

RESEARCH PAPER

GENDER AND AGE INEQUALITY OF DISASTER RISK



DECEMBER 2019
UN WOMEN AND UNICEF

Supported by
the Australian Government



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Geneva, December 2019

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ACRONYMS

| | |
|-------------------|---|
| AIDS | Acquired Immunodeficiency Syndrome |
| ART | Antiretroviral Therapy |
| CBS | Central Bureau of Statistics |
| CCCM | Camp Coordination and Camp Management |
| CDMC | Community Disaster Management Committee |
| CDPS | Central Department of Population Studies |
| CRED | Centre for Research on the Epidemiology of Disasters |
| CSO | Civil Society Organisation |
| DAPD | Dominica Association for People with Disabilities |
| DDMA | Department of Disaster Management Affairs |
| DEOC | District Emergency Operating Centre |
| DFID | UK Department for International Development |
| DHM | Department of Hydrology and Meteorology |
| DRR | Disaster Risk Reduction |
| EM-DAT | Emergency Events Database |
| EWS | Early Warning System |
| FEDOMA | Federation of Disability Organizations in Malawi |
| FGD | Focus Group Discussion |
| GBV | Gender Based Violence |
| GESI | Gender Equality and Social Inclusion |
| GoN | Government of Nepal |
| HIV | Human Immunodeficiency Virus |
| ICGTF | Inter Cluster Gender Task Force |
| IDP | Internally Displaced Persons |
| IFRC | International Federation of Red Cross and Red Crescent Societies |
| IMC | International Medical Corps |
| IOM | International Organisation for Migration |
| IUCN | International Union for Conservation of Nature |
| KII | Key Informant Interview |
| LGBTQI+ | Lesbian, Gay, Bisexual, Queer, Intersex Plus |
| MISP | Minimal Initial Service Package |
| MOHA | Ministry of Home Affairs |
| MV | Missing Voices |
| NDRC | National Disaster Risk Reduction Centre |
| NGO | Non-Governmental Organisation |
| NPC | National Planning Commission |
| ODI | Overseas Development Institute |
| PACIS | Parents Advocating for Inclusion of Children with Disabilities in Society |
| PDNA | Post Disaster Needs Assessment |
| PLHIV/AIDS | People Living with HIV or AIDS |
| PTSD | Post Traumatic Stress Disorder |
| UNDP | United Nations Development Programme |
| UNICEF | United Nations Children's Fund |
| UN DRR | United Nations Office for Disaster Risk Reduction |
| VAWG | Violence Against Women and Girls |
| WASH | Water, Sanitation and Hygiene |
| WRC | Women's Refugee Commission |

EXECUTIVE SUMMARY

Context, objective and methodology

Women, children and youth are often recognised to be among the most vulnerable to natural hazards.

To understand disaster risk better, and tackle it effectively and in a gender- and age responsive manner, it is important to delve into the complexities and inequalities in a given location, the differences within and between broad categories of women, men, boys and girls, taking a context specific and intersectional approach.

This study explored the connection between gender and age inequality and disaster risk, examining evidence at a global level, and in three case study countries (Nepal, Malawi, and Dominica).

The study reviewed existing literature and datasets, assessing evidence of differential impact. The study examined three in depth case studies, considering evidence of differential impact in earthquake (2015) in Nepal, flood (2015), cyclone (2019) and drought in Malawi, and hurricane (2017) in Dominica. The country case studies considered context specific evidence of differential impact in areas including mortality, healthcare, WASH, livelihoods, education, housing and migration.

Through literature review and targeted Key Informant Interviews, we identified groups facing marginalisation in each case study context e.g. widows in Nepal, transgender women in Malawi, or children with albinism in Malawi. We listened to the experiences of individuals who are rarely considered in policy or programming; who are often overlooked or sidelined in Post Disaster Needs Assessments or preparedness plans¹.

Key Findings

The literature review highlighted incidences where inequality has driven significant differential impacts for women and girls. It also highlighted situations where people of other genders were worse affected. **Examples of differential impact are context and event specific**, often driven by differential exposure and context specific inequalities.

The data review found **huge gaps in disaggregated quantitative data at a global level**, with a near total absence of sex and age disaggregated impact data in global disaster impact databases, and in global analyses of differential impact. A review of the DesInventar database revealed that only 11 out of 85 countries disaggregated by sex for mortality, and out of those 11 only 0.65% of recorded deaths were disaggregated².

In all of our case study contexts and events disaggregated disaster impact data was limited³.

The available data highlighted the diverse ways in which women, children and other marginalized groups can be differentially impacted by disasters over the short, medium and long term. These areas of differential impact varied from one country and event to the next – unsurprising as differential impact is often driven by context specific inequalities.

The country case studies also highlighted the way in which **data gaps actively contributed to and reinforced exclusion. Data gaps excluding marginalized groups were apparent in all data sets**, including at census level, meaning **marginalized groups were often invisible in analysis, policy and practice**.

Lessons Learnt

Analysis based on disaggregated quantitative impact data alone is insufficient to meaningfully understand and take action to reduce differential impact.

In order to get well-rounded insight into differential impact we found it useful to combine three existing types of data:

- 1) Disaggregated quantitative disaster impact data (potentially including census data on the demographics of the population in an affected area e.g. number of single women headed households).
- 2) Qualitative insights into differential impact from surveys or Focus Group Discussions in the area, sometimes focused on specific groups e.g. children.
- 3) Context specific data on inequalities.

The combination of these three data types enabled a broad understanding of areas of differential impact. The available data provided insights into differential vulnerability at scale and between women and men, old and young.

However, this data **tended to treat groups as homogenous, focusing on singular identities** (children as a uniform group for example), not capturing the ways in which women or children with multiple vulnerabilities or areas of marginalisation are differentially impacted.

There were **minority, vulnerable or marginalized groups who were not appearing**, or only mentioned in passing, amidst the mainstream data.

Missing Voices approach

To add nuance to the analysis and gain insights into the experience of those facing additional areas of marginalisation, we undertook what we are calling ‘Missing Voices’ interviews⁴.

The ‘Missing Voices’ methodology, which requires approaches of building trust, listening, and working in partnership with intermediary organizations, provided a **rich intersectional and context-specific perspective on the impacts of disasters on marginalized groups**.⁵

Five themes emerged strongly in the missing voices interviews:

- Entrenched discrimination impacted vulnerability pre and post disaster.
- Multiple areas of marginalisation exacerbated and multiplied vulnerability pre and post event.
- Marginalized groups face heightened vulnerability to gender based violence, and additional barriers to getting support.
- Exclusion of marginalised groups from datasets reinforces and perpetuates exclusion from DRR, response and recovery.
- Minority groups reported feeling invisible, unnoticed, misunderstood and un-prioritised post disaster and in efforts to reduce disaster risk.

Recommendations

In order to reduce gender and age inequalities in disaster, we need a better understanding of differential impact, which needs to be underpinned by **gender and age inequality informed data**. This shift will require

- Strengthened systems for sex and age disaggregated quantitative data.
- Going beyond disaggregated quantitative data, to include qualitative and inequality focused data.
- Proactive efforts to seek out other key sources of data that amplify the voices of marginalized populations.
- Proactive efforts to identify, build trust, engage with, and listen to the experiences of those most at risk of being left behind.
- Mechanisms to enable these marginalized experiences to inform gender and age-responsive DRR actions.

Inequality Informed Data

This study proposes a 6 Step Approach to understanding differential impact. This involves the combination of different data sources, including disaggregated quantitative disaster impact data, census data, qualitative studies of the hazard event, and contextual information on underlying inequalities, supplemented with perspectives drawn from key informants and from proactively listening to the experience, priorities and needs of ‘missing voices’.

This 6-step approach should produce a deeper, richer understanding of differential risk, underpinned by better, more inclusive data.

Better data can help ensure DRR efforts do not exacerbate existing inequalities and vulnerabilities. It can provide an intersectional understanding of disaster risk, enabling a shift from gender and age inequality unaware action on disaster risk, to a transformative approach. It can provide a foundation for action to reduce differential impact, ensuring no one is left behind.

281 natural hazard-related disasters occurred in 2018, affecting 61.7 million people, with 10,373 lives lost (CRED EM-DAT). Women, children and youth are recognised to be among the most vulnerable to natural hazards, conflict and other shocks.

Over 250 million children currently live in areas affected by disasters, armed conflict and high levels of violence, and it is estimated half of the world’s poor children live in fragile situations. (UNICEF, 2018)

While women’s, children’s and youth’s heightened vulnerability in disasters is linked to their lower socio-economic status, including gender and age specific barriers to resilience, little statistical evidence has been generated on the topic. This is largely due to a lack of sex and age disaggregated data.

“Disasters don’t discriminate, but people do... disasters reinforce, perpetuate and increase gender inequality, making bad situations worse for women.” (UNISDR, UNDP and IUCN, 2009)

One 2007 statistical analysis on the outcomes of natural disasters in 141 countries found that women were more likely to die, and die younger, than men in disasters (Neumayer and Plümper, 2007).

Climate change and environmental degradation are further compounding the vulnerability of these three population groups, and extreme weather events increase the number of emergencies and humanitarian crises.

INTRODUCTION

The Sendai Framework recognises that women and children are disproportionately affected by disasters. It also highlights the need for a more people-centred approach to disaster risk reduction (DRR), which embraces women, children and youth as key agents of change in designing and implementing gender-sensitive DRR policies, plans and programmes.

“It is a plain and simple truth that disasters reinforce, perpetuate and increase gender inequality, making bad situations worse.”
Margareta Wahlström, the UN Secretary-General’s Special Representative for Disaster Risk Reduction (UNISDR, 2012)

While the Sendai Framework sets out the rationale for a more inclusive approach to preventing and managing risk, establishing effective DRR strategies requires a more robust understanding of how women, children and youth are affected by various hazard types and which barriers they face throughout the recovery process.

Research Objective

Against this backdrop, the main objective of this research is to gain a better understanding around how different gender and age groups are affected by disasters in the immediate, medium and longer term, as well as their response mechanisms and coping strategies (see Fig 2 for the research questions).

Research questions

1. What evidence exists around the gender and age dimensions of risk to various types of hazard?
2. What are the differential impacts experienced by women, children and youth in relation to preparing for, withstanding/surviving and recovering from disasters?
3. What issues and considerations are needed to include all marginalized gender groups of all ages, to ensure DRR leaves no one behind? How can we take a gender transformative and intersectional approach, and build resilience for all?
4. How can DRR policy (and practice recommendations) promote gender and age equality, building the resilience of marginalized gender and age groups (including women, children, youth)?

METHODOLOGY

Global literature review

We conducted a global literature review to collect evidence on the relationship between gender and age and disaster risk. This included academic literature as well as practitioner focused publications (grey literature). The literature review identified key themes for further investigation through both the quantitative and qualitative research.

Global databases review

We reviewed global, regional and national data sets⁶ to determine what gender and age disaggregated datasets exist in relation to disaster. Of all these databases, the only one found to contain impact data disaggregated by sex and age was DesInventar, which was explored in depth, alongside a review of submissions to the Sendai Data Readiness Review.

Country event case studies

We undertook an in-depth review of three countries, focusing on different hazard events: earthquake in Nepal (2015), flood (2015), cyclone (2019) and drought (various years) in Malawi, and hurricane in Dominica (2017).

We examined the insights from four data types: Quantitative, Qualitative, Contextual, and Targeted Interviews.

A: Quantitative data collection

We conducted a search of openly available quantitative data and contacted a wide range of potential data holders in order to track down any data contained in published and unpublished reports and databases.

B: Review of qualitative and contextual information

We conducted a review of country specific contextual and qualitative literature, prioritising research into vulnerable and marginalised groups, as well as specific hazard events in each country.

C: Targeted interviews

We undertook Key Informant (KIs) and Missing Voices interviews with a range of stakeholders in the three focus countries (Nepal, Malawi, Dominica). Semi-structured interviews built upon themes that emerged from the global literature and database review and available case study data, collecting qualitative insights into gender and age inequality and disaster risk.

Key Informants included representatives from: the UN and other international agencies, health, education and social services, civil defence, national and local NGOs, local support groups, local disaster response patrols, and schools.

Missing Voices Interviews

We followed a 'missing voices' approach (see Annex 4) to collect insights and experiences from marginalised groups and individuals demonstrating intersectional vulnerability to disasters. Key elements to this approach are:

- Identify who is missing from existing analysis
- Targeted interviews, prioritising those marginalised / vulnerable in multiple ways
- Explore intersectional perspectives

This approach enabled us to listen to and include in our analysis and recommendations experiences which to date have gone unheard.

We also prioritised speaking to organisations with expertise in supporting special interest groups (e.g. pregnant women, youth and children, LGBTQI people, people with disabilities, people living with HIV/AIDS, ethnic minority groups, elderly people), and who therefore have built trust and relationships with these communities.

A guidance note on collecting perspectives from missing voices groups is provided in Annex 4, with interview details in Annex 3.

D: Coding and exploring themes

We coded key literature and interview data in NVivo, exploring emerging codes and themes. These themes were then compared with the themes emerging from the quantitative analysis in each country, exploring how different data types strengthen our understanding of gender and age inequality and disaster risk.

Section 1:

GENDER AND
AGE INEQUALITY
OF DISASTER RISK –
GLOBAL REVIEW

1A

DISAGGREGATION IN GLOBAL DATASETS

The push for quantitative disaster impact data

At a global level, the Sendai Framework and its accompanying indicators provide a global push towards more consistent collection of disaggregated data on disaster impact (UNISDR 2015b). It is expected that improved data on disaster impacts will help us better understand vulnerability, and improve risk management.

Although the Sendai Framework acknowledges the importance of “disaggregated data, including by sex, age and disability”, sex or age disaggregation is optional - rather than mandatory - across all Sendai indicators. Notably the Sendai Framework does not include reference to gender minorities in sections on stakeholders.

“The collection of disaggregated data should be considered instrumental to the effective implementation of the Sendai Framework and relevant disaster risk-related targets of the Sustainable Development Goals.” The Intergovernmental Expert Working Group on Indicators and Terminology relating to DRR (UN General Assembly 2016)

The decision not to require countries to disaggregate data for Sendai reporting was pragmatic, due to known challenges of disaggregating data including, as noted by the Global Partnership for Sustainable Development Data⁷, inconsistency in indicators, lack of data sharing between institutions, low levels of availability, and high reliance on data such as census information which may be outdated. However, the implications of not having disaggregated data are severe.

“Lack of research, sex and age disaggregated data and gender analysis regarding the impact of disaster on gender equality continues to impede proper understanding and accurate analysis of the gendered aspects of disasters and is thus rendering targeted mitigation through disaster risk reduction of the impact of disaster on women, girls, boys and men impossible.” (UN 2014)

The current paucity of disaggregated data

The UNISDR (2015c) technical review on Indicators to Monitor Global Targets of the Sendai Framework for Disaster Risk Reduction noted: “With respect to age, sex, and disability currently very few countries collect disaster loss data disaggregated in that way.”

The findings of our study appear to confirm this reality. Of all the global databases reviewed, the only database holding disaggregated data on disaster impacts is DesInventar. Only 13 countries have any sex or age disaggregated data on mortality in the database (see Fig 2 for an overview of data in DesInventar, and Annex 2 for further details).

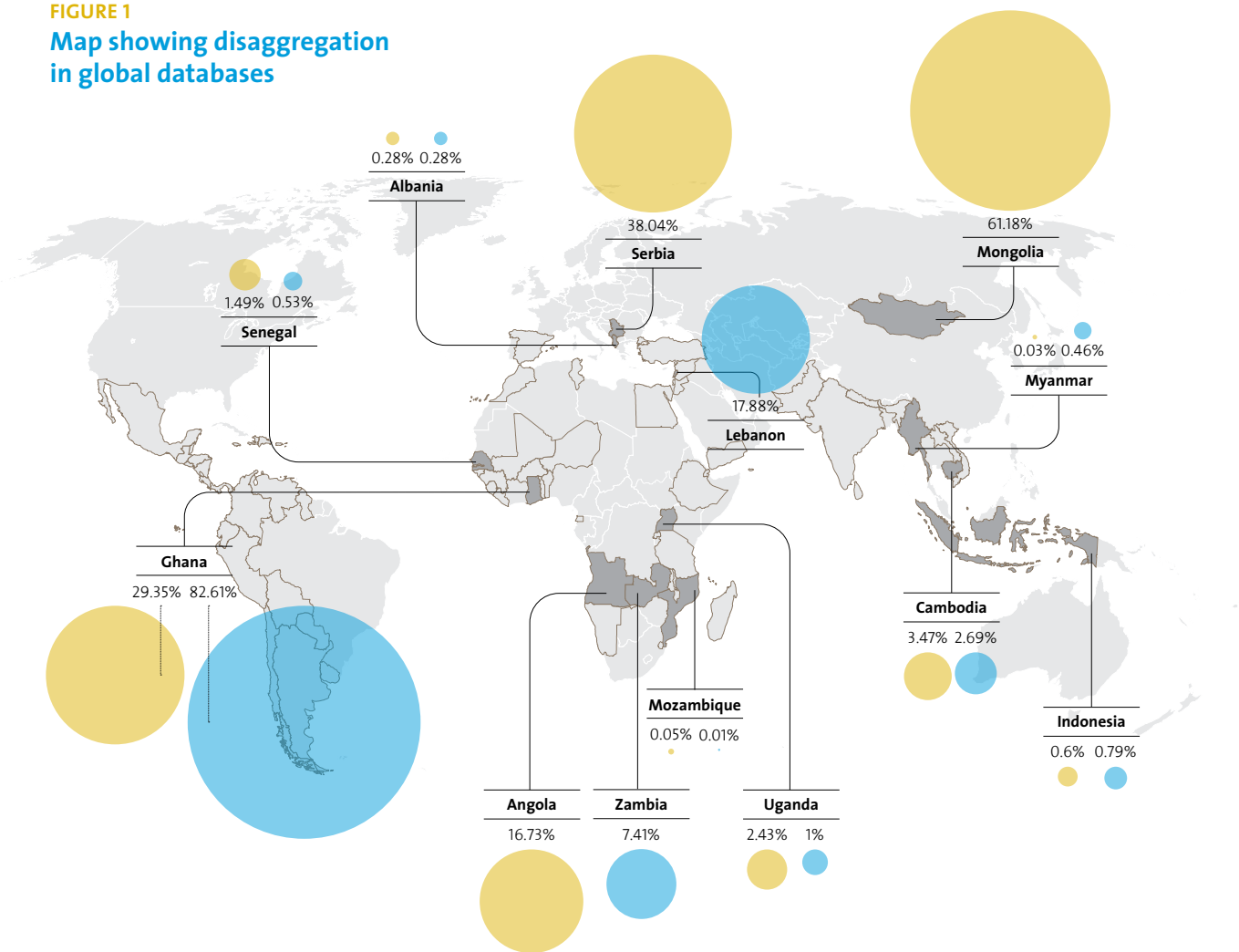
In 2017, 85 countries worldwide reported on their disaster impact data as part of the 2017 Sendai Data Readiness Review, providing information on whether they disaggregate disaster impacts by sex, age, disability and income. Of the 85 countries that completed the Readiness Review, 13% reported disaggregating mortality by sex – and only 0.65% of reported disaster-related deaths in those 11 countries were disaggregated by sex (see Annex 2 for details).

A review of indicators used by 11 humanitarian agencies found that “Only 37 of the total sample of 1,680 indicators (about 2%), were disaggregated by sex, making disaggregation the single biggest gap found in the review” (Guerrero et al 2013).

There was also very limited disaggregation by age, ethnicity or disability. While clearly not every indicator should or can be disaggregated by every social variable, key stakeholders are missing critical areas of importance for humanitarian and disaster resilient results, and there may be insufficient sense of which groups are receiving support.

Key finding: Disaggregated quantitative datasets on disaster impacts are extremely limited. Lack of disaggregated data can impede action on gender and age inequality in disaster risk.

FIGURE 1
Map showing disaggregation
in global databases

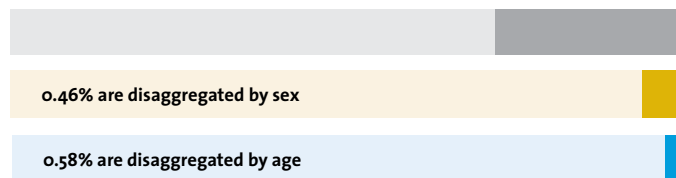
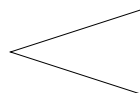


- Percentage of mortality data disaggregated by gender
- Percentage of mortality data disaggregated by age
- Countries in DesInventar
- Countries with any disaggregated impact data

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations. Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. Final boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined.

Of the countries in DesInventar, only 15% disaggregate data by gender or age

Of the total deaths recorded by those 13 countries in DesInventar:



1B

DIFFERENTIAL IMPACTS IN GLOBAL LITERATURE

Effective Disaster Risk Reduction needs to be informed by knowledge of the differential impacts disasters have on vulnerable groups. However, many analyses of quantitative data do not even disaggregate men and women, and the studies that do provide this gender analysis rarely consider the ways in which specific vulnerable or marginalised groups are affected (Detraz and Peksen 2016).

There are number of global data analyses that attempt to draw gendered conclusions on a range of hazard types, including floods, cyclones, tsunami and earthquake (Doocy et al. (2013a-d). However since global data is limited, these event-specific analyses also demonstrate significant limitations, either deriving results from proxy variables (e.g. Neumayer and Plumper, 2007), or extrapolating global conclusions from small data sets (e.g. Doocy et al, 2013).

Key finding: The reliability of trends derived from global or event-specific analysis at times appears overstated.

Event-specific data provides some insights into the differential impacts on women, men, children and elderly people, as described in the section that follows.

Typhoons, Cyclones, Tsunami

Women died at significantly higher rates than men in Cyclone Gorky (1991), the Indian Ocean Tsunami (2004), and Typhoon Haiyan (2013), three examples of disasters which highlight the ways in which gender roles, cultural norms and practices, levels of education and economic conditions affect vulnerability.

Estimates of the number of deaths caused by Cyclone Gorky vary widely. The government of Bangladesh reported 131,539 deaths (Chowdhury et al, 1993), with subsequent studies suggesting figures of 67,000 (Chowdhury et al, 1993) and 138,000 (Bern et al, 1993).

Bern et al (1993) find that there were no deaths among those who reached safe shelter, but access to these shelters was differentiated: 22% of women over the age of 40% were able to access safe shelter compared with 35% of men in the same age group. For those who did not access safe shelter, the mortality rate for women and girls over the age of ten was three times the mortality rate for men and boys over age ten: 21% compared with 7%. Women over the age of 40% were found to have the highest rate of mortality (31%), followed by children under the age of 10 (26%). Chowdhury et al (1993) showed that 75% of those killed were children under the age of 15 (63% were under age 10, a group that comprised 35% of the population).

Mushtaque (1993) notes three key factors to which the higher rate of female mortality in these cases may be attributed, including the predominance of domestic and caring roles which cause women to be more likely to be left in the home; traditional dress restricting movement; and lower levels of nourishment, which undermine physical ability to respond to emergency situations.

Following the Indian Ocean tsunami, studies found other factors contributing to gendered mortality.

Similarly to findings about gendered domestic roles increasing women's vulnerability, many men were found to be less affected as they were out in their boats when the tsunami occurred; women were more likely to be at home, on the shore, where they were more exposed to the impacts.

Studies have also found that gendered differences in ability to swim and climb trees, skills which boys traditionally have more opportunity to develop, had an impact on differential mortality levels (MacDonald, 2005; Guha-Sapir, 2006). Focusing on Tamil Nadu, India, Guha-Sapir et al (2006) found that ability to swim was correlated with reduced mortality, with 6.4% of non-swimmers (aged 15 and over) dying compared to 2.8% swimmers. Ability to swim was highly gendered, with 64.2% of men able to swim, compared to only 15.9% of women.

Levels of education were also found to be both statistically significant, and gendered. Those with least education were at higher risk of mortality. From a sample of 2,862 individuals over the age of 5 in Tamil Nadu, 9.3% of those with no education died, compared to 4.5% of those with at least one year of education. These figures were highly influenced by gender, with women making up 69% of those without education (Guha-Sapir, 2006).

There were gendered differentials in mortality in the 2004 Asian Tsunami⁸. Research in Indonesia (Frankenberg et al, 2011) showed more women than men died in each age bracket in Banda Aceh, with the overall highest mortality rate among those aged over 45 (38% women and 29% men) and under 15 (30% girls, 27% boys).

Doocy et al (2007) looked at the impact of age and gender on mortality in Aceh, Indonesia. The youngest (under 10s) and oldest (over 70) had the highest rates of mortality. Two thirds of deaths were female, with a pronounced gender gap in mortality for those aged 10-69 (gender based differences were not apparent in the youngest or oldest age groups).

In Nagapattinam, the worst affected district of Tamil Nadu in South India, government statistics registered that 2,406 women died, compared with 1,883 men (MacDonald, 2005). In Cuddalore, the second most affected district, almost three times as many women were killed than men, with 391 female casualties, compared with 146 men (MacDonald, 2005).

Research by Guha-Sapir et al (2006) in Tamil Nadu, India revealed a similar pattern – the youngest and eldest suffered the highest rates of mortality, with no significant gender difference in these age groups. Amongst 15-50 year olds there was a pronounced gender gap in mortality. In Tamil Nadu 60% of deaths were female - 8.6% of females exposed to the Tsunami died, compared to 6% of males.

Typhoon Haiyan killed an estimated 6,300 people in the Philippines, and studies (Ballera et al, 2015; Sellers, 2016) suggest that women were impacted to a greater degree than men, with estimates ranging from 50% more female deaths than male to 62% in Tacloban City, where researchers suggested that results may have been affected by the area's predominantly male population (Ching et al., 2015).

Gendered impacts can be seen in the medium term as well as in the immediate aftermath. A study from the Philippines (Antilla-Hughes and Hsiang, 2014) looked at the longer term impacts of hazard events, noticing an increase in infant mortality, predominantly of female babies, in the 24 months after a typhoon. Many of the infants were not even conceived during the typhoon, therefore these deaths are considered an indirect impact and linked to deteriorating economic conditions. The researchers estimate that 11,300 female infant deaths a year are an indirect result of the gendered impacts from a typhoon, 15 times the immediate mortality caused by direct exposure to these storms. In other events in developing countries greater numbers of men and boys were impacted.

For example, a study in Odisha, India (Ray-Bennett, 2017) looked at gender disaggregated mortality data from 1999 to 2013. The majority of deaths were related to the super cyclone of 1999 (over 10,000 killed), with the second largest hazard being lightning (17% of deaths). For both hazards, 58% of deaths were male. Higher exposure to risk, due to gendered roles, was significant. Men were more likely to be working outdoors, at sea, or at the coast. Even after an initial hazard event, gendered behaviour left men and boys at higher risk, with women and girls more likely to stay at home during times of flooding, and men and boys more likely to travel to collect relief materials and food.

Finally, a study in Fiji (Takasaki, 2017) found that cyclones negatively impacted on boys' education, with the removal of boys from education to support with farming used as a coping strategy by households affected by cyclones.

Flood

As with typhoons, cyclones and tsunamis, the fact that women are less likely than men to know how to swim increases their vulnerability to floods (Cannon, 2002; Sadia et al, 2016; Kibria, 2016). Higher rates of illiteracy and lower rates of mobile phone ownership are also factors which increase women's vulnerability as their ability to access information about floods is affected (Kibria, 2016).

Following the 2010 floods in Pakistan, a study found that flood-related displacement was highly gendered, with women and children making up 85% of the displaced population. Malnutrition was also gendered, with 59% of women severely food insecure, compared to 43% of the overall affected population (Chughtai and HeinrichCate, 2012).

A striking gendered difference in education was also observed in rural areas of Pakistan, with 22% of girls dropping out of school as a result of the floods compared with 7% of boys (Luqman, 2013).

Earthquake

Studies of earthquakes in India (Parasuraman, 1995), Guatemala (Glass et al 1977) and Egypt (Malilay et al 1995) provide examples of gendered mortality, with more women reported to have been killed in these disasters than men. A study of an earthquake which struck India in 1993, killing an estimated 10,000 people and destroying a reported 30 villages, found a significant gender disparity in mortality, with 1,254 women killed for every 1,000 men. This was attributed to the fact that men tended to sleep outside the main structure of the house, so were more easily able to escape from collapsing and falling debris (Krishnaraj, 1997).

Studies have also found evidence of other impacts on women, notably following the 2005 earthquake in Pakistan. Illness, injury and mortality were all found to be higher for women than men (Mahmood, 2006; Burki, 2006). Women were

reported to be significantly more affected by injury: an estimated 65-74% of spinal cord injury patients were women (Rathore et al, 2007; Tauqir et al, 2007). The experiences of these injuries was also found to be gendered, with women reporting subsequent neglect and inconsistent spousal support compared to men (Irshad et al, 2005).

Hurricane

An analysis by Buvinic et al (1999) of Hurricane Mitch found 54% of deaths were male in Nicaragua and 57% in El Salvador – with a hypothesis that the disparity was linked to gender roles and approach to risk. In contrast with the case of the Indian Ocean tsunami, where gendered roles put women at greater risk, situations such as these hurricanes highlight that responsibilities typically assumed to be male – such as rescuing others, as observed here – can result in serious risk to men's lives (Women's Environmental Network, 2010).

Drought

As a slow-onset disaster, droughts present a different context to the other hazard types discussed above. The impact of crop losses has been found to be gendered, in cases where women tend to farm crops which are more sensitive to rainfall variability (such as rice cultivation in India), (Mahajan, 2014) or where women have less access to resources needed to invest in crop resilience (Perez et al 2014). Drought also reduces the time and energy available to focus on the cultivation of crops, with negative impacts on yield (Tichagwa, 1994; Mahajan 2014).

This is attributed to two key factors: first, women's time is restricted as the burden of other responsibilities increase due to drought. Collection of water (Mahajan 2014) and firewood (Carmi 2016) for the household becomes more time-consuming as women travel further and further to find these vital resources; simultaneously, more frequent occurrence of illness related to the drought means that women's caring roles increase (Carmi 2016).

At the same time, women's reduced nutritional intake, attributed to food scarcity as well as preferential food allocation practices, which tend to privilege men and boys, impact women's health and energy (Carmi 2016). Women report increased

incidences of joint pain, low platelet counts and fainting (Mahajan 2014), compounded by the increased physical difficulty of undertaking farming and the collection of water and firewood.

Women also face greater risks in pregnancy and childbirth during drought, with increased rates of miscarriage and complications including difficulty breastfeeding and longer recovery (Carmi 2016).

Droughts also affect children's education, necessitating withdrawal from school as children are required to help with tasks at home, and

families are less able to afford the costs of education (UNICEF 2016; Carmi 2016). Withdrawal from school is gendered, with girls more likely than boys to stop attending classes (Carmi, 2016). Girls are also faced with the risk of early marriage as families seek to cope with the impacts of drought (Tichagwa, 1994).

Protection risks to children have also been observed as a result of young children being left behind while adults migrate to find work (UNICEF 2016). Child trafficking and child labour have been found to increase in drought (UNICEF 2016).

1C

THE GENDER AND AGE DIMENSIONS OF RISK

Vulnerability to the impact of disasters is increased by gender inequality, particular gender norms and social marginalisation (Wisner et al. 2012). The less economic, political and cultural power held by women and gender minorities prior to a disaster, the greater their suffering during and in the aftermath (Pincha, 2008; Gorman-Murray, 2017; Gaillard, 2016; Enarson, 1998 in UNISDR 2009; Cannon, 2002).

In areas where gender inequality is high, and women and gender minorities have limited access to physical, financial, human, social and natural capital, the impact of disasters on women and gender minorities is disproportionately high (Neumayer and Plumper, 2007; Gorman-Murray, 2017; ActionAid 2017) resulting in a “glaring gender gap in mortality rates of men and women” (Pincha, 2008).

Marginalised individuals and groups are often most vulnerable to environmental shocks and stresses (Bahadur et al., 2015). Furthermore, disasters reinforce, perpetuate and increase gender inequality and social discrimination (UNISDR 2011; Dwyer and Woolf 2018), exacerbating existing power dynamics and leaving the most marginalised further “left behind” (Lovell and Le Masson, 2014).

As ever, context is key – social vulnerability to disaster is “not uniform or universal whether we problematize gender or ethnicity or age” (Enarson and Meyreles, 2004). For example, women living in urban settings experience the impacts of disasters in specific ways that do not affect rural women, largely due to the fact that cities present different social, political, and economic structures (Kratzer and Le Masson, 2015).

ODI’s ‘Leave No One Behind’ Resilience indicator (Manuel et al., 2018) assessed the extent to which terms such as ‘women’, ‘children’, ‘gender’, ‘disability’, ‘marginalised’ are included in countries’ national adaptation and resilience policy agendas, finding

more than half of countries do not include these terms, and are “failing to identify, let alone prioritise – those most at risk of being left behind”.

It is important to avoid over-simplification of the complex ways in which inequality and marginalisation shape resilience, therefore a context specific and intersectional approach is required (Chaplin et al 2019). Marginalised groups, including disabled people, can be overlooked and excluded in DRR, therefore DRR actions need to prioritise proactive engagement, partnership and efforts to tackle discrimination (Twiggg et al. 2018).

Analysis of disaster impacts needs to be informed about gendered differences in basic living conditions and livelihoods (Fordham and Meyreles, 2014; Cutter, 2016). It needs to proactively engage women, girls, young adolescent mothers, gender minorities and other marginalised groups (such as people living with HIV/AIDS, indigenous groups, ethnic minorities and migrants) in DRR planning and strategy (Plan International, 2013; Gorman Murray 2017; Dominey-Howes 2014; Gaillard et al. 2016, UNISDR 2009; McSherry, 2014, Dwyer and Woolf 2018, Gaillard 2017; Rumbach and Knight, 2014; Knight and Sollom 2012; McSherry et al. 2015; UNFPA 2009).

Consideration should be given to potential increases in sexual and gender based violence in the wake of disasters (Plan International, 2013; David and Enarson, 2012; Cutter, 2016). The needs of sexual and gender minorities should be considered as these

groups are typically excluded from DRR processes, especially in contexts where identities are legally and socially discriminated against (IASC 2016; Kerkar and Fordham 2017; McSherry, 2014; Dwyer 2018; Gaillard 2017; World Bank & UNDP 2016; UN Women 2017a; Human Rights Watch 2016; Dwyer and Woolf 2018; Sanderson and Knox Clarke, 2012; APTN 2015)

Data needs to consider how intersectional vulnerabilities interact with disaster risk (Plan International 2016; IFRC 2010; Gorman-Murray 2017), including considerations of the effect of class, caste, race, ethnicity, age, physical ability, material wellbeing (Enarson and Meyreles 2004; Plan International 2013; UNFPA 2009; Ray-Bennett 2009a, 2009c), political status, gender identity, sexuality (Gorman-Murray 2017; CARE et al 2018), HIV status, and, in some communities and cultures, marital status (IFRC 2010). This goes beyond recognising that marginalised and vulnerable groups will be impacted in different ways, and towards understanding what those different impacts are, what specific needs must be met, and how to meet those needs.

Data gaps (for example on health of indigenous women and adolescent girls) “masking huge disparities between populations” impede action to address inequality (UNFPA et al 2018).

In order to better understand differential impact, gender and age sensitive data collection methods (Plan International 2016) may be required, such as “safe” spaces where marginalised individuals or

groups are more confident to speak out (Twigg, 2015).

Brown et al (2019a and 2019b) emphasise the importance of proactive efforts to reach out to listen to the experiences of marginalized and hard to reach groups.

Gender and age sensitive analysis can identify the roles vulnerable and marginalised groups can and do play in building disaster resilience (UNISDR 2009; 2011; Gaillard et al 2016; Enarson and Meyreles 2004), recognising the capacities of marginalised people and the ways in which DRR can be strengthened by their knowledge and skills.

Efforts are also needed to consider the secondary and tertiary, multi-scalar, long-term and indirect impacts that are not counted in disaster loss statistics (Zaidi 2018), but have significant implications for recovery and development. This includes impacts on sectors and services that are critical to reducing poverty and inequality (Diwakar et al., 2018).

Part 2 of this report will now look at differential impact in depth in three countries. The above findings and lessons will be taken as a starting point to shape examination of differential impacts to a range of hazards and contexts: earthquake in Nepal, flood and drought in Malawi, and hurricane in Dominica. The case studies seek to gain an inclusive and intersectional understanding of the differential impacts of disaster.

Section 2:

CASE STUDIES ON DIFFERENTIAL IMPACT

CASE STUDY 1:

EARTHQUAKE IN NEPAL

Mortality and Numbers Affected

55% of deaths in the 2015 earthquake were women. This is slightly higher than the percentage of women in the last national census (51%⁹), though this may correspond with male emigration. The immediate casualty impacts of the earthquake are likely driven by the higher number of women present during the earthquake; there were also reports of women delaying escape to rescue children, older family members and valuables¹⁰.

33% of deaths were estimated to be children¹¹ (child mortality rates were estimated using census demographic data).

There were some reports of children who had received training on earthquakes running back into schools (even though they were not at school at the time on a Saturday) to shelter under desks, as this is how they had been trained to respond to earthquakes.¹²

Injuries sustained by the earthquake and loss of relatives, particularly husbands or main caregivers, had a significant long term effect. One woman spoke of the impact the earthquake had on her life, after losing her husband and sustaining injuries resulting in physical disability:

“My life has changed for ever, and not for the best. I will always have to live with the stigma of being a widow. People who I thought were my friends in the village turn away when they see me now. They think I will bring them bad luck. The doctors are hopeful I will be able to walk unassisted someday, but four years since the earthquake, I still can’t. This has made getting any kind of work difficult as

most of the buildings here [in Kathmandu] aren’t very user-friendly for people with special needs. Staying in the family home [in the village] is not an option anymore because it’s a hilly place and I would be totally homebound. I worry about my son, worry about providing for him on my own.”¹³

Healthcare Impacts

In earthquake affected areas, 84% of health facilities were destroyed.¹⁴ The wide destruction of healthcare facilities reduced the quality and accessibility of healthcare.¹⁵ There is no data on gender and age differentiated impacts of damaged healthcare facilities, however, contextual information on pre-event differentials in healthcare needs and outcomes could shine light on differential impacts.

Qualitative studies found evidence of the impact of the disrupted health services on people, including women and children; there were concerns over the distance to health facilities, limited opening hours, and restricted number of available medicines.¹⁶

People with acute specialist health needs encountered gaps in healthcare provision, for example temporary field hospitals lacked facilities for neonatal care.¹⁷ The cost of access to hospitals remained a barrier to some needing healthcare,¹⁸ and poverty is gendered in Nepal.¹⁹

“My son was undergoing chemo at the time of the earthquake. I was at the hospital at the time of the earthquake and with the help of others, and with great difficulty, moved my son and his bed out to the parking lot. We stayed there for a number of days until the aftershocks eased. I was worried about my son catching pneumonia and other infections. But the hospital was already

*oversubscribed with those wounded during the earthquake and we were not prioritised. I didn't want to risk going back home to fetch more money or food as I was worried I might not be able to make it back. I slept on the ground and ate what others shared. It was a difficult time. The same thing happened again when another earthquake struck a month later. My son's treatment has been affected by this even though the doctors tried very hard after things began to settle post-earthquake. He is still in a bad way."*²⁰

Child immunisation decreased by 58%,²¹ with likely longer term negative repercussions on children's health.

There is no quantitative data specifically on impacts of the earthquake on maternal health, however negative impacts are likely given 70-90% birthing centres in affected areas were destroyed or damaged,²² increasing risk for 93,000 pregnant women,²³ including 10,300 women in their final month of pregnancy.²⁴ 1,000-5,000 of these women were at risk of complications, and would be worst affected by destruction of maternal health services.²⁵ This is within a context (pre-2015 earthquake) of Nepal already having a high maternal mortality rate (349 maternal deaths per 100,000 live births in 2010²⁶). The lack of healthcare facilities, particularly those for maternal health, will certainly have resulted in increased health risks to new born babies and mothers.

"The first earthquake in April struck the day before I was meant to be admitted to hospital for a c-section. But because the hospitals were full, I was advised to stay at home. Over the next week, I only spoke to a doctor over the phone. My baby was born a week later. I hardly saw any medical professional for at least a month post-delivery.

*I was lucky I had no complications. Others might not have been so lucky."*²⁷

Post-traumatic stress disorder (PTSD) was found in some studies to be more predominant in some demographic groups than others after the earthquake: one survey reported 27.1% prevalence in 140

adolescents studied;²⁸ another reported 51% of 800 children studied;²⁹ several other studies found a high prevalence in women and elderly people.^{30, 31} None of the studies found higher incidents of PTSD amongst men, though there is evidence elsewhere of barriers to men seeking support with mental health.³²

WASH

Water supply systems were destroyed during the earthquake,³³ compromising basic water, hygiene and sanitation access; 220,000 toilets were partially or totally destroyed.³⁴ This led to an increased risk of disease transmission.³⁵ Children were particularly at risk of diarrhoea and cholera.³⁶ The earthquake set back advances made in the WASH sector in Nepal. For example, Sindhupalchowk had almost achieved 95% toilet coverage before the earthquake; the earthquake destroyed 80% of toilets.³⁷ Women in internally displaced person camps (IDPCs) reported having to wait until dark and walk long distances to remote locations to relieve themselves.³⁸

*"The toilets seemed always full and my disability made it harder for me to access them as the portable loos that eventually got installed were small and not the easiest to use. In the beginning, I waited till the evening and went out in the dark as there were no toilets around. I was mostly always scared."*³⁹

Gendered domestic roles placed additional pressure on women to stretch limited household water resources for the whole family.⁴⁰ The additional workload and time burden of collecting basic resources also fell to women; 75% of all household water management is carried out by women.⁴¹ The additional time needed to collect water and firewood has added three hours a day for women and girls in the worst affected areas.⁴²

*"Women did most of the work - of ensuring children, the elderly were taken care of, everybody was fed, firewood and water were collected and so on. It was a lot of work but it was important we kept things moving. Getting our men to take turns patrolling our village and keep watch meant at least we felt safe."*⁴³

WASH was highlighted as a key priority for women and girls living in temporary shelters after the earthquake.⁴⁴ Menstrual hygiene was of concern in the immediate aftermath of the earthquake and in temporary camps a year after event.⁴⁵ There are taboos on menstruation in Nepal, and studies on recent floods revealed menstruation as a significant factor influencing mobility, freedom, and access to normal activities.⁴⁶ There were reports of distribution of single use menstrual products after the earthquake, without communication on hygienic use. There were reports of an increase in infection, with women and girls re-using single use sanitary pads.⁴⁷

“One of the biggest mistakes we did in the aftermath of the disaster was distributing things in haste. For example, we distributed single-use sanitary pads among women in rural areas where they had never heard of them before. We did not take the time to explain what they were for and how to use them. Later we found cases where women had kept reusing them and there were cases of infections and so on.”⁴⁸

Food security, livelihoods and malnutrition

Tourism was significantly affected by the earthquake, with hotels and accommodation severely damaged and a 90% decrease in the numbers of tourists.⁴⁹ 57% of homestay owners in Nepal are women; they lost NPR 3.6 billion in damages in losses.⁵⁰ Men were more affected by damage and loss to the trekking and tour sector, losing NPR 14.3 billion.⁵¹

Agriculture was badly affected⁵² by a combination of a poor monsoon season, irrigation destroyed by the earthquake (15% irrigation schemes affected⁵³), and reduced planting time between the earthquake and the onset of monsoon rains.⁵⁴

With 73% of women in Nepal engaged in the agricultural sector, this damage heavily affected women.⁵⁵ Women lost approximately NPR 15 billion, compared to men who lost NPR 10 billion in

agricultural damage and loss.⁵⁶ 50% of households lost stored grain and seed⁵⁷ and food stores were destroyed, increasing reliance on donations for food.⁵⁸

Displaced women lacked the food storage space (for potatoes) in temporary housing; crops rotted, destroying their main source of sustenance and women’s income.⁵⁹ Women on average were less able to recover from these losses, with lower access to savings and lower levels of education (see education section) impeding employment in other sectors.⁶⁰

“Education is still often not prioritised within the Dalit community...consequently, the cycle of poverty continues. Women who marry young are particularly worse off as many end up abandoned by their husbands. Land and property documents are mostly in the names of their husbands or the husband’s family, and women often end up with nothing and nobody to turn to.”⁶¹

Prior to the earthquake, children in Nepal had high rates of chronic malnutrition (four out of ten children suffered from chronic malnutrition and stunting⁶²). However, nutrition was moving in a positive trajectory, with stunting rates decreased from 57% in 2001 to 38% in 2014 in Nepal.⁶³ There were reports of children missing meals after the earthquake, and concern that development gains would be reversed. This does not seem to be the case in the data; rates for 2016-17 were at 36% for the whole of Nepal, although there may have been more significant impacts within those Districts affected by the earthquake.⁶⁴

“At the local health post where I assist, after the earthquake we found that an increase in cases of malnutrition. Especially among children and pregnant women.”⁶⁵

Among elderly people, limited mobility reduced access to food and other aid (14% of those interviewed did not collect aid for themselves) and food aid was often inappropriate for them, being too difficult to chew or digest.⁶⁶

Education

Destruction of schools obviously has an age differentiated impact. 7,000 schools were destroyed,⁶⁷ 35,000 classrooms were destroyed or damaged,⁶⁸ and 699,100 girls and 699,937 boys were out of school following the earthquake.⁶⁹

Children missed schooling because of lack of school facilities, increased workload at home, and whilst displaced in temporary housing.^{70, 71}

Reduced education directly impacts future resilience; women with less education reported limited alternative options for income opportunities when their farming was impacted by the earthquake (see Food security, livelihood and malnutrition section).⁷²

There was a lack of data on vulnerable children, with consequences for their access to assistance.

“There is no data on visually impaired children of school going age. All this made it very difficult to identify and support people in need during the earthquake. Following the earthquake, it’s been difficult to secure funding as people don’t want to believe us when we say there is a need for more work, more support. Unless government puts an official stamp, our experience and our reality will not be considered ‘authentic.’”⁷³

A single mum, who is disabled and from a disadvantaged minority group, spoke of the impact of homelessness, poverty, disability and social marginalisation on her son’s education:

“It was hard to find another place to rent. Through the help of an agent we were able to find another place to rent at the other side of the city. This took a long time though, at least two months...this really disrupted my son’s schooling.”⁷⁴

There were also reports of adolescent girls and young women eloping after the earthquake, simultaneously dropping out of school.

“Quite a few chose to elope immediately after, and therefore ended up discontinuing their education.”⁷⁵

“A few of my friends who felt unable to continue with their studies after the earthquake because of emotional stress and financial constraints were married almost as soon as things stabilized.”⁷⁶

Internally Displaced Camps and rebuilding

500,000 homes were destroyed,⁷⁷ with estimates (extrapolated from census data) calculated on the gender, age and ethnicity of those affected. As per the census 26% of damaged houses belonged to female-headed households and 23% damaged houses belonged to senior citizens.⁷⁸

Women in temporary housing highlighted a wide range of challenges: shelters were small, resulting in a lack of storage space for food and crops (see Food security, livelihood and malnutrition section); temporary houses lacked privacy (see GBV section); the camps lacked facilities (see WASH section); the shelters were inadequate for extreme weather (the cold in particular affected children in the winter months).⁷⁹ Women noted the additional workloads associated with living in temporary housing, with time-consuming (and onerous) tasks of water and firewood collection, falling upon women and children.⁸⁰

“I did not want to move away from our rented room as I was alone with my children at the time. I had heard that the nearest official camp did not have enough toilets and water for the people already there. We ended up putting up a plastic tent on a roadside. It wasn’t comfortable but we could access our own toilet between aftershocks and make quick meals on our stove. I was also on my period and did not want to be where I might not have privacy. Fetching enough drinking water was a real challenge and even though we did not have enough money, we bought bottled water when we could as I did not want my children getting sick.”⁸¹

3.2 million children were displaced⁸² and 1.7 million children lost their homes and loved ones.⁸³ Children were negatively affected by loss of homes, destruction of schools, lack of access to healthcare and hygiene facilities, psychosocial issues related to loss

and fear, increased workloads, difficulties accessing food, and protection issues.⁸⁴ Temporary housing lacked space, privacy, and play areas for children.⁸⁵

Many people (in particular women) struggled to rebuild and move on from ‘temporary’ housing.⁸⁶ Single female-headed households often lacked the financial means to hire workers to rebuild and the skills to rebuild on their own. Elderly people had to rely on family members for support, and their loss of property, savings (72% of study participants lost their personal savings) and income generating resources restricted their ability to recover.⁸⁷

In Nepal only 19.17% of land is owned by women.⁸⁸ This puts them at risk of being excluded from housing reconstruction programs that are based on the owner-driven reconstruction approach. Land ownership is rare among widows and many widows were left to make alternative arrangements for themselves in rebuilding.⁸⁹

Ethnic minorities, people with disabilities, and single women including widows were highlighted as being badly impacted by loss of housing from the earthquake. Marginalised people struggled to find places to rent or live due to a combination of poverty and prejudice, with some unable to move out of temporary shelters.⁹⁰

“It was a difficult time for all involved of course, but single women on their own, in particular widows, found it really difficult to rent any place. Landlords felt they could not guarantee regular payments and also given the stigma attached to widowhood as a bringer of bad luck, people generally preferred to avoid them. For proof of just how hard things must be for elderly widows one only has to look at just how many chose not to evacuate from their homes, hoping the earthquake would finally end their misery. Many had to be dragged out. Many more lost their lives. These scenarios are not isolated ones, they replicate over and over during ever all over Nepal.”⁹¹

“Living in temporary shelter was very hard. Perhaps that was the hardest thing about everything we went through after the earthquake. Changing

clothes, washing, using the toilet, taking care of my son, is harder for me even in normal times anyway, but somewhere with no privacy, no control over who might walk in into my space was extremely challenging.”⁹²

Gender Based Violence

There was no systematic recording of gender based violence (GBV) occurrence after the earthquake, but there were a wide number of reports of sexual exploitation and abuse, harassment, and trafficking.⁹³ Girls were at risk of sexual violence, early and forced marriages, and trafficking (see Trafficking section).⁹⁴ Reports on camp facilities found only 11% of 82 camps had designated safe/social spaces for women⁹⁵ and 73% of displacement camps lacked gender-sensitive or separate toilets and washing facilities.⁹⁶

There is no reliable data on the impact of the earthquake on GBV and violence against women and girls (VAWG).⁹⁷ However the earthquake occurred within a context of ‘endemic’ GBV and VAWG in Nepal,⁹⁸ with 48-75% of women reporting experiencing GBV in their lifetime.⁹⁹ Incidents of GBV are highest amongst women from Dalit or religious minority groups, widows, divorced or separated women, and women living in the hill regions.¹⁰⁰

There were reports of GBV in temporary camps, including men entering women’s shelters and harassing them. This extended beyond the family unit.¹⁰¹ Alcohol abuse increased the prevalence of domestic violence.¹⁰² Widows were particularly at risk of receiving unwanted sexual attention and violence.¹⁰³

“Widows are easily identifiable in our society, and therefore become easy target. Even in non-disaster situations, majority are at the receiving end of unwanted sexual attention and violence from both extended family members and strangers. More so than other women. We have found time and again this worsens during precarious times such as earthquakes, flooding and conflict.”¹⁰⁴

Transgender women felt exposed and unsafe in the open, temporary housing camps, surrounded by strangers who did not know them.¹⁰⁵ They were

at risk of GBV and experienced unwanted sexual advances.¹⁰⁶

“It did not take long for men to try and make sexual advances towards me. That’s how people perceive transgender people here. They think we are promiscuous and easy.”¹⁰⁷

“Through the radio we heard news about young girls and women in other places facing sexual assaults and violence, so we organised our men to take turns patrolling our village.”¹⁰⁸

“Among women in temporary shelters, there were innumerable complaints of sexual harassments. Women complained of men walking into their tents at night, touching/ stroking them and running away. In the dark of the night, you do not know who is who. There was an increase in alcoholism among men, and as often is the case, this leads to increase in domestic violence. Only, when crammed together in a small space with strangers, it was not contained within one’s family unit.”¹⁰⁹

Trafficking and out-migration

In just over one month after the earthquake, 793 people were intercepted illegally crossing the border, some of whom were trafficked.¹¹⁰ 57% of those crossing the border illegally were women and girls.¹¹¹ Women and girls attempting illegal border crossings occur within a context of restricted migration laws for women in Nepal, with Nepal issuing less permits to allow legal emigration to women than to men.¹¹² Many young women from earthquake affected areas lacked income earning opportunities in Nepal, and looked to emigrate for work. However a shortage of emigration permits for women forced many women into illegal emigration. Another reason for illegal emigration was lack of official documentation after the earthquake, and women and teenage girls in particular were less likely to have official documentation.^{113,114} These women may also be caught and recorded as ‘trafficked’ due to illegal migration.

Young people, unable to find employment in Nepal, looked to emigrate to find work in other countries.¹¹⁵

“After the earthquake, young people often chose to go abroad for work as migrant workers.”¹¹⁶

“Following the earthquake, we had to use agents to find a new place to rent. Both the agents fee and rent was very expensive. We also had to readmit our son to a new school following the move. Soon after, my husband left for abroad to search for work. We could not survive otherwise.”¹¹⁷

“We were also worried about young women being trafficked. Thankfully, we only found very few alarming cases. But that is not to say there might not have been more. People, women in particular, aren’t always honest about the abuse they suffer. We’re taught to keep things to ourselves from a young age.”¹¹⁸

There was a threefold increase in trafficked children being rescued at the border crossing.¹¹⁹ Children separated from their family were at higher risk of trafficking.¹²⁰ There were instances of girls being taken into prostitution or sold as domestic slaves and boys taken into forced, often hazardous, manual labour.¹²¹

Exclusion

Access to immediate aid and support for recovery was particularly difficult for more marginalised groups such as people with disabilities, elderly people, single women, people from ethnic minority communities, and LGBTQI people. Women’s representation and participation in decision making and governance is generally low in Nepal; 16.8% of civil service officers are women.¹²² Lack of understanding and lack of data on marginalised groups left these groups unconsidered and overlooked in reconstruction planning.¹²³

For example, disabled people and the elderly have limited mobility even during normal times and depend on others for support – this includes people with invisible and intellectual disabilities.¹²⁴ Nepal’s 2011 Census estimates there are approximately 513,000 people with disabilities in Nepal, an estimated 322,000 people with a disability lived in the most affected districts.^{125, 126} Lack of data on

visually impaired school children made it very difficult to identify and support people in need during the earthquake due to lack of evidence to secure funding.¹²⁷ Disabled people found it difficult to find alternative rental properties due to the perception that they are unreliable.¹²⁸ Due to social stigma, disabled people do not often appear in public; this limits the understanding of disabled peoples' needs.¹²⁹ Lack of data directly affects who gets immediate support during a disaster and who doesn't.¹³⁰

*"The stigma is widespread and deep-rooted, the fear of being pitied and looked down upon is strong."*¹³¹

Marginalised groups, such as the Dalit community (who, along with the indigenous community constituted 41% of damaged houses¹³²), found it difficult to secure new rental properties. Landlords were reluctant to rent to them due to discrimination and exclusion.¹³³ Before the earthquake, 42% of Dalits lived under the poverty line, 80% of whom are Dalit women, placing them at higher vulnerability to the disaster.¹³⁴ Lack of accommodation also impacted on children's ability to return to school.¹³⁵

*"...people normally don't like to rent their space to people like us (Dalit, disabled and poor)."*¹³⁶

The LGBTQI population in Nepal is estimated at 8-10% of the population;¹³⁷ there are no disaster plans specifically for gender minorities, and there is a lack of understanding of the challenges LGBTQI people face.¹³⁸ There were instances of transgender people being refused relief aid.¹³⁹ Providing support and awareness to transgender people is not easy;

cisnormative binary gender assumptions can result in incorrect records during data collection.¹⁴⁰ They are often homebound and do not engage with the community due to stigma and discrimination.¹⁴¹

*"There have been reported instances when transgender people have faced direct discrimination when collecting relief. Many were removed from the relief beneficiary list because the distributors didn't approve of their appearance."*¹⁴²

Widows were directly dependent on their in-laws for compensation, as they were considered a single family unit; often their in-laws were unwilling to inform them about or share their compensation.¹⁴³

*"Across Nepal, the expectation that widowed women continue to live with their in-laws, devoting their lives to housework, away from any social activities and public space continues. This leaves them vulnerable and dependent, where most end up living in poverty."*¹⁴⁴

Lack of identification was a barrier to receiving aid or engaging in DRR processes. A teenage girl who lacked identification was unable to directly receive assistance:

*"When they came to distribute relief a few days later, they would only give it to my father as he was the only one with official documents."*¹⁴⁵

*"It was my father who went to all the planning meetings and trainings after that too, not that there were many, as we didn't think anybody would allow us without official documents."*¹⁴⁶

CASE STUDY 2:

FLOODS AND DROUGHT IN MALAWI

Mortality and Numbers Affected

278 people were killed in the 2015 floods¹⁴⁷, with 15 out of 28 districts declaring a state of disaster,¹⁴⁸ and 230,000 people displaced.¹⁴⁹ 56%¹⁵⁰ of those displaced were female (compared to 51% of the overall population¹⁵¹) and 55% were under 18¹⁵² (compared to 51% of the population).¹⁵³ 2.5% of the displaced population were pregnant women, and 5.9% were breastfeeding mothers.¹⁵⁴ 4.6% of the displaced population were single women who were heads of their household.¹⁵⁵

In 2019, 60 people were killed¹⁵⁶ as a result of Cyclone Idai and 672 people injured.¹⁵⁷ 868,900 people were affected overall,¹⁵⁸ with 76,831 people displaced.¹⁵⁹ Of those displaced, 59% were female,¹⁶⁰ and 58% were under 18.¹⁶¹ 5,136 pregnant and lactating women were affected.¹⁶² 11% of 866 affected households in the four worst-hit districts were headed by single women, compared to 3% headed by single men.¹⁶³

Interviews identified ways in which gender norms affected women's vulnerability to the floods; access to warning information about disasters, which is often distributed over the radio or mobile phones, is limited for women, as men tend to control these items.¹⁶⁴ Men also tend to be considered household decision-makers, which can put women at risk. In some cases, women remain at home even when flood water reaches dangerous levels, because their husbands have decided not to evacuate, or women have decided to wait for their husband to return before leaving.¹⁶⁵ Despite this, in many cases it is women who are more likely to be at home when floods occur, meaning they take on the responsibility for evacuating their family to safety.¹⁶⁶

Health

After flooding in 2015¹⁶⁷ there was an increase in cholera (423 reported cases and at least six deaths),

bilharzia, worms¹⁶⁸ and diarrhoea.¹⁶⁹ Although this data is not gender or age disaggregated, we can infer a differential impact on women and girls, because gendered roles (such as fetching water, cleaning latrines, washing clothes and caring for sick relatives), increase their exposure.¹⁷⁰ Water collection is highly gendered in Malawi, with women 18 times more likely to collect water than men.¹⁷¹ There is also an age related dimension, with cholera and diarrhoea posing immediate and long-term dangers to pregnant woman and infants.¹⁷²

With over-crowding in displacement camps,¹⁷³ increases in Tuberculosis (TB) and respiratory infections are likely post Cyclone Idai.¹⁷⁴ TB presents particular risks to women and children; women of child-bearing age are more likely than men to develop TB if they come into contact with it, and TB infection during pregnancy has been linked to premature delivery and low birth weight.¹⁷⁵ The risk of TB-related death during pregnancy and delivery is further increased for women living with HIV.¹⁷⁶ Children are also especially vulnerable to respiratory infections, as they have a greater risk of respiratory arrest than adults.¹⁷⁷

Women and girls faced challenges managing menstruation in displacement camps where there is limited privacy and low availability of sanitary items.¹⁷⁸

Medical records (health passports) were lost during flooding, with impacts on those requiring ongoing medical care, including women and children who lost immunisation records, affecting completion of immunisation schedules.¹⁷⁹ Immunisation of pregnant women and children under five was also disrupted with people missing vaccinations while displaced, and due to reduced availability (power cuts affecting vaccine cold chain storage).

Reduced completion of immunisation increases risk of cholera and measles.¹⁸⁰

Maternal health

13,654 and 5,136 pregnant and lactating women were affected by the 2015 floods¹⁸¹ and by Cyclone Idai, respectively.

Pregnant women are three times more likely to develop severe disease than non-pregnant women acquiring infections from the same area.¹⁸² Malaria, which increased by 26% following the 2015 floods,¹⁸³ poses risks of miscarriage, premature delivery, low birth weight, congenital infection, and perinatal death.¹⁸⁴

In this high risk context, maternal healthcare was severely disrupted due to the floods; there were no ante-natal services in most camps following the 2015 floods¹⁸⁵ and difficulty accessing maternal health services.¹⁸⁶ There is no specific analysis of the impact of healthcare disruption on these women and girls, but differential impacts can be inferred from wider information on maternal health. In 2015 Malawi ranked 170/182 countries in the UNDP's Human Development Index's maternal mortality ratio, with 634 maternal deaths per 100,000 live births.¹⁸⁷ Only 43% of births are attended by health workers during non-flood periods and this can be expected to drop during emergencies.¹⁸⁸

Following Cyclone Idai there were reports of pregnant women undergoing complicated deliveries in displacement camps, because they were unable to cross a river to reach the hospital¹⁸⁹. There were also reports of pregnant women displaced by Cyclone Idai having to walk long distances to access health care, with some developing oedema of the leg because they had slept while standing waiting to be evacuated.¹⁹⁰ Challenges accessing potable water and nutritious food in the camps were also reported by pregnant women.¹⁹¹ Similarly, access to growth monitoring and antenatal care was cut off for pregnant women and infants in affected areas.¹⁹²

"...because of stress and lack of nutrition, many women were unable to feed their babies properly. There was a lot of cries everywhere from hungry babies."¹⁹³

HIV and AIDS

52,137 PLHIV/AIDS were in need of antiretroviral treatment (ART) following the 2015 floods.¹⁹⁴ Although this number is not disaggregated, women in Malawi are disproportionately affected by HIV, with a prevalence rate of 12.8% compared to 8.2% for men.¹⁹⁵ 9,215 PLHIV/AIDS were reported to be pregnant women and 842 were children.¹⁹⁶

Access to antiretroviral therapy (ART) was limited in camps after Idai – with only three teams operating outreach services in Chikwawa District, many people had to wait long periods of time to receive medication.¹⁹⁷ Damage to bridges prevented some PLHIV/AIDS from replenishing drug supplies.¹⁹⁸ Difficulty accessing health centres was reported as impacting on condom use - with sexually transmitted disease and pregnancy likely to increase as a result.¹⁹⁹

PLHIV/AIDS are known to be vulnerable during flooding, due to a number of factors including: disruption to ART regimens as a result of loss of normal social services,²⁰⁰ medication²⁰¹ and health passports,²⁰² as well as physical²⁰³ and financial barriers²⁰⁴ to accessing clinics; malnutrition (and related side-effects of taking medication without enough food);²⁰⁵ and fear of disclosing HIV status in a camp setting.²⁰⁶

Food security and nutrition

After the 2015 floods, 6.5 million people were reported as in need of food assistance.²⁰⁷ This data was not disaggregated by gender, but there is evidence of women's higher levels of poverty, poor access to land, and limited opportunities for income-generation in Malawi, which increases their vulnerability to food insecurity and malnutrition.²⁰⁸

975,000 children aged 6-23 months, and pregnant and lactating women, were reported as being at risk of food insecurity and malnutrition in the 24 districts affected by the El Nino-related drought which followed the floods.²⁰⁹ Children were at increased risk of malnutrition due to a lack of nutritious food suitable for their age, and a lack of treatment for drinking water to prevent diarrhoea.²¹⁰ There were reports of pregnant and lactating women struggling to get sufficient nutrition in shelters post flooding.²¹¹

*"I stayed in the shelter for three weeks. It was hard. Along with being pregnant, I also have asthma which gets worse if I do not keep warm. I was only given one blanket and that I had to spread on the floor to lie on, so got very cold. This, and because of the physical discomfort from being pregnant and also because it often got very noisy at night, I could not sleep very well. This meant I ended up falling asleep in the mornings. This in turn meant I had to go hungry as there would be no food left in the camp by the time I got up. Being pregnant, accessing food was generally hard anyway as people never queue properly. They push and elbow each other. Also, the queues can get very long, and I was not physically strong enough to stand for so long. I feared for my baby as I was not eating well. Things would have been different - easier - had I not been pregnant."*²¹²

Orphans and youth living without parents are particularly vulnerable to food insecurity issues. There are an estimated 1.4 million orphans under the age of 14 in Malawi, many of whom live with grandparents.²¹³ Women-headed households caring for orphans and other family members are especially vulnerable. It is not uncommon for a single grandmother to care for as many as eight children.²¹⁴

Social marginalisation and discrimination, combined with poverty and lack of resources, increases vulnerability, as described by one trans woman:

*"I live alone and do not have land to grow my own food. During the droughts in 2016, I went hungry for many days. I did not always feel comfortable to go collect food that was being distributed and even when I did go, I was not always given food because of my situation."*²¹⁵

Livelihoods

90% of women (and 80% of men) are engaged in agriculture, a sector that accounts for one third of Malawi's GDP.²¹⁶ Agriculture in Malawi is extremely vulnerable to the impacts of hazards; floods cause average annual GDP losses of 1.43%.²¹⁷ There is some evidence that women farmers lost 44% more acres of agricultural land than their male counterparts.²¹⁸

Women's livelihoods in Malawi are less resilient than men's, with female-headed households particularly vulnerable to being pushed further into poverty by disasters.²¹⁹ Poverty in Malawi is gendered, with women earning an estimated 50% and 71% of what men earn in the informal economy and from smallholder agriculture.²²⁰

Women's low resilience is attributable to a number of factors explored in research including limited access to resources (draught animals, mechanised transport), lack of land ownership, limited assets and limited capital to invest in inputs,²²¹ resulting in a productivity gap of 25% between men and women.²²² Even in non-emergency periods, women report having to sell their goods at a lower price than men, and some women cannot travel to market because of gendered social norms restricting women's mobility.²²³

Those with lower incomes and less social capital reported being unable to recover their livelihoods after a disruption; they were often pushed into negative coping strategies.²²⁴ As one trans woman told us:

*"I used to sell shoes, but I haven't been able to continue because everything was damaged, I'm at a low point. I just go to where people are on buses to collect money and buy food."*²²⁵

Education

The 2015 floods and Cyclone Idai both had significant impacts on children's education. 200,000 children were estimated to be affected by the floods in 2015, with 461 public sector schools damaged, 97% of which were primary schools.²²⁶ 104 out of 174 were being used as IDPCs and 77,134 children were affected in the four districts worst-hit by Cyclone Idai (Nsanje, Phalombe, Chikwawa and Zomba).²²⁷

The number of children whose education was temporarily disrupted is not disaggregated, but data on enrolment for Malawi indicates a sharp drop in enrolment between primary and secondary level education: in 2009 Malawi had a net enrolment rate of 98% for girls and 94% for boys at primary, yet only 25% for girls and 27% for boys at secondary level.²²⁸

Interviews highlighted that many schools conducted classes outside whilst awaiting repair or reconstruction of classrooms. Outdoor classes are inaccessible for children with albinism, for whom the sun poses serious health risks, effectively excluding them from returning to education.²²⁹

Loss of educational materials like school uniform and exercise books in the floods prevented many children from returning to school.²³⁰

There were some reports (not quantified) that children were dropping out of school and engaging in child labour because of the floods.²³¹ Girls are also more likely than boys to be withdrawn from school to support their families with domestic and agricultural work, including taking on caring roles for younger children or sick relatives.^{232, 233}

“...families get used to their daughters helping around the house and don't see any point in sending them back to school.”²³⁴

One young woman reported being unable to continue pay fees after the floods destroyed the house she was renting out:

“I cannot afford to renovate my house and that has led to the tenant evacuating the house. This has affected my schooling as I now do not have money to pay the school fees and I am not going to school.”²³⁵

Gender Based Violence

Larger scale surveys noted 10% of women reporting feeling unsafe in shelters after the 2015 floods,²³⁶ although reporting of GBV is likely to be underestimated. The prevalence of GBV in Malawi (41% of women reported experiencing physical or sexual violence in 2011²³⁷) and evidence from other disasters suggest GBV rates were likely higher after the 2015 and 2019 events.

Interviews highlighted examples of women and girls in camps being asked for sex in exchange for humanitarian aid by distributors,²³⁸ and women being afraid to speak out about GBV due to a fear of repercussions.²³⁹ Following Cyclone Idai, 79% of

displacement sites were reported to lack adequate lighting to protect the safety of IDPs, and 21% of camps did not have any security present to prevent or respond to cases of violence.²⁴⁰ Interviews revealed that Child Protection focal points were in place in some camps, and had received reports of abuse of minors.²⁴¹

“We cannot refute that it happens (to boys), it would be difficult for boys to come out, because of our society, they are told to be quiet.”²⁴²

This supports findings that women and girls who were displaced by the floods became even more vulnerable to sexual abuse and harassment²⁴³ and that inadequate supply of water puts women and girls at risk of sexual assault as they search for water for the household.²⁴⁴

There were numerous reports of food insecurity leading to sexual exploitation and abuse of women and girls. Girls in particular may be pressured by their families to turn to prostitution as a means of accessing cash or food; and this risk is heightened in a post-disaster context.²⁴⁵ There were reports of girls as young as 11 being forced into marriage as a result of floods in order to reduce the stress on their family.²⁴⁶ Child-headed households are also highly vulnerable to sexual exploitation due to lack of familial and adult protection.²⁴⁷

“When there is nowhere to live and nothing to eat, mothers themselves encourage their daughters to go with men so they can get money. It is very common for families to put pressure on girls, as young as 14.”²⁴⁸

Floods have also been found to increase transactional sex, especially as household assets are depleted.²⁴⁹ Interviews highlighted that transactional sex is typically unprotected, as access to contraceptives is compromised as a result of flooding (in addition to gender norms which characterise women as being promiscuous if they ask a partner to use a condom),²⁵⁰ resulting in increased risk of unplanned pregnancy and sexually transmitted infections, including HIV.²⁵¹ Young girls and child-headed households have

also participated in transactional sex in exchange for food and relief items.²⁵²

*"...we heard that men would ask for sexual favours in return, people don't realise they are entitled to aid, they think that the person distributing the aid is doing them is a favour."*²⁵³

Young women are vulnerable to human traffickers in the aftermath of disasters and are sometimes trafficked into cities to work in the sex trade. Some are trafficked internationally, to Zambia and South Africa.²⁵⁴ Boys are also trafficked, often into commercial farms in Zambia and Malawi. There is an expectation on them to provide for their families.²⁵⁵ Large families, with extensive caring responsibilities, may encourage young women to accept these 'opportunities' in order to ease the household burden.²⁵⁶

*"The traffickers don't even have to work hard. It's only natural people give in to temptation for a better life. Especially when they find themselves going hungry."*²⁵⁷

Exclusion

Gender and sexual minorities in Malawi face significant formal and social discrimination; same-sex relationships are illegal.²⁵⁸ Social stigma surrounding LGBTQI identities means that many individuals are disowned by their families, and removed from social networks that are a source of resilience and support in disasters.²⁵⁹ Discriminatory attitudes and fear of arrest result in exclusion from participation in DRR training and planning;²⁶⁰ access to shelter;²⁶¹ use of health services;²⁶² and distribution of relief items.²⁶³

*"In the past, when trainings were organised specifically for our community - never that many, just one or two, here and there - there was always a catch. We were always preached afterwards about our 'wrong' ways and told what to do to correct ourselves. Unless this changes, we are unlikely to actively join in on anything."*²⁶⁴

*"I have never had any trainings. I have never attended any meetings. Because people don't treat me like a human."*²⁶⁵

*"Nobody came to give anything to me and I did not go to ask because the way people treated me made me feel ashamed of my situation [for being transgender]. They used to call me names and taunt me."*²⁶⁶

*"I never went to a shelter. I would not have felt comfortable there among so many people. Also, I doubt I would have been welcomed there. People do not believe I am a person like them."*²⁶⁷

People with disabilities face discrimination in displacement camps, such as poor access to toilets,²⁶⁸ verbal abuse and difficulty in accessing food and relief items.²⁶⁹ They also face a range of challenges in relation to accessing early warning information²⁷⁰ and evacuation.²⁷¹ On the other hand, interviewees indicated that some Village Civil Protection Committees prioritise vulnerable community members, including women, disabled people, PLHIV/AIDS and the elderly, by providing special assistance for evacuation and encouraging participation in DRR efforts.²⁷²

People with albinism in Malawi are also vulnerable to disasters, and are advised by some organisations to avoid displacement camps and distribution centres due risk of verbal and physical attack.²⁷³ People with albinism experience serious and dangerous discrimination which is fuelled in large part by beliefs that their bones contain magic or gold. They are targeted for ritual killings or to sell their bones for ritual practices, resulting in a climate of fear for people affected by albinism and their families.²⁷⁴ Risks are also related to health, for example distribution points are often at the centre of a village, which would require exposure to the sun.²⁷⁵

*"There are practical challenges like not being able to be out in the sun for too long due to risk of skin damage and poor eyesight, not being able to walk long distances to a shelter or to collect relief. Then there are the social risks of being attacked, being abused, even killed."*²⁷⁶

Droughts

The impacts of the 2015 floods and Cyclone Idai on women and children in Malawi occurred within the

context of frequent and recurring drought conditions. From examining data and insights into the differentiated impact of drought on the population of Malawi, we can infer the likely differentiated impact of floods, assuming similar impacts, and also understand the longer term, underlying context in which the floods occurred.

Agriculture in Malawi is extremely vulnerable to the impacts of hazards; droughts cause average annual GDP losses of 2.02%.²⁷⁷ Women's livelihoods in Malawi are based around agriculture, therefore impacts on agricultural productivity can have significant impacts on livelihood, food security and malnutrition particularly for women and children.²⁷⁸

A 19 year old woman told us how lack of access to land and unemployment, and living without her parents (who had emigrated in search of work), meant she went hungry during drought:

*"We went hungry for days. Sometimes neighbours would give us a pumpkin and we would share that between the entire family. I got what was left after my uncle and his big family had eaten."*²⁷⁹

HIV-affected households are significantly more vulnerable to food insecurity (and HIV/AIDS prevalence is higher among women). In the 2001/2 drought, 92% of HIV-affected households²⁸⁰ were food insecure compared to 47% of non HIV-affected households.²⁸¹

Previous research has found that, following floods and droughts, the workload of gendered tasks increases for women, with women having heavier burdens of collecting water²⁸² and firewood,²⁸³ caring for young, elderly and sick relatives,²⁸⁴ and fetching and preparing food.²⁸⁵

This also has a subsequent impact on girls' education. From 2008 to 2014 52.94% of students²⁸⁶ dropping out of primary school were girls, with a correlation between rates of girls dropping out of school and number of people affected by floods and droughts.²⁸⁷

*"In times of floods and droughts, girls can't go to school. Girls and women are responsible for taking care of family members so when we have drought or hunger, the child has to stay at home and look after the other kids while the parents go out and look for food. Education is prioritized for boys, so they will still go to school."*²⁸⁸

A young woman who grew up without her parents recalled the impact of drought on her education:

*"My own education was disrupted twice after droughts. My uncle said he could not afford to pay my fees at a time when he could not even feed his own family."*²⁸⁹

Trafficking, sexual exploitation and abuse is a common unhealthy gendered coping mechanism in response to shocks and stressors.

*"The driving force might not always directly be a disaster, but it is almost always poverty. Always hunger, which is worsened by harsh external factors."*²⁹⁰

Families unable to cope with the impact of floods or drought may rely on daughters to engage in sexual activity in exchange for food.²⁹¹

*"Sometimes extreme poverty and hardships due to disasters leads to families themselves 'unloading' girl children, this is particularly true for single-parent families."*²⁹²

CASE STUDY 3:

HURRICANE IN DOMINICA

Mortality and number of people affected

Hurricane Maria struck Dominica on the 18th September 2017. 65 people²⁹³²⁹⁴ were killed,²⁹⁵ approximately 44% women, and at least eight children²⁹⁶ (approximately 38% of whom were girls). Almost 63,000 people,²⁹⁷ around 90% of the population, were directly affected and had urgent needs (for food, water, electricity, tarpaulins, medication, and building repair materials). This included 19,800 children.²⁹⁸ As per the last census (2011), women represent 48.9% of the population.²⁹⁹

Housing and shelter

90% of houses were damaged by Hurricane Maria, with 15% fully collapsed or damaged beyond repair³⁰⁰.

Vulnerable people were more affected by damage to housing, with 56% of the 1,862 people housed in 63 shelters being reported to have one or more vulnerabilities, such as being pregnant, breastfeeding, having a physical or cognitive disability or chronic illness, being elderly, or being a single head of household.³⁰¹ 26% of people in shelters were reported to be elderly.³⁰² The indigenous minority Kalinago community was particularly impacted, with 90% of the community's housing being totally destroyed.³⁰³ Observational evidence and interviews conducted for this study indicate a predominance of women, single women household-heads, elderly persons and children in the shelters.³⁰⁴

In shelters, women (particularly elderly women) carried out the majority of care work, around 18 hours a week.³⁰⁵ Disabled people and carers for disabled children reported challenges in shelters and during evacuation.³⁰⁶

*"It is very, very difficult for me because of my daughter (who is deaf, blind and mute). You have to be on alert and take the measures where and when necessary. I cannot just hold my daughter's hand and run."*³⁰⁷

*".. especially people with wheelchairs because access is a problem."*³⁰⁸

Many children were separated from their families after the hurricane.

*"Lots of kids were separated from their families, with their parents housing them with someone who had a roof. This was distressing for some children when they didn't necessarily know the host family too well. Lots of children were also living in shelters where they lost ties with their families."*³⁰⁹

There were gendered (and inequality related) challenges in reconstruction. People from the Kalinago community reportedly are less likely to be able to access loans for reconstruction because they lack individual collateral due to communal land ownership in Kalinago communities. These conditions may make people from Kalinago communities more vulnerable to the impacts of disasters.³¹⁰

Elderly members of the Kalinago community with mental health needs were particularly vulnerable.

*"My elderlies stayed two to three weeks in the shelter. The managers kept telling me to get them out and get somewhere to put them. I felt I was being pushed out. I told them that the elderly people have no homes and that their family members are in the same situation as them. They said they needed the school, and that the elderly people had to be moved, especially those with dementia."*³¹¹

Many women, particularly elderly women heads of household, did not have home insurance, and could not afford the materials and labour they needed to rebuild.³¹² This was particularly a challenge for elderly or disabled single women headed households who needed to hire labourers to help reconstruction, but lacked resources to do so. Elderly people reliant on pensions could not afford to rebuild.

“The government provides USD300 to each elderly person per month. This covers just food. Many are still without a safe home, without water, without electricity.”³¹³

There were reports of disabled people, and people with caring responsibilities, continuing to live in precarious conditions, having received very little in the way of assistance and having been unable to rebuild.³¹⁴ There were still people living in tents, under tarpaulins and in derelict vehicles³¹⁵ who remain vulnerable 18 months after the hurricane.

Discrimination left some LGBTQI people struggling to find people willing to help them rebuild homes and businesses³¹⁶ and also impeded access to shelter.

“Some couldn’t stay in shelters because of verbal abuse. I’m not saying they were prevented from going but they were made socially uncomfortable to be there. You don’t go where you feel uncomfortable.”³¹⁷

Health

100% of Dominica’s health facilities were damaged by the hurricane.³¹⁸ There is no specific data on the gender or age differentiated impacts on access to health care; however, a small survey of 46 women and girls in IDPCs found that 28% reported no access to health services.³¹⁹ Disruption to health services will disproportionately impact on those with acute or pre-existing health inequalities which are likely to disproportionately include women. Women in the Caribbean have been found to have increased health risks in post-disaster settings due to social roles, in particular linked to caring responsibilities, that increase risk of water-borne diseases.³²⁰

Elderly people were differentially affected. There were reports of elderly people living alone who did

not know where to shelter and were more exposed during the hurricane.³²¹ There was a rise in diabetes and hypertension amongst elderly people, attributable in part to inadequate access to nutritious food post-Maria.³²² There were reports of elderly people stopping drinking due to a shortage of incontinence pads.³²³

Some elderly people died shortly after the hurricane, with psychological trauma potentially contributing.³²⁴

“I had a former neighbor... they brought her to see her own house and she saw it was all collapsed. She died the following afternoon. This is the effect it had on the elderly.”³²⁵

“We have lost a lot of elderlies through grieving.”³²⁶

“We lost about nine or so centenarians within that time, because of the impact.”³²⁷

Damage to healthcare services affected those with chronic conditions, with reported challenges and delays in accessing vital medication and treatment for elderly people,³²⁸ PLHIV/AIDS,³²⁹ and individuals who suffer from seizures.³³⁰ Some individuals with chronic health needs were transferred abroad,³³¹ including young people for dialysis.³³² One mother described how her son’s health and development were significantly affected by needing to emigrate:

“In Dominica, my son (who has cerebral palsy) had therapy every day, free of charge. Moving to Saint Lucia changed how things were supposed to be... Without the hurricane, he would be better. In Dominica, his condition was improving; his body movements, his communication, his tracking. It is a difficult decision to stay here.”³³³

PLHIV/AIDS were supported to access ART after Maria through outreach efforts,³³⁴ although some people reported challenges getting to the central clinic because of the poor state of the roads.³³⁵ Men, and particularly young men³³⁶, are likely more affected by HIV/AIDS in Dominica.³³⁷ There is some evidence of an increase in HIV transmission to older female adolescents post-Maria.³³⁸ Longer-term impacts of the hurricane on PLHIV/AIDS were reported as unemployment, inadequate housing and debt.³³⁹

“People living with HIV or AIDS are still discriminated against, we are still stigmatized. There are some PLHIV/AIDS who don’t even have a job, they don’t have a home. Some live in shacks, some live in the ghetto. A lot of us are poor people. Some people are begging. A lot of us need help, a lot of us need assistance.”³⁴⁰

Maternal Health

Despite no data on the impact on maternal health³⁴¹, it is likely that damage to healthcare facilities and services³⁴² will have impacted on the maternal health of the 41 women registered as pregnant or breastfeeding in the IDP sites a month after the hurricane.³⁴³

Road damage disrupted access, with examples of women in labour struggling to reach hospital³⁴⁴.

One woman who gave birth just hours before Maria described the challenges she experienced in accessing food and other essential items while at the Princess Margaret Hospital.

“The hospital was getting more congested with more people arriving, it was very uncomfortable. We had to ration food, it was just a bit difficult... There were about eight pregnant women and me and my baby. We shared one sandwich and a bottle of water and stayed up talking and listening to the howling of the wind.”³⁴⁵

Mothers also described delaying post-natal health checks for themselves and their babies, due to the conditions after the hurricane and the closure of local health centres.³⁴⁶

“Around two to three months after I could get my baby checked out for the first time. Because I couldn’t really travel with him in the dust, it was very dusty after the hurricane. I had to go back to the hospital for the checks. The health centre in the village wasn’t up and running so I had to travel there.”³⁴⁷

Psychosocial Impact

There were mixed reports of the psychological and emotional impacts on young people, with some

schools reporting children doing remarkably³⁴⁸ while others demonstrated signs of trauma.³⁴⁹

“Girls could express themselves better, boys were more reticent. Boys expressed more anger and aggression, play was rough, drawings were more aggressive. Girls came together more during the child-friendly spaces and were better able to express themselves verbally.”³⁵⁰

“There was a rise in consumption of alcohol among young people, they just wanted to let go.”³⁵¹

Marginalised groups faced specific barriers to accessing psycho-social support after the hurricane.

“LGBTQI organisations cannot even get counsellors to counsel their members because it’s a taboo and illegal.”³⁵²

Caring responsibilities are heavily gendered in Dominica.³⁵³ Interviews with primary carers revealed the important role they played in supporting other vulnerable groups, such as elderly and disabled people, including disabled children, both before and after the hurricane. Carers spoke of their responsibility for evacuating, sheltering and meeting the basic needs of those they care for in the immediate and long-term. The emotional and financial burden of this responsibility was frequently cited by the carers we spoke to.³⁵⁴

“I complained at the hurricane shelter because my senior citizens were not being fed properly. I said I was not satisfied. Sometimes they would offer me sugar, rice, flour. If I didn’t ask I didn’t get anything.”³⁵⁵

“The shelter wardens were there to supervise but I was left to care for the elderlies. I took their meals to them even though there was a curfew. I had to pay for it...In the days that followed I continued to take food over, and I went to the river to do their laundry, which was really difficult.”³⁵⁶

Hurricane Maria disrupted support services, both government-run services and third sector/voluntary support services. This had negative effects on

those individuals accessing support, including, for example, support groups for the elderly,³⁵⁷ after-school clubs for marginalised children and day care and respite care for children with special needs.³⁵⁸

“The PACIS Respite Centre [Parents Advocating for Inclusion of Children with Disabilities in Society] was used as a shelter because the majority of the people in the area lost their homes. There are still people in the centre and the children who should be going there for day care are at home. So the children have been affected indirectly because they are not getting the stimulation and care they would normally get.”³⁵⁹

Education

83% of schools were damaged,³⁶⁰ with 100% of school children (13,575 pupils) experiencing disruption to their education (even undamaged schools were closed for a month³⁶¹). Six weeks after the hurricane, 95% of the total student population was still without access to schooling.³⁶²

Average time accessing formal education time dropped by 40% compared to the previous year.³⁶³ 22% of surveyed students in IDP camps reported a drop in grades following the hurricane.³⁶⁴ There was no disaggregated data collected on impacts on education, and interviews did not reveal any gendered trends in lost education.

Gender Based Violence

There is very little data relating to GBV after the hurricane because government records were destroyed and the systems and processes recording and offering support to survivors of GBV collapsed³⁶⁵. Reports from before the hurricane indicate that GBV, particularly intimate partner violence and violence against children, is a prominent issue in Dominica³⁶⁶, in a context where marital rape, for example, was only criminalised in December 2016.³⁶⁷ The Department of Social Welfare is severely under-resourced to address issues of GBV even in a non-emergency setting, with just one Child Protection Officer serving the whole country in 2017.³⁶⁸

“Referral pathways have been damaged so GBV rates appear lower. Also, people are displaced

so they don't know who to tell and sometimes their accommodation is dependent on them not telling. As well as non-existent reporting system, the courts were closed for over a year. There is no proper management of gender-based violence or crimes related to personal safety.”³⁶⁹

The collapse of formal GBV reporting pathways post hurricane, meant victims of GBV were less likely to report the crime and less likely to receive the support they required.³⁷⁰ A small survey of 46 women and girls staying in shelters post hurricane found that fear of being identified, and a lack of confidential services, were major factors preventing survivors of GBV from accessing services.³⁷¹

There were reports of young and teenage girls experiencing sexual harassment, grooming and voyeurism, often when they were left alone or unsupervised in shelters.³⁷² There were reports that shelter residents were concerned about a lack of privacy and a lack of security in shelter sites.³⁷³⁻³⁷⁴

“In the shelters, people were engaging in sexual intercourse and there were a few cases where we unfortunately had young people who were sexually abused in the shelters. Not many but just about five cases that we knew about. Boys and girls...They were angry and frustrated because they wanted to come out of that environment, they wanted to go home.”³⁷⁵

Interviewees cited sexual harassment towards women in shelters,³⁷⁶ from male neighbours,³⁷⁷ and in relation to accessing relief aid.³⁷⁸

“Transactional sex is on the increase. There has been discussion about sex for rations and for building materials and with the uniformed people who came in to help.”³⁷⁹

A single mum shared how she had been sexually harassed when asking for help to secure her home.

“A guy came and told me, I can help you out, but he was sending me messages and asking me to send pictures. Within the scope of being a single mother and affected, you tend to become very

vulnerable. You can go through a lot of harassment because you need probably to ask somebody for a favour.”³⁸⁰

There were increases in reports of child abuse after Hurricane Maria, with mostly girls and some boys affected.³⁸¹ There were also reports of female sex workers being more vulnerable to HIV/AIDS in the aftermath of Maria, with financial insecurity and alcohol abuse contributing to riskier practice.³⁸²

Crime Stoppers Dominica (a free and anonymous hotline) was able to maintain its services. All the reports of child abuse received by the organisation after Maria related to girl victims and most reported incidences were centered around urban areas.³⁸³

The PDNA noted that there had been no reports of GBV, but identifies an urgent need to reinstate referral services for GBV cases, and acknowledges that the Bureau of Gender Affairs is critically under-resourced. The PDNA also notes allegations of emergency security forces openly soliciting young women.³⁸⁴ There are reports that national and international agencies responding to the hurricane were unfamiliar with or unaware of existing guidelines for integrating GBV interventions in humanitarian action, so these guidelines were not implemented, putting women at risk.³⁸⁵

Livelihoods

The impacts of Hurricane Maria on livelihoods were gendered; women in Dominica are largely engaged in the informal economy, mostly in subsistence agriculture, which was significantly impacted.³⁸⁶ Women in Dominica have a lower rate of formal employment (42.2%) compared to men (57.8%), with women more likely to work for no or lower wages.³⁸⁷

Women’s reliance on home-based livelihood activities, such as hairdressing and shops,³⁸⁸ were affected by the significant damage to housing.³⁸⁹ The indigenous Kalinago community, largely reliant on subsistence farming and tourism for income, was also severely affected by the damage to these sectors.³⁹⁰

Agriculture was substantially affected by hurricane Maria, with reports of up to 100% damage in some areas.³⁹¹ Overall, 79.4% of women farmers reported that they had experienced severe damage and loss to their crops and tools.³⁹²

Damage to road infrastructure³⁹³ negatively affected livelihoods with female farmers reporting being unable to move produce to markets.³⁹⁴ However, there were also some reports that root crops, a crop mostly planted by women, survived well, contributing to the food security of some families in the immediate aftermath.³⁹⁵

On a longer timescale, Dominica’s gender unequal access to land, credit and other productive assets is expected to impede women’s ability³⁹⁶ to recover after a disaster. Interviewees reported insufficient consideration of the resilience and recovery of female farmers.

“There needs to be more training and information on specifically being a farmer and the head of your household, especially single women because you are everybody and there are some critical things that need to be addressed before the hurricane, during and after.”³⁹⁷

There was evidence that economic damage and high unemployment after the hurricane particularly affected the young.

“Young people were essentially disenfranchised by the hurricane. They were affected to the extent that a number lost their jobs, so we have rising unemployment.”³⁹⁸

Another gendered aspect relates to looting and gendered expectations. There was an increase in reports of looting after Hurricane Maria, perpetrated mostly by teenage boys and young men.³⁹⁹ There were reports of adolescent boys feeling pressure to loot in order to provide for their families, as well as adolescent boys feeling responsible for protecting their family during and after the hurricane.⁴⁰⁰

“A lot of young boys had to end up being protectors, especially in single parent families.”⁴⁰¹

Poverty

Pre-Maria, 29% of people lived below the poverty line. The number of people in poverty rose to 42.8% after the hurricane.⁴⁰² Women, and particularly single female headed households, are more likely to be poor, and are likely to have been worse affected by the disaster.⁴⁰³ Poverty rates are higher for women, and among the poorest there is a high incidence of single female-headed households.⁴⁰⁴ 41.6% of women participate in the labour market compared with 58.4% of men⁴⁰⁵, and 45% of people living below the poverty line belong to female-headed households, even though they make up 37% of households in the country.⁴⁰⁶

Single women-headed households (who represented 15% of displaced households⁴⁰⁷) were more vulnerable both to the immediate impacts of the hurricane and the longer term projected increase in poverty. Single women-headed households in Dominica tend to be larger than other households, with greater caring and maintenance responsibilities⁴⁰⁸ and lower levels of income.⁴⁰⁹ This can mean they are less able to recover from disasters.⁴¹⁰

“As a single mother and self-employed, I depend on my tools and equipment to survive. My finished stock was damaged, my tools were wet. Even now I am still losing tools because I haven’t had any assistance. Some of my things are still under tarpaulin and getting wet so they are rusting. I still haven’t finished losing from Maria.”⁴¹¹

5.2% of Dominica’s total population live with a disability. 49% of the disabled population are women, and 6.7% are under the age of 14, (40% of whom are girls). The two most common types of disability relate to mobility (42.9% of disabled women) and sight (35.6% of disabled women). Disabled women and men in Dominica report a range of difficulties, highlighting challenges in finding employment and in accessing services⁴¹². Despite constituting only 5.2% of the population, disabled people represent 51% of the population who are without any educational qualifications. Disabled women are less likely to be employed than disabled men⁴¹³. 18.6% of disabled men reported employment as a key source of livelihood compared with 11.1% of disabled women.⁴¹⁴

There are reports of increased personal debt since Hurricane Maria, with people struggling to cover costs of school fees, food, rent and medication.⁴¹⁵ Those already in poverty, with low savings and less resilient livelihoods, will be most affected, and this is likely to be gendered. As one man living with HIV and one single mother told us:

“I’ve been given notice to leave the apartment I am renting because I have not paid my rent for over a year.”⁴¹⁶

“Recently I have started doing a few things but I have acquired a lot of debt. My children need to go to school and I have to pay their fees.”⁴¹⁷

Migration

17,000 people were estimated to have left the country in the month following the hurricane,⁴¹⁸ many of whom were children and working-age adults.⁴¹⁹ Many working-age adults migrated in search of employment,⁴²⁰ whilst many children were sent abroad to continue education. Schools that re-opened the month after the Hurricane reported that 25-40% of children did not return.⁴²¹

“I was very reluctant to move my children to Barbados... but I had no means of taking care of them, no means of income, so I had to make that decision.”⁴²²

Elderly people represented 14.8% of the population⁴²³ pre-Maria, and emigration of younger demographics left large numbers of elderly people without family support. Elderly people who were dependent on support services were particularly vulnerable when those services were disrupted.⁴²⁴

Inclusion and equality

Several interviewees expressed frustration at an apparent disparity in the distribution of relief aid, both to and within the Kalinago territory.⁴²⁵

“Where you have families of six or seven members [more common among the Kalinago community], the food supplies did not meet their needs.”⁴²⁶

There was a concern about insufficient focus on disabled people in reports and plans on responding

to Hurricane Maria and building future resilience, although interviews confirmed efforts to engage disabled people in DRR planning and practice.⁴²⁷

Members of the LGBTQI community in Dominica are very vulnerable because they are socially stigmatized with young LGBTQI people highlighted as particularly vulnerable⁴²⁸. Interviewees noted that DRR processes are not inclusive:

“LGBTQI people are invisible in DRR processes.”⁴²⁹

There were concerns that human rights violations were deprioritized⁴³⁰ in the aftermath of the hurricane, an important impact in a context where gender and sexual minorities are criminalized.

“Social services and human rights concerns have been put on the back burner because everyone is dealing with recovery. They say, LGBTQI rights are not a priority, we are re-building. It is simply not important enough for them to address.”⁴³¹

REFLECTIONS ON DATA FROM CASE STUDIES

Secondary Data

The three case studies examined available disaggregated disaster impact data, and considered how different types of data can inform understanding of differential impacts.

For each case study quantitative data on disaster impacts was combined with demographic (census data), qualitative literature on hazard events and disaster risk, and contextual data on existing inequalities. Different data sources added depth and nuance to the analysis, providing significant insights into differentiated impacts, needs and vulnerabilities, beyond what would be provided by quantitative disaster impact data alone.

Quantitative and census data

In all three countries the amount of gender and age disaggregated quantitative data was very limited.

For example, Dominica does not have policies or practices for collecting sex-disaggregated data. Although data are collected on persons affected, and on damage to buildings and property, this is not disaggregated by sex or age and severely limits the quality of the information available to guide and plan interventions to help individuals rebuild their lives.

In Nepal some sex and age disaggregated quantitative data was available. Of particular note, gender disaggregated casualty data was collected and is openly available on the Nepal DRR Portal. Data on trafficking and out-migration is also regularly collected in Nepal and disaggregated by gender and age.

In Nepal, an Inter-Cluster Coordination Gender Working Group was set up, helping to prioritise gender disaggregated data. It also committed to integrating gender inequality and social exclusion in the post-earthquake analysis, planning and response (See Box 1).

Each county collected a variety of quantitative impact data (often in post-disaster needs assessments). A lot of this quantitative data was not gender or age disaggregated, but can be used to understand the scale of impacts on women and children, including information on buildings destroyed (e.g. schools and health centres).

BOX 1

The Inter-Cluster Coordination Gender Working Group (ICCGWG) in Nepal

The ICCGWG was set up immediately after the 2015 earthquake. The ICCGWG discussed issues relating to gender as a group and provided guidance, advocacy and advice for other cluster groups via an assigned gender focal point. A Gender Equality and Social Inclusion Profile (UN Women 2017) was produced (with UN Women), identifying marginalised groups in Nepal. A standardised gender checklist was created and shared with humanitarian responders and other clusters. Gender updates were provided back to the ICCGWG and collated for further discussion (Key Informant Interview N31).

In many instances there was an appearance of gender and age disaggregated impact data, but the data was inferred from the estimated affected population, drawn from census data. Whilst information on the age and gender demographics of an area can be useful (e.g. census data on % of households headed by single women), this does not provide information on differential impacts, and it does not provide an informed foundation from which to take action to address gender and age inequality in disaster risk.

Contextual data

In many cases contextual information on inequality was available. This information can be combined with non-disaggregated impact data to highlight areas of likely differential impact. For example, in Nepal high maternal mortality rates are likely to worsen after disasters due to disruptions to healthcare services, and the low numbers of women owning land means they are more likely to be excluded from housing reconstruction programmes and from disaster compensation. Similarly, Malawi's high drop off rate of enrolment for girls (73%) and boys (67%) between primary and secondary education highlights pre-event trends that may be exacerbated in response to shocks and stresses.

Qualitative data

Some countries had event-based qualitative literature, with interviews and FGDs that considered specific groups, providing insight into the impacts on and needs of those groups. For example, in Nepal two surveys were conducted to investigate the impact on children, and elderly and disabled people. These qualitative surveys gave valuable insights into, for example, issues of WASH and safety in IDP camps, menstrual hygiene issues, gendered food security impacts, challenges and barriers to recovery, and experiences of trafficking and migration.

Homogeneity of groups

Qualitative studies and quantitative data often concentrated on the average experience, focusing on homogenous demographic groups such as 'women', 'children', 'elderly', and 'adolescent'. In terms of consideration of minority groups and intersectional vulnerabilities, the quantitative and qualitative studies were sometimes unaware

(i.e. did not mention specific intersectional sub-groups at all), or sometimes were aware on a superficial level (i.e. listing sub-groups likely to have heightened vulnerability) of nuances beyond their categorisation. This uniform categorisation means there is a lack of insight into the differential vulnerabilities and experiences of sub-groups facing additional challenges or areas of marginalisation (e.g. going beyond 'children' to consider disabled children, adolescent girls, Dalit children, LGBT children etc).

Studies rarely took the important next step towards gender and age sensitive or transformative practice into: i) understanding the specific ways in which marginalised groups were vulnerable; ii) understanding intersecting and compounding vulnerabilities; iii) understanding the needs and priorities of these minority groups; and iv) understanding the causes and drivers of their heightened vulnerability.

Primary Data

Key informant and missing voices interviews

The key informant and missing voices interviews brought insights from groups overlooked in other analyses.

Key informant interviews highlighted areas of inequality and their intersection with disaster risk, and marginalised groups likely to be overlooked in secondary data. In Malawi, for example, key informants highlighted data gaps on the impact on marginalised populations including orphans and vulnerable children, those affected by human trafficking, LGBTQI people, people with disabilities, and people with albinism.

Key informants who work closely with specific marginalised groups were also critical in building trust and accessing groups and individuals that can be hard to reach.

The missing voices interviews enabled us to hear the priorities and experiences of marginalised people, and particularly shone a light on intersectional vulnerability.

Missing voices interviews added nuance and depth to the themes and issues covered in the secondary data and also provided new insights into a range of themes that were not emphasised in mainstream analysis. Issues most often emphasised in these interviews (themes most highlighted in the Nvivo coding - see methodology) were marginalised group-specific needs and vulnerabilities (e.g. children with albinism); GBV; discrimination; exclusion; lack of data on marginalised groups; mental and psycho social health; groups being hidden and therefore overlooked; decision makers not understanding needs; decision makers not prioritising marginalised groups; extra costs faced by marginalised groups; additional challenges faced by marginalised groups; and barriers to participation.

Missing Voices interviews also provided depth and nuance to the topics mentioned in the secondary data (which was often limited). For example, in Malawi, quantitative and qualitative evidence on GBV and sexual exploitation and abuse was very limited, but targeted interviews provided evidence and insight into experiences. These included reports of transactional sex in exchange for humanitarian aid, fear around reporting GBV, abuse of minors, girls pressured into prostitution to access cash or food to support the family, child-headed families at higher risk of exploitation, unprotected transactional sex resulting in increased risk of unplanned pregnancy and transmission of infections including HIV, and human trafficking for the sex trade (girls) or commercial farms (boys).

Data Gaps and Consequences

During Key Informant and Missing Voices interviews, participants frequently spoke about gaps in the data, (excluding or overlooking marginalised groups), and the consequences of such data gaps for investment, policy and action. They spoke about the causes of data gaps (including stigma, discrimination, criminalisation, single issue tracking systems) and the implications of these data gaps in terms of (reduced) access to targeted support during and after a disaster.

Annex 5 provides examples of the comments shared by interviewees on themes including:

- Hidden groups, who are easily overlooked and ignored
- Data gaps, where marginalized groups are not even counted, and the implications of these gaps for policy and practice
- The needs of minority groups not being understood or prioritized
- Insights on the ways in which multiple intersecting areas of marginalization (the intersection between gender/age related vulnerabilities and discrimination/social marginalization) can leave vulnerable groups at heightened risk

Section 3:

CONCLUSIONS AND RECOMMENDATIONS

3A

DIFFERENTIAL IMPACTS: KEY FINDINGS AND THEMES

This section reviews the differential impacts of disasters on gender and age from the three case studies of Nepal, Malawi and Dominica. These impacts may be similar in other contexts and events, but should not be used as a definitive outline of all gendered and age related impacts of disasters.

Short term impacts

Shorter term impacts, such as number of fatalities and injuries, can disproportionately affect women, children, and elderly more than working-age men. However, this varies significantly between events and is inherently dependent on an individual's exposure and vulnerability to a hazard.

Exposure

Exposure can be gendered and age-dependent due to location of demographics and overlaps with hazards. Particularly for sudden onset hazards such as earthquakes, immediate impacts are dependent on people's location, such as whether they are located inside buildings or in areas at higher risk of secondary landslide hazards. Exposure can be affected by gender and age, for example men may tend to work in the fields, whereas women and elderly may be restricted to the home, and children may go to school in non-disaster resilient buildings. Also, many female headed households tend to have lower incomes. They therefore tend to live in areas which are more disaster prone or housing which is less disaster proof. Whilst there are numerous examples of disasters causing greater numbers of female casualties, exposure is greatly affected by situation and context. There are also many hazard events where gender is not a major driving factor behind mortality (as in the 2017 Dominica hurricane where slightly more men died), or where men were significantly worse affected, for example where men are more likely to be in an exposed site. In the

case of the 2015 earthquake in Nepal, emigration of men, which left a higher proportion of women in the affected location, was likely a major factor behind the slightly raised proportion of female casualties. Gender norms also affect roles during a disaster (e.g. in Malawi women were more likely to be at home because of caring responsibilities when flooding occurred - there were also a higher number of women displaced by the flooding).

Vulnerability

For slower onset hazards, or hazards where there is sufficient lead time to take action, the short term impacts can become more clearly gendered due to inherent vulnerabilities and gendered inequality of certain demographics (such as women, children, and the elderly). Challenges that can increase a person's vulnerability to a hazard include: i) access to information, which is linked to the gendered digital information gap (e.g. in Malawi women had less access to radios and telephones to listen to the early warnings); ii) capacity to understand information, for example, related to literacy issues linked to lower education of women, poor eyesight related to older age, illiteracy at a younger age and dependence on adults for information, and/or lack of involvement of marginalised groups in DRM planning and training; iii) capacity to act on information, which is affected by culture or religious restrictions on women's mobility (e.g. widows in Nepal), restrictive clothing, lack of education/training in skills needed for evacuation such as swimming, lack of appropriate or

adequate safe places to go to, financial restrictions in evacuating, and gendered power dynamics over decision making (such as in Malawi).

Medium term impacts

Housing and Shelter

Vulnerable people may be more affected by damage to housing and may face greater barriers to reconstruction. For example, in Dominica 56% of people in shelters had one or more vulnerabilities such as being pregnant, breastfeeding, having a physical or cognitive disability or chronic illness, being elderly, or being a single head of household.

Women, particularly elderly women, and children (typically girls) have higher workloads in IDP camps, taking on the majority of work to gather firewood and water, for cooking, as well as care work. These roles can also place women and girls at higher risk of contracting water-borne diseases.

Discrimination and violence can leave stigmatised minorities at risk in camps and shelters, pushing individuals into more vulnerable coping strategies (e.g. LGBTQI individuals, particularly youth, living homeless in cities rather than going to camps, or individuals with albinism being too unsafe to consider staying in a camp, as is the case in Malawi).

There are also gender and age dimensions of reconstruction, with gender impacting on likelihood of owning assets, access to finance or insurance which in turn determines also disaster compensation.

Women, particularly elderly and/or widowed, are less likely to be able to rebuild their homes following a disaster. This is related to women's lower levels of access to resources such as insurance or loans, and difficulty accessing any government assistance for reconstruction, which may mean that women are more likely to remain in IDP camps for a longer period of time.

In addition, elderly and disabled people both need more support with reconstruction and lack the financial resources to pay for such support (particularly for elderly and disabled women).

Gender-based violence

Despite a dearth of information, and inherent underreporting, GBV (including, but not limited to, trafficking, domestic abuse, harassment, violence and early marriage) increases after a disaster. This is related to safety and security issues in IDP camps, such as a lack of separate hygiene facilities, lack of safe spaces for women and lack of lighting, as well as a breakdown or absence of reporting mechanisms, an increase in men's alcohol abuse, and negative survival strategies. Vulnerable women and girls, including orphans, unaccompanied girls, adolescent girls, widows, trans women, single women and disabled women are often at higher risk in IDP camps, as evidenced in Malawi, Nepal, and Dominica.

Systems for reporting GBV as well as processes for prosecution can be disrupted after a disaster (e.g. in Dominica referral pathways were interrupted and courts were closed). These impediments reinforce existing cultural norms and barriers meaning that GBV is systemically underreported. Marginalised groups (e.g. disabled women, gender minorities, ethnic minorities) face additional barriers in reporting and accessing justice, especially where trust in law enforcement is low or where there is a significant stigma associated with GBV.

Early marriage to escape poverty, or reduce number of mouths to feed, and transactional sex are also negative coping mechanisms observed after a disaster.

Transactional sex can be used as a survival strategy; women and particularly adolescent girls can be pressured into sexual exploitation. There can be gendered issues of abuse in a post disaster environment, with formal and informal actors abusing positions of power or offering essential assistance contingent on sexual relations, as in Malawi. There is an associated risk of transmission of infections, contraction of HIV, and unplanned pregnancy, which can result in longer-term impacts including early drop-out from education.

Trafficking, particularly for children, is a real concern – those who have been separated from

or have lost families lack protection and are more vulnerable. Young people and women are at higher risk of trafficking and exploitation as they will often migrate to seek work after a disaster has destroyed or disrupted local opportunities for income generation. Gender barriers in migration (e.g. lower emigration quotas for women in Nepal) can also push women and girls towards riskier illegal migration.

Access to aid and relief

Marginalised groups such as ethnic minorities, elderly people, disabled people, LGBTQI people, single women, widows, and female heads of household often experience difficulty accessing aid, through direct or indirect discrimination, or due to services and approaches not being tailored to meet their needs. Inequality and stigma can also affect the quality of disaster impact data, with minorities under-counted, overlooked or excluded. Groups missing from the data and from the analysis are less likely to receive targeted support.

Barriers can also relate to mobility, with disabled people, elderly people, pregnant or breastfeeding women and people with albinism finding it difficult to access assistance or being reliant on others to collect aid on their behalf, creating a potential for exclusion or exploitation. Those with less flexible time commitments, such as those with caring responsibilities, also face barriers to accessing aid, with women and girls typically carrying out the majority of care work.

Issues of eligibility and definitions of a household may leave people vulnerable, e.g. widows living with in-laws may not receive support directly, leaving them fully dependent and therefore vulnerable; and less traditional households may not be counted e.g. families with LGBTQI individuals. Adolescent girls and gender minorities may be less likely to have appropriate ID, creating a barrier to access, and there may be assumptions that a 'male head of household' is the default aid recipient. In locations where minorities are stigmatised or discriminated against, there may be barriers to being counted, e.g. for disabled children, and exclusion from data reinforces exclusion in the post disaster period.

Elderly people (and particularly elderly single or widowed women due to their higher levels of relative poverty) rely highly on limited financial savings, family support and remittances, and government support. Access to government support after a disaster becomes more difficult as the system is under greater strain, meaning that the elderly can easily fall through the gaps without a sufficient support network. This vulnerability can be exacerbated when a disaster leads to a growth in emigration of younger demographics, which can also increase caring responsibilities, particularly of elderly grandmothers.

Disruption of and access to healthcare

There is evidence that temporary field units and IDPCs are insufficiently equipped to deal with pregnant and/or birthing mothers (particularly those with complications), newborns, and a higher than normal proportion of paediatric patients. This leads to higher risk to mothers, newborns, infants and children after a disaster.

Access to operational healthcare centres may also be disrupted due to longer distances to travel and/or physical barriers restricting access to healthcare. This has implications for those with existing health care needs (e.g. those with disabilities, pregnant mothers, PLHIV/AIDS) and emerging needs (e.g. those affected by the water-borne diseases that can proliferate in a post disaster environment).

Reduction (or absence) of ante-natal services during pregnancy puts women and babies at higher risk, for example there were no ante-natal services in most IDP camps in Malawi after the 2015 floods. Difficulty accessing sexual and reproductive health services increased risk of HIV transmission and unplanned pregnancy. In Malawi there is a higher prevalence of HIV/AIDS amongst women, and flooding disrupted access to ART.

Destruction of WASH services, overcrowding, and poor WASH provision in IDP camps leads to increased water-related diseases; increases in TB, respiratory infections, cholera, diarrhoea and malaria are common. Women and girls are disproportionately exposed to these diseases due to

gendered roles in fetching water, cleaning, cooking and caring. Children, pregnant women and elderly people are also more vulnerable to these types of diseases, with pregnant women three times more likely to develop a severe infection, with additional consequential risk of miscarriage or premature delivery. Increased disease outbreaks, alongside disrupted healthcare services, can result in further gendered and age-related casualties.

Menstrual hygiene is a big concern for women and girls after a disaster. In normal circumstances menstruation is often a taboo in developing countries and directly influences mobility, freedom and access to normal activities. After a disaster event, this becomes more problematic, particularly in IDPCs where WASH facilities and shelters are not gender sensitive and lack privacy. In Malawi there was limited availability of sanitary care products; in Nepal misuse of distributed single use sanitary towels led to increases in infection; and in Dominica there were reports that elderly people stopped drinking due to unavailability of incontinency pads.

Disasters can also disrupt immunisation plans for children, resulting in longer term health inequalities.

Also noted was the negative impact of disasters on those with non-acute health needs, with services and support for disabled children, for example, deprioritised in a post disaster context.

Disruption to education

Children's access to education is often disrupted immediately after a disaster due to destruction or damage to school buildings, use of school buildings as temporary shelters, displacement of children, and/or increased workload at home. Temporary education solutions may be unsuitable for minority groups. In Malawi, classes were held outside, but this excluded children with albinism.

School buildings can often be re-directed as shelters, with access to education disrupted for longer periods of time, especially when there are challenges in re-housing the inhabitants. Schools and services for children with additional needs, including disabled children, may be more likely to

be disrupted into the medium term, negatively affecting their wellbeing.

This missed education can often result in longer term impacts if children do not return to school even when the school facilities are resumed, for example because they are needed at home, feel they have fallen behind in their education, have lost uniforms or textbooks, or are unable to afford educational costs.

Food security and nutrition

Disasters can exacerbate malnutrition and stunting in areas where this is already a problem by destroying food stores and restricting an individual's ability to provide their own sustainable food sources (which is often a typically gendered livelihood activity for women in developing countries). This is linked to women's livelihood options and can have longer term health impacts. In Malawi, children (particularly orphans) and pregnant and lactating women struggled to get sufficient nutrition in IDP camps, and in Dominica, unsuitable nutrition for elderly people in shelters resulted in negative health impacts.

Longer term impacts

Ability to rebuild and recover

A person's ability to rebuild and recover to where they were before the disaster is significantly affected by gender and age, and exacerbated by other vulnerabilities (e.g. widows, single women, elderly people, marginalised ethnic groups, and those with disabilities).

In many developing contexts, women have restricted land rights. This often limits their access to support and funds after a disaster to rebuild homes or restore ecosystems they depend on. Women are also often unlikely to have the financial ability or security to have insurance as a support mechanism.

Marginalised groups may not be able to get access to support or available finances to rebuild due to their status. Even if they do receive support from the government, this is often insufficient to cover full costs, and they do not have reserves or alternative

livelihood support mechanisms to make up the difference.

IDPCs therefore become more long-term housing for those unable to rebuild. This affects their ability to generate income or rebuild livelihoods, contributing to the cycle of poverty and reducing their resilience.

Livelihoods

In the developing countries we studied, women's livelihoods often centre around subsistence agriculture. Women's higher levels of poverty, poor access to or ownership of land, limited opportunities for income-generation, and limited range of opportunities for crop growing makes them more vulnerable to any shocks or stresses on their systems of survival. Women's livelihoods are inherently less resilient than men's in developing contexts as they are constrained by their lack of capital to invest.

Destruction of assets and disruption of sources of livelihood often affects women more than men because of limited alternative options to generate income and/or food. This can lead to financial instability, negative coping mechanisms, and the continuation and deepening of poverty.

Women are more likely to be poor, and more vulnerable to the increase in poverty that typically follows a disaster. Women often have lower levels of formal employment, higher caring responsibilities, lower levels of savings and greater dependence on informal or subsistence economies, increasing their vulnerability. Disabled people are also often more vulnerable with lower levels of education and employment, with disabled women often more vulnerable in those respects than disabled men.

Emigration

Emigration (or internal migration) is a coping mechanism in response to disasters used by and affecting women, children and the elderly. Sometimes children are sent away to decrease the burden on a household, or to ensure their education continues. They are often unaccompanied, increasing the risk of trafficking.

Women often migrate for work as a coping mechanism to generate income. There are instances of higher rates of outmigration (or higher relative increase) for women after a disaster compared to before. The younger population also often migrates to seek employment to generate income, leaving education early. This can lead to a cycle of lower education and less opportunities later in life.

Outmigration can result in a loss of workforce, increased risk of trafficking (particularly where there are gendered restrictions to working overseas and loss of official documents), and can leave a growing demographic of elderly behind with a lack of support.

Health impacts

Negative coping mechanisms can lead to an increase in HIV/AIDS, violence, and substance abuse.

Disruption of protective health services, such as child immunisation, can have longer term impacts on individuals and the wider population. In Nepal, for example, the 2015 earthquake led to a 58% decrease in child immunisation.

There is inconsistent evidence from research studies surrounding who is disproportionately affected by PTSD as a result of disasters. Many studies found elderly, children, and women to be more affected by PTSD and mental health concerns than men. However, in almost every study, the results were caveated with the difficulty of reliably knowing whether the results were affected by the social taboo around men's mental health.

Education

Disruption to education can often result in longer term impacts if children do not return to school even when the school facilities are resumed. This potentially has a gendered dimension, with girls more likely to be called into caring roles after a disaster, or more likely to be married young.

This situation also has longer term impacts on reducing options for income generation, leading to decreased resilience. Education has a direct relationship with a person's ability to generate

income, understand risk information or exercise freedom of choice on where to live – these are all related to exposure and vulnerability to future disasters and future generations. This feeds into the cycle of poverty, and the lack of education is an underlying vulnerability to disasters.

Discrimination and exclusion

Issues of discrimination and exclusion exacerbate the differential impact of disasters on groups who are already marginalised. Human rights, equality and justice issues can be deprioritised during and after a disaster, leaving minority groups facing entrenched injustice and inequality.

Discussion

From the three case studies, it can be seen that the differentiated impacts of disasters are related to underlying gender inequalities and socio-economic contexts embedded within the country the disaster occurred in. The specific impacts change between contexts, but the gender inequality and socio-economic context is often the underlying driver.

Existing inequalities (that are often already known and measured on a longer term basis) will be exacerbated in a disaster context (e.g. if a country has high maternal mortality rates, these will likely worsen after the disaster as capacity is reduced and resources are stretched).

When a disaster continues to affect a population for a longer period of time, it is more likely that underlying inequalities will drive gender and age differential impacts. These medium and longer term impacts are likely to be more noticeably

differentiated because the ability of a person to recover or adapt to difficult circumstances is affected by underlying inequality (which is gendered and affected by age).

Whilst the case studies in this report focused on several high magnitude, low frequency events (due to the greater availability of data), it should be remembered that these events did not occur in isolation. In most of these developing country contexts, hazards occur frequently. These lower magnitude higher frequency events affect people on a regular basis, contributing to the cycle of poverty, with more vulnerable people finding it difficult to recover or to escape the cycle because of frequent interruptions to development progression.

Poverty is the main underlying factor affecting the impact of disasters, affecting underlying resilience and capacity to recover; in all the case studies, poverty was gendered and significantly related to other vulnerabilities (e.g. age, marriage status, disability).

Separating populations solely by gender or age (e.g. women, men, children, elderly) does not fully account for an individual's experience in disaster contexts. Compounding factors and multiple vulnerabilities can combine to increase an individual's vulnerability exponentially. An intersectional approach therefore needs to be taken to understand the complexity of factors affecting the impact of a disaster on an individual. Our Missing Voices approach is one way of bringing a more diverse range of voices into our understanding of disaster risk, with key findings from this approach highlighted in the next section.

3B

KEY INSIGHTS FROM THE MISSING VOICES INTERVIEWS

Five themes emerged strongly from the Missing Voices interviews:

- Entrenched discrimination impacted vulnerability pre and post disaster
- Multiple areas of marginalisation exacerbated vulnerability pre and post event
- Marginalized groups face heightened vulnerability to gender based violence, and additional barriers to getting support
- Exclusion of marginalised groups from datasets reinforces and perpetuates exclusion from DRR, response and recovery
- Overall, minority groups reported feeling invisible, un-noticed, misunderstood and un-prioritised post disaster and in efforts to reduce disaster risk

Entrenched discrimination impacted vulnerability pre and post disaster

Interviewees in Nepal highlighted ways in which discrimination leads to vulnerability, for example the additional vulnerability of widows who do not have property ownership rights, as property is in their spouse's name. Young women and adolescent girls were also reported to be particularly affected by illegal emigration necessitated by the earthquake. Lack of access to appropriate (or any) ID was raised as a barrier to participation in DRR and access to relief for adolescent girls and transgender women. There were also reports of direct discrimination against transgender people in aid distribution. In Dominica, criminalization of homosexuality and prevalence of abuse meant LGBT people felt unable to access shelters.

Multiple areas of marginalisation exacerbated vulnerability pre and post event

In Nepal, discrimination in access to rental accommodation and shelters was raised. One individual who had multiple marginalised identities struggled to find anywhere willing to rent to her. She then had to move further away, leading to her son

missing out on education. A disabled woman talked about the challenges of caring for her son in the temporary shelter, with no control over her space.

In Malawi, a transgender woman talked about how the combination of poverty, lack of land, stigma, harassment and discrimination affected her access to relief. Those facing multiple vulnerabilities of poverty, low assets and low social capital talked about disaster forcing them to sell everything, leaving them reliant on begging with no ability to rebuild livelihoods.

LGBT individuals face heightened vulnerability due to criminalization, lack of legal protection and recourse, and social stigma and discrimination. Rejection by families limits the social capital LGBT individuals can draw on for support during a disaster. Discriminatory attitudes were a barrier to LGBT people participating in DRR and relief activities or planning. Girls and young women living with extended family without parents reported being the last to eat when food supplies were low.

In Dominica, indigenous groups faced additional barriers to reconstruction, and elderly heads of households, elderly grandparents with caring

responsibilities, and those with mental health needs were less able to rebuild or recover, and stayed in temporary housing for longer periods.

Carers in Dominica also highlighted the collapse of support services for prolonged periods after the hurricane – with children with special needs having additional support removed for over a year. There were also reports of children being separated from their families. The psychological impact of the hurricane and disruption to health services had negative health impacts, particularly on elderly people and those with chronic conditions.

In Dominica those facing stigma and discrimination, including PLHIV/AIDS and LGBT people, faced multiple barriers to finding homes, getting income, and getting assistance. An increase in personal debt was felt particularly by those already in poverty, with low savings and less resilient livelihoods, including single parents, and PLHIV/AIDS.

Marginalized groups face heightened vulnerability to gender based violence, and additional barriers to getting support

Additional challenges and vulnerabilities and were reported by widows, transgender women, and teenage girls. In Nepal, interviewees emphasized the vulnerability of widows, girls, and transgender women to gender based violence, increases in alcohol abuse and domestic violence after the earthquake. Interviews also raised issues of the earthquake leading to girls marrying early and discontinuing their education. Interviewees highlighted the barriers to talking about issues considered taboo, such as GBV, trafficking, and menstrual hygiene needs, with re-use of single use supplies following the earthquake contributing to infection.

In Malawi, there were references to sexual abuse of women and girls in exchange for humanitarian aid, with women afraid to speak up. Interviewees spoke of child abuse in camps, and of pressure to marry, especially for adolescent girls and young women who are unaccompanied or living with extended family without their parents. There were reports of trafficking of young women, girls and boys.

In Dominica, referral pathways for reporting GBV were closed, as were courts, removing access to

justice. LGBT people reported barriers in even finding counselors who would not be prejudiced against them. Interviewees mentioned cases of abuse and sexual harassment. The pressure felt by young boys to act as protector and provider for single parent families in the post hurricane period was also highlighted.

Exclusion of marginalised groups from datasets reinforces and perpetuates exclusion from DRR, response and recovery

Marginalized groups were not counted in various data sets, resulting in exclusion from wider funding, policy and practice.

In Nepal, data gaps were raised, including the lack of information on visually impaired children of school going age, with this data gap impeding efforts to gain funding to support them. There were concerns raised about under-reporting of the numbers and needs of people with disabilities, with under-counting leading to under-support.

In Dominica there were concerns about insufficient focus on and prioritization of disabled people and LGBT people in reports, plans, and processes, with LGBT youth particularly vulnerable.

Overall, minority groups reported feeling invisible, un-noticed, misunderstood and un-prioritised post disaster and in efforts to reduce disaster risk.

In Nepal, LGBT people reported being isolated and overlooked in planning, policy and practice. People with disabilities felt overlooked and under-prioritised. Adolescent girls and young women without ID felt excluded from planning processes and training.

Pregnant women talked about their needs not being adequately considered in camps in Malawi, including challenges getting relief supplies, food and water. There were also challenges affecting people with albinism, affecting safety in camps, access to education in outdoor schools, and barriers to accessing aid supplies.

In Dominica, LGBT interviewees discussed how efforts to secure human rights and legal protections (in a country where LGBT individuals are criminalized) were deprioritized in a post disaster period.

CONCLUSION

A review of the literature revealed numerous examples of women and girls being differentially impacted in disaster. There were also examples where people of other genders were worse affected. Disaster risk is context and event specific, often driven by differential exposure and context specific inequalities.

To understand disaster risk better, and tackle it effectively and in a gender- and age responsive manner, it is important to delve into the complexities and inequalities in a given location, the differences within and between broad categories of women, men, boys and girls, taking a context specific and intersectional approach.

Analysis of existing data

At a global level there is insufficient disaggregated data to perform meaningful analysis to derive universal themes on gender and age related vulnerability. The studies that have attempted to do this to date have extracted global conclusions from an extremely small range of data sets, or have used proxy variables.

Data-driven analyses predominantly break down differential vulnerability into broad categories of men, women, children, elderly etc. Such analysis can reinforce simplistic (cis-heteronormative, sexist and ageist) assumptions that broad groups are uniformly vulnerable.

Minority and marginalised groups are largely invisible in mainstream data, and there is limited consideration of the ways in which multiple intersecting areas of vulnerability interact to increase disaster risk. This lack of information increases the risk that DRR efforts perpetuate or exacerbate existing inequalities.

Taking an intersectional perspective prompts us to look beyond simple divisions of people into women versus men, young versus old, helping us understand the important ways in which intersectional vulnerabilities manifest in disaster risk, shaping impacts in the short, medium and long-term.

In order to get a well-rounded insight into differential impact we found it useful to combine three existing types of data.

- 1) Disaggregated quantitative disaster impact data (potentially including census data on the demographics of the population in an affected area e.g. number of single women headed households)
- 2) Qualitative insights into differential impact from surveys or Focus Group Discussions in the area, sometimes focused on specific groups e.g. children
- 3) Context specific data on inequalities.

The combination of these three data types enabled a broad understanding of areas of differential impact. These areas of differential impact varied from one country and event to the next – unsurprising as differential impact is often driven by context specific inequalities.

This data provided insights into differential vulnerability at scale and between women and men, old and young. However, there were minority, vulnerable or marginalized groups who were not appearing, or only mentioned in passing, amidst the mainstream data. The mainstream data also tended to focus on singular identities, children as a uniform group for example, not capturing the ways in which women or children with multiple vulnerabilities or areas of marginalisation are differentially impacted.

To add nuance to the analysis and gain insights into the experience of those facing additional areas of marginalisation, we undertook what we are calling ‘Missing Voices’ interviews⁴³². We identified groups facing marginalisation in each case study context, e.g. widows in Nepal, transgender women in Malawi, or children with albinism in Malawi. Our approach, centred on building trust and listening, yielded insights into the ways in which marginalized groups are differentially affected in disaster. It provided insights into the differential impacts that matter most, to those most at risk of being left behind.

KEY FINDINGS AND RECOMMENDATIONS

From gender and age unaware to gender and age transformative approaches

DRR strategies that do not explicitly consider gender and age are unaware. In a context with gender and age inequalities, this will likely increase the marginalisation and vulnerability of marginalised gender and age groups to disasters. Therefore, taking a gender and age -aware, -sensitive, or preferably -transformative approach (see annex 6) is vital; analysing, acknowledging, and understanding how gender and age impacts the effectiveness of DRR, and taking proactive steps to ensure DRR is delivered for all is paramount.

Analysis based on disaggregated quantitative impact data alone is insufficient to meaningfully understand and take action to reduce differential impact.

Data gaps excluding marginalized groups were apparent in all data sets, including at census level, meaning marginalized groups were often invisible in analysis, policy and practice.

Five themes emerged strongly in the missing voices interviews:

- Entrenched discrimination impacted vulnerability pre and post disaster
- Multiple areas of marginalisation exacerbated vulnerability pre and post event
- Marginalized groups face heightened vulnerability to gender based violence, and additional barriers to getting support

- Exclusion of marginalised groups from datasets reinforces and perpetuates exclusion from DRR, response and recovery
- Overall, minority groups reported feeling invisible, un-noticed, misunderstood and un-prioritised post disaster and in efforts to reduce disaster risk

RECOMMENDATION

In order to reduce gender and age inequalities in disaster, we need a better understanding of differential impact, which needs to be underpinned by **gender and age inequality informed data**. This shift will require:

- Strengthened systems for sex and age disaggregated quantitative data.
- Going beyond disaggregated quantitative data, to include qualitative and inequality focused data.
- Proactive efforts to seek out other key sources of data that amplify the voices of marginalized populations.
- Proactive efforts to identify, build trust, engage with, and listen to the experiences of those most at risk of being left behind.
- Mechanisms to enable these marginalized experiences to inform gender and age-responsive DRR actions.

Inequality Informed Data

A 6-step approach (see next page) is proposed to develop gender and age inequality informed data on disaster risk. This combines a variety of primary data sources, providing insight into differential vulnerability at scale and between women and men, old and young. This data is supplemented by additional insights drawn from listening to the experience, priorities and needs of 'missing voices'.

This 6-step approach produces a deeper, richer understanding of differential risk, underpinned by better, more inclusive data.

Better data can help ensure DRR efforts do not exacerbate existing inequalities and vulnerabilities. It can provide an intersectional understanding of disaster risk, enabling a shift from gender and age inequality unaware action on disaster risk, to a transformative approach. It can provide a foundation for action to reduce differential impact, ensuring no one is left behind.

A 6-STEP GUIDE TO GENDER AND AGE INEQUALITY INFORMED DATA

Step 1 (Quantitative data) considers any disaggregated quantitative data on disaster impacts. Where disaster specific impact data is unavailable, estimates of the number of women, children, or elderly affected can be drawn from census data. This quantitative data gives a sense of the **scale of the potential impact** of the disaster on vulnerable groups.

Step 2 (Qualitative data) reviews any qualitative in the form of large or small-scale qualitative surveys, key informant interviews, and focus group discussions. This can provide insights into what **impacts** have been felt by different groups, **why these impacts occurred**, and what their **differential challenges and needs** are. This data is often disaggregated by gender and age, providing insight on the **majority experiences of (presumed) homogenous groups** of the population (e.g. women, men, children, elderly).

Step 3 (Inequality data) considers evidence of existing areas of inequality in a given context (for example gender inequality indices, differential rates of maternal health of indigenous populations). This can provide a better sense of the **underlying inequalities that make certain groups more vulnerable to disasters**. This information can be quantitative (e.g. number of people with disabilities in the country) or qualitative (e.g. culture of men making decisions). This information is important as areas of existing inequality are likely to be exacerbated during a disaster.

Step 4 (Critical questions) involves reviewing the data gathered in steps 1 to 3, with a critical eye, unpacking assumptions, stereotyping, sexism, heteronormativity or cisnormativity within the existing analysis of differential vulnerability. It also involves considering which groups are legally or socially marginalised in a given context (e.g. widows are especially marginalised in some contexts), and considering which marginalised groups are missing from the existing data or analysis.

Step 5 (Intermediary outreach) prioritises connecting with hard to reach groups, groups who may be hidden. Interviews with Key Informants at national and sub-national level can help identify potential intermediary organisations or individuals with expertise, connections and importantly trust with marginalised individuals (e.g. a widows' community group, a HIV+ support group).

Step 6 (Missing voices) involves proactive effort to listen to the experiences of marginalised individuals. One approach includes undertaking a series of 1-1 telephone calls (see methodology in Annex 4), with individuals identified and accessed through snowball sampling, initially via trusted intermediaries. Anonymity and confidentiality were prioritized. The interviews were loosely structured, aiming to build understanding of differential impacts, but with open questions and active listening, to understanding the issues, challenges and opportunities that each individual wanted to talk about.

FIGURE 2

A 6-step Guide to Gender and Age Inequality Informed Data



ANNEX

ANNEX 1

Sendai Indicators

| Sendai Indicators that can be disaggregated by age and gender | Sendai Indicators less likely to be disaggregated by age and gender |
|---|---|
| <p>Indicators for Global target A: Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality between 2020-2030 compared with 2005-2015.</p> <ul style="list-style-type: none"> • A-2: Number of deaths attributed to disasters, per 100,000 population. • A-3: Number of missing persons attributed to disasters, per 100,000 population. <p>Indicators for Global target B: Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 between 2020-2030 compared with 2005-2015.</p> <ul style="list-style-type: none"> • B2: Number of injured or ill people attributed to disasters, per 100,000 population. • B-3: Number of people whose damaged dwellings were attributed to disasters. • B-4: Number of people whose destroyed dwellings were attributed to disasters. • B-5: Number of people whose livelihoods were disrupted or destroyed, attributed to disasters. | <p>Indicators for Global target C: Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030.</p> <p>Indicators for Global target D: Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030</p> <p>Indicators for Global target E: Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020.</p> <p>Indicators for Global target F: Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this framework by 2030.</p> <p>Indicators for Global target G: Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to the people by 2030.</p> |

ANNEX 2

DesInventar Disaggregated Data

| Region | Countries with some gender disaggregated data publically available | Countries with no gender disaggregated data publically available |
|------------------------------------|---|---|
| Africa | <ul style="list-style-type: none"> • Angola • Ghana • Liberia • Mozambique • Senegal • Uganda | Burkina Faso; Comoros; Djibouti; Egypt; Equatorial Guinea; Egypt, Ethiopia; Gambia; Guinea; Guinea Bissau; Kenya; Madagascar; Malawi; Mali; Mauritius; Morocco; Namibia; Niger; Togo; Rwanda; Sierra Leone; Swaziland; Togo; Tunisia; Tanzania; Tunisia Zambia |
| Asia | <ul style="list-style-type: none"> • Indonesia • Cambodia • Mongolia • Myanmar | Bhutan; Laos; Maldives; Nepal; India (Tamil Nadu, Orissa, Uttarkhand); Pakistan; Sri Lanka; Timor Leste, Vietnam |
| Latin America and Caribbean | | <p>Argentina; Belize; Chile; Colombia; Costa Rica; Ecuador; El Salvador; Guatemala; Guyana; Honduras; Mexico; Nicaragua; Panama; Paraguay; Peru; Uruguay; Venezuela</p> <p>Antigua and Barbuda, Dominica, Dominican Republic, Jamaica, Grenada, Saint Lucia, Saint Kitts and Nevis, Saint Vincent and the Grenadines, Trinidad and Tobago</p> |
| Other countries | | Albania, Spain, Serbia, Turkey. Jordan, Lebanon, Palestine, Syrian Arab Republic, Yemen |

Disaggregated indicators in DesInventar

| | Indicators in DesInventar that can be disaggregated by gender and/or age (children, adults, elderly) and by status (poor/disabled) | Not Disaggregated by age or gender |
|---|--|--|
| Types of Indicators in DesInventar | <ul style="list-style-type: none"> • Deaths • Injured • Missing • Affected • Displaced • Evacuated • Living damaged dwelling • Living destroyed dwelling • Livelihoods affected | <p>Houses Destroyed</p> <p>Houses Damaged</p> <p>Losses (US\$)</p> <p>Losses (Local \$)</p> <p>Education centres</p> <p>Hospital</p> <p>Damage to crops (ha)</p> <p>Lost Cattle</p> <p>Damage to Roads (mts)</p> <p>Sectors affected</p> |

ANNEX 3

Key Informant and Missing Voices Interviewees

Key Informant and Missing Voices Interviews, Nepal

| Name | Org/ Circumstances | Interviewee Number |
|---|--|--------------------|
| Mr. Ganesh K.C | President, Independent Living Center for Persons with Disabilities, Kathmandu (CIL-Kathmandu) Disabled | N1 |
| Ms. Pinky Gurung | President, Blue Diamond Society Transgender Woman | N2 |
| Mr. Vishwo Ram Shrestha | Program Manager, Blind Youth Association Nepal | N3 |
| Ms. Sumeera Shrestha | Executive Director, Women for Human Rights – Single Women (Widow) Group. Women Rights and Youth Activist. | N4 |
| Mr. Kamal Babu Pariyar | President, ADWAN (Association for Dalit Women's Advancement of Nepal) Dalit. | N5 |
| Dr. Aruna Uprety | Public Health, Women's Rights, and Nutrition Specialist. | N6 |
| Ms. Ritu Tiwari (Name changed) | Woman, 30, with young child, 3. | N7 |
| Ms. Parwati Shrestha (Real Name) | Young woman, 18, Partially Visually Impaired, Executive Member, Blind Youth Associate Nepal Disability Rights Activist | N8 |
| Ms. Mahima Maharjan (Name changed) | Woman, 25, 9 months pregnant during first earthquake. With a new-born baby during the second earthquake, a month later. Marginalised background. | N9 |
| Ms. Maya B.K (Name changed) | Woman 26, with young child, 4. Disabled, from a marginalised (Dalit) and poor background. | N10 |
| Mr. Roshan Thapa (Name Changed) | Young person, 11. Poor, single-parent household | N11 |
| Ms. Sarita Tamang (Name Changed) | Young person, 16. From a marginalised (Janajati), poor background. Single (locally considered to be of marriagable age) and rurally based. | N12 |
| Ms. Gita Pariyar (Real name) | Woman, 35. From a poor, marginalised (Dalit) background., Locally elected member, community women's health mobiliser | N13 |
| Ms. Chanda Sharma (Name Changed) | Woman, 24. Rurally based. Widowed by earthquake, lost child during earthquake | N14 |
| Mr. Madhav Dulal | Pahichan Magazine | N15 |
| Mr. Sanjay Gupta | Kantipur Media Group | N16 |
| Mr. Paras Upadhyay | Researcher | N17 |
| Mr. Bharat Nepali (Name Changed) | Young man, 20, turned into migrant worker after losing house in earthquake, poor, dalit | N18 |
| Ms. Maya Devi (Name changed) | Woman, 62, Son was at hospital at the time of earthquake undergoing chemo | N19 |
| Ms. Shusma Thapa Magar (Name changed), 32 | Woman, 32 with two young children. | N20 |
| Ms. Satyajit Pradhan | Director - Evidence to Action at Marie Stopes International | N21 |

| | | |
|-------------------------------|--|-----|
| Ms. Tara Thapa (Name changed) | Woman, 30, Single mother of two | N22 |
| Ms. Barsha Sharma | Cardiac Society | N23 |
| Ms. Anjali Joshi | Social worker | N24 |
| Mr. Sanu Lal Maharjan | Programme Manager, Save the Children, Nepal | N25 |
| Mr. Shekhar Regmi | Programme Coordinator, Nepal Red Cross Society | N26 |
| Mr. Sushil Bhandari | National Emergency Operating Centre, Ministry of Home Affairs | N27 |
| Mr. Mohammad Harun Rashid | United Nations Children Fund Nepal | N28 |
| Mr. Birendra Pradhan | United Nations Children Fund Nepal | N29 |
| Ms. Aino Efraimsson | Inter Cluster Gender Task Force (ICGTF), UN Women | N30 |
| Ms. Sama Shrestha | Programme Specialist (Peace, Security and Humanitarian Action), UN Women Nepal | N31 |
| Mr. Krishna Karkee | Centre for Disaster Management Studies (CDMS), Nepal | N32 |

Key Informant and Missing Voices Interviews, Malawi

| Interviewee Nr | Name | Organisation / circumstances |
|----------------|------------------------------|--|
| M1 | Sothini Nyirenda | Programme Analyst Climate Change and Disaster Risk Reduction, UNDP Malawi |
| M2 | Shepherd Jere | District Disaster Officer |
| M3 | Takondwa Kaliwo | Program Advisor, Girls Empowerment Network |
| M4 | Sammie | President, Ivy Foundation |
| M5 | Andy Ashworth | Country Director, Chance for Change |
| M6 | Alan Msosa | Researcher, Human Rights Activist |
| M7 | Eric Chamwana | Executive Director, Nyasa Rainbow Alliance |
| M8 | Boniface Massah | National Coordinator, Standing Voice |
| M9 | Grace Waluza | Anti-trafficking Activist/ Youth worker |
| M10 | Jasmine Leitao | Fundraiser, previously Administrator for Open Arms in Blantyre, Malawi |
| M11 | Hamilton George | Ndirande Handicapped Centre |
| M12 | Meke | Transgender woman, 29 |
| M13 | Alinane Priscilla Kamlongera | Senior Gender Advisor, CARE Malawi |
| M14 | Wanga | Community Mobilization Officer, Ivy Foundation and woman farmer, 26 |
| M15 | Tadala | Widow, 82 |
| M16 | Tori | Young person, 16 |
| M17 | Yami | Single mother, 25 |
| M18 | Survey | |
| M19 | Emma | Transgender woman, HIV positive |
| M20 | Maggie | District Environmental Health Officer, Chikwawa |
| M21 | Thokozani Chimasula | Programs Manager, Centre For Alternatives For Victimized Women And Children (CAVWOC) |
| M22 | Eliza | District Nurse and Health Coordinator, Chikwawa |
| M23 | Charles Mazinga | Deputy Director for Nutrition and HIV and AIDS, and for Humanitarian Action, Ministry of Gender and Social Affairs |
| M24 | Chisomo TepuTepu | Disaster Response and Recovery Specialist, Malawi Red Cross |
| M25 | Simon Munde | Head of Programmes, Federation of Disability Organizations in Malawi (FEDOMA) |
| M26 | Nana | Single, pregnant, young, homeless woman, 24 |
| M27 | Anne Pyne | President, Association of Malawian Midwives |
| M28 | Joseph | Gay adult male |
| M29 | Austin | Gay adult male |
| M30 | Racheal | Lesbian adult female |

Key Informant and Missing Voices Interviewees, Dominica

| Interviewee Nr | Name | Organisation / circumstances |
|----------------|------------------------|--|
| D1 | Daryll Phillips | Minority Rights Dominica (MiriDom) |
| D2 | Beverly Leblanc | Director/Founder, Achievement Learning Centre |
| D3 | Sylvester Jno Baptiste | Previously, Coordinator at Dominica CHAP |
| D4 | Representative nr 1 | National Youth Council |
| D5 | Nathalie Murphy | Executive Director, Dominica Association of Persons with Disabilities (DAPD) |
| D6 | Mrs Harris | Deputy Principle, The Convent High School |
| D7 | Beverly Baron | Federation Coordinator, West Dominica Children's Federation |
| D8 | Ian King | Head of Project Office and Recovery Advisor at UNDP Dominica |
| D9 | Tina Alexander | Director of Lifeline Dominica and social worker |
| D10 | Donaldson Frederick | Programme Officer, Office for Disaster Management |
| D11 | Shirley Dorsett | Council Member, Dominica Council on Ageing |
| D12 | Gloria Shillingford | President, Dominica Council on Ageing |
| D13 | Representative nr2 | National Youth Council |
| D14 | Yarvick Seaman | Director and Member, Dominica Council on Ageing |
| D15 | Gloria Walsh | Director, Love One Teach One Foundation |
| D16 | Geline Fontaine | Social and community development specialist |
| D17 | Virginia | Artisan and single mum |
| D18 | Malica | Young mother |
| D19 | Theresa Frederick | Field officer Kalinago Territory, Dominica Council on Ageing |
| D20 | Jennifer Pascal | Woman farmer and Vice-President of the North-East Agriculture Women's Movement |
| D21 | Annette Bates | President of the Vibrant Seniors Group |
| D22 | Norma | Crime Stoppers Dominica |
| D23 | Anonymous | Key Informant Interviewee |
| D24 | Stephanie | Carer for disabled family members |
| D25 | Rickela | Young single mum, unemployed, with a disabled son |
| D26 | Lester Guye | Coordinator, National HIV/AIDS Support Programme |
| D27 | Paul | Adult male living with HIV |

Step 1: Identify which marginalized or vulnerable sub-groups (beyond headings of women, children, elderly people) are not centred in current disaster and DRR analyses and plans.

Step 2: Outreach to individuals facing multiple areas of marginalisation or vulnerability, working in partnership with trusted intermediaries where trust or access is an issue.

Step 3: Targeted exercises of listening to the experiences of individuals facing multiple intersecting marginalisation on differential impacts, needs or opportunities.

Step 4: Proactive action (in partnership) to identify and reduce differential impacts.

Step 5: Ongoing engagement and feedback loops to ensure marginalized or vulnerable people are centred in DRR policy and practice, so that no one is left behind.

Further information on step 3: Step 3 was conducted through a series of 1-1 telephone calls (see methodology), with individuals identified and accessed through snowball sampling, initially via trusted intermediaries with anonymity and confidentiality prioritized. The interviewer explained the purpose of the interviews (to gain insights into the experience of groups who are not necessarily centred in current analysis and action). The interviewer asked each individual if they know any other individuals who may help enhance our understanding. Initial contact was

made through identifying intermediaries who work with or support marginalized individuals (eg a widows community group, a HIV+ support group) at sub-national level. Interviews with KIIs at national level helped identify potential intermediary organisations or individuals at sub-national level. The interviews were loosely structured, keeping to the topic of differential impacts, preparedness, resilience or recovery to natural hazards, but with open questions and active listening, emphasizing listening to what challenges, issues or opportunities the individuals wanted to share.

A – Interviewees talked about hidden groups, who are easily overlooked and ignored

“Families are often reluctant to speak openly about disability. They prefer to hide it, ignore it. The stigma is widespread and deep-rooted; the fear of being pitied and looked down upon is strong.” **N1**

“Disabled people who cannot move independently are homebound even during normal times. This is true for people with invisible and intellectual disabilities also. They do not appear in public much, due to the stigma. So it is hard to work out who needs what kind of help where.” **N1**

“I also wear baggy clothes and shawls as I prefer not to make my disability obvious, so people perhaps did not also realise (that I was struggling more).” **N10**

Transgender people in Nepal face hostility and, “Many keep to themselves and remain homebound because they feel unable to deal with the discrimination and comments they receive in society.” **N2**

The interviewee noted additional challenges faced by transgender people who were not openly transgender: “Lack of privacy to change clothes or bathe meant many faced a real risk of being exposed.” **N10**

“The LGBT community is a minority group that is considered illegal in Dominica. So the members of this community are very vulnerable, they are socially chastised, and they live in hiding. They live undercover, in a very covert way, they have to keep

themselves that way. People who can afford to get off the island do. Others lead secret lives. This holds back the LGBT community. They are not allowed to express themselves, everything is measured against others.”

D1

“The transgender community have it particularly hard. Transgender people, particularly transgender women, find it harder to keep their identity hidden and so there is a higher stigma. People simply do not want to be associated with them. So they mostly keep themselves to themselves. They don’t want to be known because they don’t want to face the abuse, which is sure to come. But when disaster strikes suddenly, they face multiple risks. Firstly, the risk of being outed is higher, because clothes can get wet, they won’t have enough spare clothes, they won’t have privacy. Secondly, towards these people - and this is true for everybody from the LGBTI community - the families are already hostile, and if displaced they are likely to be abandoned or disowned. My own family disowned me when I decided to openly come out as gay, and they were not even struggling to feed themselves at the time.” **M7**

“Almost all disaster related information is targeted towards able-bodied people. Even in the packaging, disabled people are excluded. No thought is given to us. Our voices are not sought, and so far most of us are not in a position - due to lack of education, awareness, poverty - to raise our own voice.” **M8**

B – Interviewees talked about data gaps, where marginalized groups are not even counted, and the implications of these gaps for policy and practice

“There is no data on visually impaired children of school going age. All this made it very difficult to identify and support people in need during the earthquake. Following the earthquake, it’s been difficult to secure funding as people don’t want to believe us when we say there is a need for more work, more support.” **N3**

“Providing awareness and support to transgender people is not easy. For a start, we do not know how many there are. My own parents put me down as a man during the last consensus survey. I had to go back to update it.” **N2**

"I do not feel policy makers fully understand the challenges and needs of disabled people. If they do, they do not take it seriously. The lack of data comes into play here too - because they think there are so few of us, they believe they can afford to overlook our needs. For example, if you look at ongoing post-earthquake reconstruction, not many buildings are wheelchair friendly." **N1**

"More attention needs to be given to males - adult and young males - because the challenges or the violations or the issues that expand or increase during and after an emergency, a lot of them, men have a big part to play in it. So in that context there is a blind eye to the importance of the males in society during and after an emergency. They were doing a lot of the drinking, disturbing the shelters, and even not helping women, like to fetch water and prepare for the storm." **D16**

"There is lots of talk about international women's day and supporting women entrepreneurs. We need financial help, even if we sit down and listen to people talking to us, we cannot make the next step. How can we get there? They need to plant the seed to see it grow. But what if there is no seed planting? Then there can be no fruits." **D17**

"I complained at the hurricane shelter because my senior citizens were not being fed properly. I said I was not satisfied. Sometimes they would offer me sugar, rice, flour. If I didn't ask, I didn't get anything." **D19**

"Elderly people from middle-income neighbourhoods were also marginalized; many were bypassed as relief aid was directed to more rural communities." **D16**

"Some of the decisions made about disaster risk and preparedness are alright, they will suffice. Some are not the best for women farmers.... My situation and that of other female farmers might be different, so it would be good to have stakeholder meetings, so we know what is being planned and so that we are asked what we think." **D20**

"Apart from information available in the general media, there is no disaster information targeted towards the LGBT community." **D3**

"I don't think young people participate enough in DRR efforts. The government does not provide enough incentives to get young people engaged. There are no specific targeted efforts by government to support young people to recover." **D4**

"I don't think that decision makers understand because they do not understand the lives of persons other than those they are associated with. Most likely people in authority make decisions and policies they associate with people within their circles. They don't see below. I ended up telling someone about my challenges and he told me that I am exaggerating." **D17**

"Almost all disaster related information is targeted towards able-bodied people. Even in the packaging, disabled people are excluded. No thought is given to us. Our voices are not sought, and so far most of us are not in a position - due to lack of education, awareness, poverty - to raise our own voice." **M8**

"They don't see that disabled people are a priority." **M11**

D – Interviews gave insights on the ways in which multiple intersecting areas of marginalization (the intersection between gender/age related vulnerabilities and discrimination/social marginalization) can leave vulnerable groups at heightened risk

One interviewee spoke of being asked to leave her rented house after the earthquake:

"It was hard to find another place to rent. Through the help of an agent we were able to find another place to rent at the other side of the city. This took a long time though, at least two months, because people

normally don't like to rent their space to people like us (Dalit, disabled and poor). This really disrupted my son's schooling." **M10**

Being in temporary accommodation also meant she felt she would not be welcome in community groups, unable to speak up about her priorities and needs.

Gender and Age Unaware:

There is limited consideration that people of different genders and age may have different roles, needs or capacities, and no acknowledgement of pre-existing power imbalances between people of different genders. Decisions, policies and practices are likely to be shaped by stereotyped and cisnormative assumptions that may exclude or disadvantage certain gender groups or age demographics. Gender and age unaware approaches are likely to perpetuate and exacerbate gender and age inequalities and vulnerabilities.

Gender and Age Aware:

There is an acknowledgement that different genders (including gender minorities) and age groups are impacted differently or may have different roles, needs, or capacities. There is limited analysis and assessment of differential impacts, needs, preferences and capacities.

Gender and Age Sensitive:

Policies, practices and priorities reflect awareness of differential impacts on and needs of different genders (including gender minorities) and age groups, and the existence of gendered power imbalances. There are proactive efforts to analyse, assess and understand the differential impacts, needs, preferences, and capacities affected by gender and age. Plans, priorities and activities are adapted to better meet the needs of marginalised groups.

Gender and Age Transformative:

Policies and practices reflect awareness of differential impacts on and needs of different genders (including gender minorities) and age groups, and the existence of gendered power imbalances. Plans, priorities, and approaches are proactively (re)designed to meet the needs of all people. There is a consideration of harmful gender roles, norms and relations, acknowledgement of how gendered assumptions marginalise different genders, and proactive effort to reduce gender and age-based inequalities.

(ADAPTED FROM BROWN, S. ET AL (2019A))

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ENDNOTES

- 1 or recognised as needing consideration, but with no evidence of how this would be done
 - 2 Efforts to track progress in data disaggregation (e.g. Sendai Data Readiness Review) would be more meaningful if they monitor not only whether some data is disaggregated, but the percentage of data that is disaggregated.
 - 3 In some reports and studies there was a semblance of disaggregated quantitative impact data, but at closer inspection estimates of sex or age disaggregated data were extrapolated from census data on the demographics of the population in the affected area.
 - 4 Following a methodology piloted once previously when looking at Gender Transformative Early Warning Systems (Brown et al., 2019)
 - 5 Following a methodology piloted once previously when looking at Gender Transformative Early Warning Systems (Brown et al., 2019)
 - 6 Global databases reviewed included EM-DAT; DesInventar; Sigma Explorer; NatCatService; GLIDE; Global Risk Data Platform. Regional databases included SIAPAD - Andean Information System for Disaster Prevention and Relief; CDEMA - Disaster events database; Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI). Hazard specific databases included those focused on floods, tsunamis, hurricanes, and earthquakes
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 - 107 Key Informant Interview (N2)
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- 253 Missing Voice Interview (M13)
- 254 Key Informant Interview (M9)
- 255 Key Informant Interview (M9)
- 256 Missing Voice Interview (M16)
- 257 Missing Voice Interview (M9)
- 258 Key Informant Interview (M6)
- 259 Missing Voice Interview (M7)
- 260 Missing Voice Interview (M7, M12)
- 261 Missing Voice Interview (M12)
- 262 Missing Voice Interview (M4, M6, M7)
- 263 Missing Voice Interview (M12)
- 264 Missing Voice Interview (M7)
- 265 Missing Voice Interview (M12)
- 266 Missing Voice Interview (M12)
- 267 Missing Voice Interview (M12)
- 268 Key Informant Interview (M25)
- 269 Key Informant Interview (M22, M25)
- 270 Key Informant Interview (M8, M25)
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- 309 Key Informant Interview (D7)
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325 Missing Voice Interview (D11)
326 Missing Voice Interview (D19)
327 Missing Voice Interview (D12)
328 Key Informant Interview (D14)
329 Missing Voice Interview (D27)
330 Missing Voice Interview (D24, D25)
331 Key Informant Interview (D4) and Missing Voice Interview (D24)
332 Key Informant Interview (D4)
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334 Including the National HIV/AIDS Support Programme sending supplies to rural areas via helicopter
335 Key Informant Interview (D26)
336 Men represent 70% of PLHIV/AIDS aged between 15 and 24, Key Informant Interview (D26)
337 Key Informant Interview (D26)
338 In 2018, three women aged 17 tested positive for HIV (compared with one woman per year during previous years), Key Informant Interview (D26)
339 Missing Voice Interview (D27)
340 Missing Voice Interview (D27)
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349 Key Informant Interview (D4, D13)
350 Key Informant Interview (D7)
351 Key Informant Interview (D13)
352 Key Informant Interview (D16)
353 Missing Voice Interview (D14, D24, D25, D26)
354 Missing Voice Interview (D14, D24, D25, D26)
355 Missing Voice Interview (D19)
356 Missing Voice Interview (D19)
357 Missing Voice Interview (D12)
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359 Key Informant Interview (D2)
360 (136 out of 163) Government of the Commonwealth of Dominica (2017)
361 Government of the Commonwealth of Dominica (2017)
362 Government of the Commonwealth of Dominica (2017)
363 from average of 930 hours per year to 584 hours per year Government of the Commonwealth of Dominica (2017)
364 Fontaine (2018a)
365 Key Informant Interview (D9)
366 Government of the Commonwealth of Dominica (2017)
367 IMC (2017)
368 IMC (2017)
369 Key Informant Interview (D9)
370 Key Informant Interview (D9)
371 Fontaine (2018a)
372 Fontaine (2018b)
373 Fontaine (2018a)
374 Fontaine (2018b)
375 Key Informant Interview (D4)
376 Key Informant Interview (D4)
377 Missing Voice Interview (D17)
378 Key Informant Interview (D9)
379 Key Informant Interview (D9)
380 Missing Voice Interview (D17)
381 Key Informant Interview (D4, D9, D22)
382 Key Informant Interview (D26)
383 Key Informant Interview (D22)
384 Government of the Commonwealth of Dominica (2017)
385 ACAPS (2018)
386 Government of the Commonwealth of Dominica (2017)
387 Caribbean Development Bank (2014)
388 Government of the Commonwealth of Dominica (2015)
389 Government of the Commonwealth of Dominica (2017)
390 ACAPS, OCHA and UNDP (2018)
391 Government of the Commonwealth of Dominica (2017)
392 Government of the Commonwealth of Dominica (2017)
393 Government of the Commonwealth of Dominica (2017)
394 Missing Voice Interview (D20)
395 Missing Voice Interview (D10, D20)
396 Caribbean Development Bank (2014)
397 Missing Voice Interview (D20)
398 Key Informant Interview (D13)
399 Key Informant Interview (D4, D9, D22)
400 Fontaine (2018b)
401 Key Informant Interview (D16)
402 Government of the Commonwealth of Dominica (2017)
403 UNDP (2009)
404 UNDP (2009)
405 Caribbean Development Bank (2014)
406 UNDP (2009). Figure taken from 2003 Country Poverty Assessment commissioned by the Caribbean Development Bank
407 IOM (2017)
408 UNICEF (2017)
409 Caribbean Development Bank (2014)
410 UNDP (2009)
411 Missing Voice Interview (D17)
412 Central Statistics Office, 2018
413 Women constitute 35.3% of the employed disabled population
414 Central Statistics Office, 2018
415 Missing Voice Interview (D17, D19, D24, D25, D27)
416 Missing Voice Interview (D27)
417 Missing Voice Interview (D17)
418 Government of the Commonwealth of Dominica (2017)
419 Government of the Commonwealth of Dominica (2017)
420 Key Informant Interview (D23)
421 IMC (2017)
422 Missing Voice Interview (D17)
423 Caribbean Development Bank (2014)
424 UNDP (2009)
425 Key Informant Interview (D16) and Missing Voice Interview (D19, D24)
426 Missing Voice Interview (D19)
427 Missing Voice Interview (D5, D24)
428 Missing Voice Interview (D1)
429 Missing Voice Interview (D1)
430 Missing Voice Interview (D1)
431 Missing Voice Interview (D1)
432 Following a methodology piloted once previously when looking at Gender Transformative Early Warning Systems (Brown et al, 2019)

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