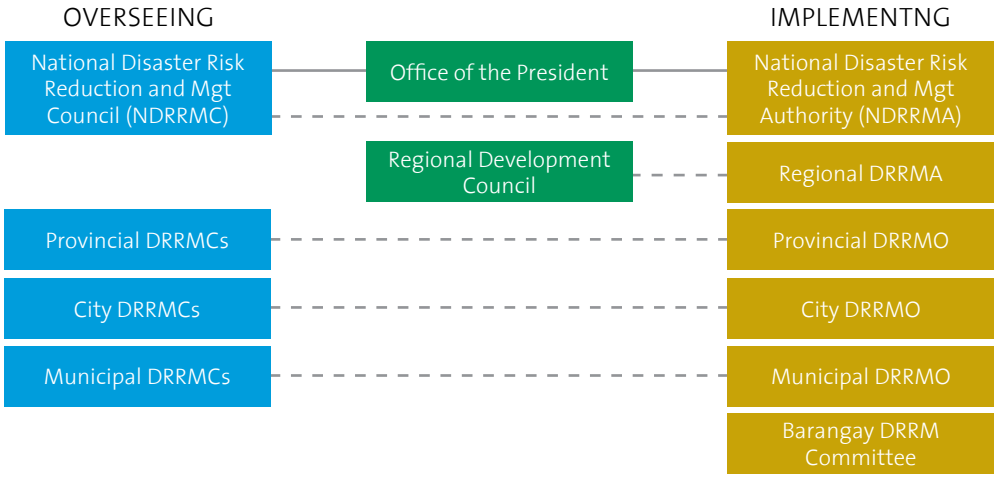
236 Li, B. et al. (2020).

237 Female KII, NGO representative, interviewed on 12 December 2020.

238 Doroteo, H. J. E. (2015).

FIGURE 11

The institutional mechanism of the NDRRM Framework[239]



In more details, the Office of Civil Defense (OCD) is the executive arm and secretariat of the NDRRMC with the primary role of administering the national civil defense and disaster risk reduction and management programs. The OCD also provides guidance on strategic approaches and measures to reduce vulnerabilities and risk.[240] Local offices are established at the provincial, municipal and barangay levels (see Figure 11) to act as functional arms of the local governments in formulating a Local Disaster Risk Reduction and Management Plan, which is in line with the national framework and its components of disaster preparedness, response, prevention and mitigation, and rehabilitation and recovery.[241] Some of the larger offices have their own search and rescue and emergency medical services squads and command-control-and-communications centers.

In spite of the comprehensive approach and the decentralized disaster reduction and management system, for many of the respondents, implementation is weak and segmented, which result in an overall overall lack of preparation during and after disasters. In the words of two key informants:

> Prior to the first strong earthquake, there was no disaster planning. After that, the only program set up was the sending of siren signals if there is a need to evacuate to the mountain. And this information will only come from the town patrol.[242]

> I recall there was a disaster risk management training but just for earthquake. We really do not have any knowledge when the arm conflict happened, even our mayor was lost on what to do.[243]

Gender Mainstreaming in Disaster Response

The 2010 DRRM commits the Philippine State to address gender concerns. In their study of gender equality in disaster response, Abarquez and Parreño refer to sections of this law to note that in the Philippines:

> it is the policy of the State to "ensure that disaster risk reduction and climate change measures are gender responsive" (Section 2 (j)). It also makes mandatory that gender analysis should be part of post-disaster and early recovery needs assessments (Section 9 (m)) and practical needs of women addressed (Section 12 (c -16).[244]

It is the task of the Philippine Commission on Women, as member of the national and local DRRMC national councils to ensure that the disaster response meets the specific needs of women and children. Gender concerns related to disaster have also been mainstreamed in other laws and several policy guidelines and local governments orders.

239 Ibid, p. 27.

240 Doroteo, H. J. E. (2015).

241 Ibid.

242 Female KII from an NGO, interviewed on 16 December 2020.

243 Female KII INGO interviewed on 11 December 2020.

244 Abarquez, I. and Parreño, N. E. (n.d.), p. 44.

Among the laws identified by Abarquez and Parreño and already mentioned in Chapter 4, is the Magna Carta of Women (Republic Act 9710), which covers Women Affected by Disasters, Calamities and other Crisis Situations and guarantees their right to protection and security "especially in all phases of relief, recovery, rehabilitation and construction efforts" (Chapter IV Section 10). The Magna Carta, as the local equivalent of the Convention on the Elimination of All Forms of Violence Against Women (UN CEDAW), further states that:

> The State shall provide for immediate humanitarian assistance, allocation of resources and early resettlement, if necessary. It shall also address the particular needs of women from a gender perspective to ensure their full protection from sexual exploitation and other forms of sexual and gender-based violence committed against them. Responses to disaster situations shall include the provision of services such as psychological support, livelihood support, education, psychological health and comprehensive health ser- vices, including protection during pregnancy.[245]

In relation to Mindanao complex crisis of disaster and conflict it is also worth mentioning two other particularly relevant gender-sensitive policies. The Climate Change Act of 2009 (Republic Act 9729) adopts gender mainstreaming in its response to climate change and recognizes the vulnerability of women in climate-change events, including disasters. Among the national plans, the National Plan on Women, Peace and Security (NAPWPS), stresses two main outcomes: 1) protection and prevention of women's rights in armed conflict and post conflict situations, and 2) empowerment and participation of women in areas of peacekeeping, conflict resolution and post-conflict reconstruction.[246] For other vulnerable groups, there are also specific legislation and policies among others RA 9994 (an act giving more privileges to senior citizens) and RA10821 (the Children's Emergency Relief and Protection Act.[247]

The implementation of these progressive legislation and policies is, however, still problematic on the ground. Part of the problem is that, as mentioned by Abarquez and Parreño, NDRRMP, while recognizing gender as a cross-cutting concern and viewing the addressing of gender issues as integral to national development, does not operationalize the commitment and principles failing to provide details on the implementation of gender mainstreaming in disaster management.[248] Another factor, as one of the key informant mentioned, is that women still tend to be portrayed as 'victims' rather than agents of change and are not sufficiently engaged and represented in disaster reduction and management planning and decision-making processes.[249] As other respondents complained the noble intent of the law did not reach women affected by disaster due to the poor implementation. In their view there was a wide gap between formal values and actual practices as the following two quotes show:

> Philippine laws are very good. The provisions are clear on gender mainstreaming, the discussions on women's rights, etc., but government agencies are not taking them seriously.[250]

> The Philippines has the greatest number of laws in the entire Asia, and many are specific on women and girls.. Legislative bodies are very good in making laws. The problem is the dissemination or implementation.[251]

245 Ibid.

UN Women/Putra Djohan and Ali Lutfi

246 Peace Women (n.d.).

247 Female KII INGO interviewed on 11 December 2020.

248 Abarquez, I. and Parreño, N. E. (n.d.), p. 44.

249 Female KII NGO intervewed on 12 December 2020.

250 Female KII NGO interviewed on 16 December 2020.

251 Female KII NGO interviewed on 16 December 2020.

BOX 2

Eva in Zamboanga.

On September 2013 in the city of Zamboanga there was fighting between the AFP and a faction of the MNLF. Around 200 hundred people were killed and thousands were displaced from their homes. The incident is considered one of the longest running displacements in Mindanao. As of 2019 after the siege, 1,080 persons remain in five transitory sites and 2,250 persons are being hosted by their friends and relatives. The city became a war zone for two weeks. Everyone stopped working because all establishments and businesses closed. There was no source of income during the siege, plus rebels would go ransack houses for food, which was so scarce already.

Upon hearing the first gunshot, Eva left her work and ran home, where she lived with her three sisters:

"I grabbed clothes, not minding if they were all pants or all shirt. Put them in one plastic [bag] and took my younger sister with me. We went to my best friend's house because I felt safer there. It's outside the city. But many went there too, so it's crowded. I was almost raped by a man who came into our house. It's really like in the movies during war. No food, no bathe, we did not move because we could hear gunshots everywhere, and choppers above us. If you watch movies, it's like that."

Since all of the shops and establishments had closed, they had nowhere to buy food.

"We experienced hunger and dirt. If ever this happens again, it would be harder for me. . . They also sieged the cell sites so there was no communication. Those with money did panic buying for food, but those of us who didn't have money depended on help."

According to Eva, after the siege, the government cleaned the area and fixed the damages. Stores immediately reopened after that. However, the entire incident left Eva thinking about future conflicts and the various options she should take in response to them.

"If ever this happens again, I hope we will be better equipped. Like for me, I want to learn how to use a weapon. Maybe fire a gun. So, I can protect my family. It's so hard to be useless. Waiting was so agonizing. We all froze in fear. We did not feel hunger anymore. Mostly fear."

Women in Mindanao feel the double impact of disaster and conflict, with violence as a common feature of their life experiences (see Box 3). The major issue surfacing from KIIs, MVIs, and FDGs, is the occurrence of SGBV during and after disaster and armed conflict as an expression of pre-existing biased gender values. As one respondent put it,[252] "women are seen as second-class citizens and 'the weaker sex' at the mercy of men". As another KII explained for domestic violence:

> It is accepted in this society that women and children in general can be physically hurt. It is a source of belief, which makes it harder for women and girls to be protected and to report their plight [...] Primarily because men are expected to be breadwinners, or the provider, so if there is a disaster or crisis, the tension goes up, as they don't have job and they become depressed and excused for being violent. Plus, there is there this belief that it's acceptable to hurt those whose status is lower than theirs. Who are they? They're the women and children.[253]

Domestic violence is considered the most wide-spread form of SGBV, but respondents and FDGs participants also reported occurrence of sexual harassment (also by army forces), rape, trafficking and early marriages –this last explained as a coping strategy by poor parents. Temporary shelters and IDP camps are viewed as a risk for women and girls due to the crowded living and sanitary conditions and, like in the previous case of Central Sulawesi, the lack of space for women to engage on their own terms as the camps are managed mainly by men.

252 Female KII National NGO interviewed on 16 December 2020.

253 Female KII INGO interviewed on 11 December 2020.

Also evacuation centers are not well organized, many still consisting of tends and precarious buildings, with no designated areas for lactating and pregnant women, elderly, sick people and children:

> To add more friendly and safe spaces for women and children in IDP camps can be seen as very important for privacy and for a sense of connection among women and children who experienced abuse and stress. Even if there is no disaster, actually there should alwaya safe spaces available. Harassment is already a disaster in a way, a daily disaster happening in our country. Aside from safe spaces, there must be psycho-social support.[254]

Another concern surfacing from the interviews and FGDs is reproductive health. Again like in Central Sulawesi, it appears that disaster poses a high risk for pregnant women espcecially since their needs are overlooked. It was noted that during rescue, and at times also in the evacuation centers, they are not prioritized and that the relief they receive often does not take into account their condition. In some cases, disaster results in negative reproductive health outcomes like shared by a MVI:

> On 16 September 2020 we experienced heavy floods. Our entire house sank in the flood. It was the first time we experienced deep water flood and everyone was taken by surprise as there was no warning. The stress from the flood caused me to miscarriage. We had to evacuate to my father-in-law family and we cannot go back because everything is destroyed.[255]

The increase in household burden was further seen as one of the most significant disaster impact on women, also because men seemed to ignore and did not volunteer to share the burden. In the words of a KII:

> When you ask the husband they usually say, women do not do much in the household, she is just an housewife. But when you ask the wife you learn she wakes up at 3am to prepare for the children and the husband, cook breakfast, clean the house, do the laundry and many other tasks. And then if a disaster strikes it is even heavier for the women.

For poor women it is particularly hard, as disaster "takes away their food and their livelihoods".[256] Women-headed households, many lead by widows, were seen by the respondents as the most vulnerable economically as they can count only on the meagre incomes of only a person for the entire household. Too few programmes, however, focus on women's economic role in addition to their domestic role and there should be more livelihood skills training for women affected by disaster and conflict. Especially for women who were dependent on their husbands for incomes, but became separated by displacement or widowhood it is essential to enhance and support their entrepreneurial skills. Elderly women were considered particularly vulnerable too because they are dependent on their relatives for rescue and livelihoods (see Box 4). For non-binary persons, the issue was more about gaining support from the communities (who do not accept them in the first place) to help them during a time of crisis.[257]

Women's Participation and Resilience

While the MVIs presented in Box 3 and 4 show the struggles and challenges faced by women in Mindanao during disasters and conflict crises, they also present vivid examples of resilience. Similarly to women in Central Sulawesi, they try to safe, not only themselves, but also their relatives and (like in Box 4) the family's assets.

Moreover, many KIIs noted that when provided with the opportunity, most women impacted by disasters chose to actively participate in response and recovery initiatives. Disaster-related training programmes when open to women, see high level of women's attendance and participation.[258] Yet, few women are are said to have been given the opportunity to serve in a lead position:

254 Female KII NGO staff interviewed on 16 December 2020.

255 Female FGD participant in Sultan Mudarat (zoom) on 5 December 2020.

256 Female KII NGO interviewed on 16 December 2020.

257 MVI Interviewed on 10 December 2020.

258 Female KII Coalition NGO interviewed on 16 December 2020.

BOX 3

Nena, elderly woman from Davao, Cotabato.

Nena is a 62 years old retiree with three children. Two of her children are working in Davao City. She now lives with her son and daughter-in-law in Bansalan, Davao del Sur. It's the boundary between Davao and Cotabato. In 2019, this was was the epicenter of the earthquake.

When the first and strongest tremor happened (7.1 on the Richter scale), she was home in her bedroom.

"My children all ran outside, carrying my grandchild who was then 4 months old. We lost electricity and it was so dark. The first quake was at around 8 PM. They all ran outside but I was left in my room, because I was holding my cabinet, as it was about to fall. I stayed in the room holding it until the first shake stopped. Many of our things were broken. When we checked, we saw that our walls had cracked."

Later, barangay leaders distributed materials for tents. Senior Citizens were given a one-time supply of 35 kilos of rice. They went to their Barangay hall and claimed the assistance. Nena also took part in the distribution of this for her unfortunate neighbors and house help.

"My faith in God kept me strong. My blood pressure elevates during strong aftershocks, because of fear. That's why after many aftershocks, I felt physically weak, maybe also because of lack of sleep. Could be phobia to the quakes. "

Nena feels that in the future, more training needs to be provided to children, the elderly, and the information on how to deal better with earthquakes.

"Since earthquakes have been experienced in our place, it is not unlikely that it will not happen again. The government must train people how to be ready for earthquakes. Especially the young ones, so they can help the elderly, the sick, and the children. "

> Sometimes it is difficult to influence the new mayor. They have different interest and do not prioritize the interest of women. That is why I cannot say that women really achieved the level of participation.[259]
>
> What bother me is that even though women are active, men still hold the leading position, maybe we can say that it is still the culture.[260]

Numerous NGOs and associations are currently working in the Philippines to address this barrier and provide women of diverse backgrounds with the opportunities to take an active role in their communities during and after disasters and crises. For instance UnYPhil-Women based in Cotabato City focus on women in the context of disaster as part of its mandate to provide assistance to women who are subjected to violence and other forms of discrimination with a multi-prongued approach:

> Aside from training women on empowerment and conflict management, we organize women and capacitate them to plan on risk mitigation. These organized women also create awareness in their communities. To sustain their organizations, we provide them with skills training.[261]

A network called Women in Emergencies Network (WENet) was also founded by 30 organizations to work together towards 'women-led and gender responsive resilient communities'. This effort to claim and defent women's rights and the rights of other vulnerable groups in emergencies, particularly in disasters and conflict situations may become an example for other ASEAN member states in promoting gender-transformative disaster responses.

259 Female KII NGO staff interviewed on 16 December 2020.

260 Female KII Coalition NGO interviewed on 16 December 2020.

261 Female KII NGO youth interviewed on 8 December 2020.

UN Women/Younghwa Choi

6 MAIN FINDINGS AND RECOMMENDATIONS

The short review and field work observations presented here provide an overview of the current stand of gender and age inequality of disaster risk in Southeast Asia. In spite of the limited time, the research provided a better understanding of the context-specific dimensions of disaster and its differential impacts. It also shed light on the policies and services that are available to address them and what are the gaps that needs to be filled. In the following we will briefly review the main research findings and propose some reccomendations for reducing inequitable gender impacts and increase attention for generational and other differentials.

6.1 Main Findings

Normative:

- **Gender responsive approaches, aligned with commitments in the Sendai Framework, that respond to disproportionate disaster impacts are needed.** The Sendai Framework recognizes that vulnerability to hazards is multi-layered and multidimensional, and specific demographics (including women, children, and persons with disabilities) are often disproportionately affected. This is extremely relevant to the ASEAN region, being one of the areas most prone to disasters in the world and with a diverse population. Understanding and managing the differential conditions, risks, potentials and experienced impacts of the varied groups is essential to saving lives and reducing disaster damage and loss. There is an urgency in implementing gender- and age-responsive, or better yet –transformative, disaster risk reduction and recovery policies and interventions.
- **Coordinated regional approaches will be needed to tackle the multi-dimensional nature of gendered risks:** The ASEAN region's diversity and frequency of disasters, which can have transboundary impacts, requires a comprehensive and multi-layered approach from the local to the regional level. The region's strong approach to international coordination in support of nationally led responses presents a key opportunity to integrate gender, age and other diversity concerns in this multi-level structure to ensure inclusive disaster responses.
- **AADMER provides an opportunity for the formulation and implementation of transformative and inclusive policies and interventions.** Related to the above, the primary and legally-binding regional platform for disaster management, AADMER formulated in close alignment with the Sendai Framework, clearly recognizes the importance of gender and social inclusion for disaster risk reduction, preparedness, and response and proposes priority outcomes and actions. In this regard, the adoption of the ASEAN Regional Framework on Protection, Gender, and Inclusion in Disaster Management 2021-2025 represents a global example of a coherent, coordinated approach to gender in DRR across sectors, including to address gender-based violence.

Data, assessment, and analysis:

- **Across national, regional, and global databases, disaggregated data is by and large incomplete; where it is present it concentrates on disaggregation of mortality.** As also recognized in AADMER, disaggregated data are essential to the realization of gender- and age-responsive and -transformative disaster risk reduction and response. This concern was recognized early on in studies of disasters in the region and in global and national statements. Yet, decades later, there is still a scarcity of disaggregated data at the community, national and regional level.

- As noted in previous studies, **"the disproportionate impact of disasters on [diverse] women and girls is not well- documented"** in the ASEAN region.[262] The scarcity of disaggregated data by gender and age, as shown by the review of main disaster data sets concerning the ASEAN region precludes a systematic review of differential disaster impacts. As this report shows, practitioners are dependent on the mostly qualitative information on the gender and age dimensions of particular disasters mainly from non-government sources. This information is silo-ed and with a strong bias towards major disasters and adult population with little examining of differentials, thus overlooking serious and at times longer-term impacts of less 'significant' disasters as well as the diversity of the population. However, regional level investment in research on the specific impacts of disasters on women and girls, such as a study on SGBV in disasters led by the ACDM and the IFRC, and on institutional gaps to gender mainstreaming in disaster management, led by AIHCR, form valuable contributions to the evidence base and for informing future action. In addition, Post-Disaster Needs Assessments (PDNAs) started in 2015 to integrate gender considerations, representing critical progress since PDNAs support development of recovery interventions.

Differential impacts:

- The available mortality data and observations seem to concur that in the majority of cases, women die more than men because of gendered roles and norms relating to the household. It is important to note, however, that in few occasions the same gender roles in the family lead to opposite outcomes. Here lies the importance of better understanding context-specific gender dynamics in all their complexity.
- In reviewing the differential impacts of disasters, the factors that place women (and girls) at a distinct disadvantage in the aftermath of natural disasters are often pre-existing socio-economic gender inequalities, and disasters exacerbate these. The case studies further show that disasters and their impacts are amplified by their intersecting with additional threats including conflicts, pandemics (e.g., COVID-19), and climate change. Thus, addressing women' and girls' disadvantage in disaster implies a comprehensive and transformative approach well before the disaster hits.
- The themes that consistently emerge from the available literature related to women's and girls' vulnerability in disaster are livelihoods and incomes, nutrition and health, education, lack of protection and gender-based violence (GBV), and access to services and development or humanitarian assistance. Among them, **GBV and to a lesser extent reproductive health are the topic most extensively studied in recent years** thanks to women's groups and donor organizations' efforts.
- Social factors such as gender and age are analysed in isolation. From the literature, we learn little about the intersection of gender and age and almost nothing about the intersection of gender and disability, ethnicity, sexual orientation and other structural factors. Yet, as the case studies and the findings from the Missing Voices Interviews show, these intersections imply differentiated needs, risks and capacities and remind us once more that women are not a homogenous group.
- The case studies and the Missing Voices interviews also clearly show that **women's participation and leadership is greater than documented in the literature.** Studies are biased in portraying women as victims and have limited attention for women's capacities and resilience in disaster, thus underestimating the contribution of women to disaster prevention, mitigation, preparedness, response, and recovery.

262 Nair, T. (2018).

6.2 Recommendations

In light of the findings of this study, the following recommendations can be made to respond to the urgency of formulating and implementing transformative and inclusive disaster risk reduction and response:

- **Translate commitments to inclusion into operational guidance:** Recognition of the population' differential conditions, risks, vulnerability, potentials and experienced impacts in disaster situations as stated in formal regional, national and sub-national directives needs to be translated into detailed operational guidelines. Moreover, gender, age and other diversity concerns ought to be systematically integrated at every administrative level to ensure inclusive and transformative disaster responses in the ASEAN region.
- **Strengthen monitoring against gender and social inclusion commitments at national and regional levels:** The newly established Technical Working Group on Protection, Gender, and Inclusion (TWG-PGI), comprised of the ACDM, ASEAN Committee on Women, and Senior Officials Meeting on SOMSWD, presents a key opportunity to better monitor the implementation of the protection and gender commitments made in the AADMER Work Programme 2021-2025.
- **Strengthen accountability towards the disaggregation of disaster data:** A clear, step-by-step strategy needs to be developed to ensure that disaster data in international, regional and national datasets and databanks are disaggregated based on gender, age and other differentials. Detailed targets, time schedule and resource allocation for achieving the objective of producing disaggregated data ought to be set at both the regional and the national level. Given the multitude of global databases, ADI-Net as the primary ASEAN database presents an opportunity for a uniform approach to the systematic collection, reporting, and usage of sex, age, and disability disaggregated data in disasters.
- **Invest in government capacities to mainstream gender and operationalize guidance:** Advancement of the above agenda requires building the capacity of disaster agencies to understand gender and diversity comprehensively in their complexity, with actions being taken to (a) address gender roles, norms, and practices that impact vulnerability pre-, during and post-disaster; (b) enhance understanding of the intersection of gender and age and the intersection of gender with disability, ethnicity and other structural factors (c) work to change gender roles and relations in the household and in society (d) counter entrenched discrimination against diverse groups. These efforts must be informed by systematic integration of a gender and age perspective in all assessments, including through application of PDNA guidance on gender mainstreaming.
- **Recognize and tackle the root causes of SGBV in disasters:** Disaster management actors ought to recognize the root causes of SGBV and address them head on through specific programmes to change gender norms. Among other activities, campaigns and education on gender-equitable norms targeting all genders should be implemented.
- **Ensure disaster recovery programmes address unpaid care work and women's economic empowerment:** Education and empowering programmes also need to be formulated to address the increase in domestic burden following disaster. Fostering discussion on redistribution of household roles and relations is at the core of achieving more gender equality in disaster and beyond. The economic role of women needs to be recognized in recovery programmes and women need to be provided resources and skills to recover their assets and expand their skills and opportunities. Support for childcare should also be an integral part of disaster response.

While many challenges can be expected in trying to undertake the proposed recommendations, pursuing them will ensure that disaster response in the ASEAN region continues to build upon existing momentum to become truly gender-responsive, inclusive and transformative, enabling ASEAN to become a global leader in disaster management as envisioned.

KEY TERMS AND DEFINITIONS

Capacity – A combination of all the strengths and resources available within a community, society, or organisation that can reduce the level of risk, or the effects of a disaster.

Coping Capacity is the ability of households or businesses or infrastructure to recover from external shocks without sustaining major permanent negative impacts, and instead moving towards opportunities for improvements in the future, e.g., "building back better".

Disaster – A serious disruption of the functioning of a community or a society causing widespread human, material, economic, or environmental losses which exceed the ability of the affected community or society to cope using its own resources.

Disaster risk "is the potential loss of life, injury, or destroyed or damaged assets which could occur to a system, society or a community in a specific period, determined probabilistically as a function of hazard, exposure, vulnerability and capacity." (UNISDR, 2017).

Disaster Risk Reduction (Disaster Reduction) – The conceptual framework of elements considered with the possibilities to minimise vulnerabilities and disaster risks throughout a society, to avoid (prevention) or to limit (mitigation and preparedness) the adverse impacts of hazards, within the broad context of sustainable development.

Disaggregation - The breakdown of observations within a common branch of a hierarchy to a more detailed level to that at which detailed observations are taken. With standard hierarchical classifications [...] categories can be split (disaggregated) when finer details are required and made possible by the codes given to the primary observations. (UNSTATS, 2019)

Disaggregated Data – Data that has been divided into detailed sub-categories, for example by marginalised group, gender, region or level of education. Disaggregated Data has either been collected from a variety of sources or through multiple measures, or was previously aggregated data that has been broken down into smaller units. Disaggregated data can reveal deprivations and inequalities that may not be fully reflected in aggregated data, and allow an in-depth perspective of trends across different population groups, as well as across an entire population.

Early Warning System – An integrated system of hazard monitoring, forecasting and prediction, disaster risk assessment, communication and preparedness activities systems and processes that enables individuals, communities, governments, businesses and others to take timely action to reduce disaster risks in advance of hazardous events. (UNDRR, 2020)

Evacuation - Moving people and assets temporarily to safer places before, during or after the occurrence of a hazardous event in order to protect them. (UNGA, 2015)

Exposure – The circumstance of people, infrastructure, housing, production capacities and other tangible human assets located in hazard-prone areas. (UNDRR, 2020)

Hazard – A potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation.

Livelihoods - The capacities, productive assets (both living and material) and activities required for securing a means of living, on a sustainable basis, with dignity. (UNISDR, 2017)

Missing Voices – An intersectional approach that target to interview people from marginalised gender groups who are more vulnerable to the risks of disasters, and their experiences are rarely included in research.

Mitigation – Structural and non-structural measures undertaken to limit the adverse impact of natural hazards, environmental degradation and technological hazards.

Multi-Hazard - An approach that considers more than one hazard in a given place and the interrelations between these hazards, including their simultaneous or cumulative occurrence and their potential interactions.

Post-Disaster Need Assessment (PDNA) – is an internationally accepted methodology for presenting a cross-cutting, comprehensive assessment of the impact of the disaster through a government-led process.

Preparedness – Activities and measures taken in advance to ensure effective response to the impact of hazards, including the issuance of timely and effective early warnings and the temporary evacuation of people and property from threatened locations.

Prevention - Activities and measures to avoid existing and new disaster risks. (UNDRR, 2020)

Reconstruction - The medium- and long-term rebuilding and sustainable restoration of resilient critical infrastructures, services, housing, facilities and livelihoods required for the full functioning of a community or a society affected by a disaster, aligning with the principles of sustainable development and "build back better", to avoid or reduce future disaster risk. (UNDRR, 2020)

Recovery - The restoring or improving of livelihoods and health, as well as economic, physical, social, cultural and environmental assets, systems and activities, of a disaster-affected community or society, aligning with the principles of sustainable development and "build back better", to avoid or reduce future disaster risk. (UNDRR, 2020)

Rehabilitation - The restoration of basic services and facilities for the functioning of a community or a society affected by a disaster. (UNDRR, 2020)

Resilience/resilient – The capacity of a system, community or society potentially exposed to hazards to adapt, by resisting or changing in order to reach and maintain an acceptable level of functioning and structure. It is determined by the degree to which the social system is capable of organising itself to increase its capacity for learning from past disasters for better future protection and to improve risk reduction measures.

Response - Actions taken directly before, during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected. (UNDRR, 2020)

Risk – The probability of harmful consequences, or expected losses (deaths, injuries, property, livelihoods, economic activity disrupted or environmental damaged) resulting from interactions between natural or human-induced hazards and vulnerable conditions. Conventionally risk is expressed by the notation Risk = Hazards x Vulnerability. Some disciplines also include the concept of exposure to refer particularly to the physical aspects of vulnerability. A disaster is a function of the risk process. It results from the combination of hazards, conditions of vulnerability and insufficient capacity or measures to reduce the potential negative consequences of risk.

Sexual and Gender-Based Violence (SGBV) is an umbrella term for any harmful act that results in, or is likely to result in, physical, sexual or psychological harm or suffering to a woman, man, girl or boy on the basis of their gender and sexual orientation. Gender-based violence is a result of gender inequality and abuse of power. Gender-based violence includes but is not limited to sexual violence, domestic violence, trafficking, forced or early marriage, forced prostitution and sexual exploitation and abuse.[263]

Risk assessment or analysis – A methodology to determine the nature and extent of risk by analysing potential hazards and evaluating existing conditions of vulnerability that could pose a potential threat or harm to people, property, livelihoods and the environment on which they depend.

Vulnerability – The conditions determined by physical, social, economic, and environmental factors or processes, which increase the susceptibility of a community to the impact of hazards. Cutter and Finch (2008) define social vulnerability as "a measure of both the sensitivity of a population to natural hazards and its ability to respond to and recover from the impacts of hazards"

263 Committee of the Red Cross and the International Federation of Red Cross and Red Crescent Societies, (2015), p. 2 .

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