

# The Socio-economics of Gender and Disasters: A literature review

Final Report

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# 1 Background and overview

## 1.1 Overview and scope of research

The Socioeconomics of Gender and Disasters report aims to provide a gendered perspective on the intersection between disaster and economics at every stage of the emergency management cycle, and how this applies within the Australian context. It examines the interlinkages between economic and social factors that create gendered variations in the experiences, impacts and longer-term outcomes of disasters, and considers both local and international socioeconomic policy responses that could support more inclusive approaches to long-term disaster recovery and resilience.

The report has been prepared on behalf of Gender and Disaster Australia (GADAus) and has been drawn from publicly available white and grey literature sources that have been published since 2010. A reference list of all cited literature is included in the appendix of the report.

## 1.2 Research Limitations

The interpretation and use of the analysis and findings are subject to the following limitations.

The report has been prepared on behalf of GADAus in line with the purposes and scope outlined above. Any third-party reliance placed is that party's sole responsibility.

Information sources provided in the report are from publicly available sources and have not been independently verified unless otherwise noted.

The availability and accessibility of temporal and spatial gender-disaggregated data is a known gap within disaster literature, with no holistic approach adopted to its collection in Australia.<sup>1</sup> Literature on gender-diverse disaster impacts and experiences is also an emerging and active area of research, however there are few studies that mention or have a focus on economic linkages between disasters and gender.

Unless otherwise stated, this limits the causality of links that can be established regarding socio-economic aspects of disasters. It also limits the ability to comprehensively explore the socio-economic nuances, complexities and dimensionalities of gender-differentiated impacts and experiences of disasters beyond binary constructs.

Promisingly, the Australian Government is in the process of establishing gender-responsive budgeting and gender impact analysis which could assist in collecting gender-disaggregated data and adopting a gender approach to disaster policy in the future.<sup>2</sup>

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<sup>1</sup> Commonwealth of Australia. (2022). *Australia's national midterm review of the Sendai Framework for Disaster Risk Reduction 2015-2030 Report*. Canberra.

<sup>2</sup> Commonwealth of Australia. (2022). *Australia's national midterm review of the Sendai Framework for Disaster Risk Reduction 2015-2030 Report*. Canberra.

## 2 Literature review findings

### 2.1 Overall summary

Disasters can often have profound, complex and long-lasting impacts on communities. On their own, disasters can and do create significant damage and loss that take time to recover from. But the extent of this damage, and long-lasting effects within communities are often the result of decisions that are made both prior to, and after the event.

In applying a gender lens to our analysis, our review suggests that disasters can reinforce existing gender inequalities and unequal distribution of power and influence within society, expose prejudice and discrimination, create gender-differentiated impacts on mental health and heighten experiences of domestic violence. Importantly, gender segregated industries of employment, insecure forms of employment (part-time and casual) and the design of government policies and programs can all inadvertently contribute to further entrenching or widening equity gaps between genders. Many of the impacts reported are disproportionately borne by women, with emerging research evidence also suggesting effects on gender diverse individuals (though studies are limited).<sup>3</sup>

All of this underscores the need to go beyond the overall impacts to understand how disaster-induced shocks interact with gender and other socioeconomic dimensions that, when left unchecked, can further widen the gap between genders, and entrench economic disadvantage.

By contextualising, analysing and accounting for the root causes of gendered vulnerability to disasters, policy makers can better understand financial and economic constraints that women and different genders may face, the level of agency and subsequent choices they are then able to make in disaster settings. Accounting for these differences is essential to guide comprehensive gender-responsive and inclusive risk assessments, which in turn are vital for informing inclusive and equitable disaster processes, service delivery provision and outcomes where disasters to strike.<sup>4</sup>

### 2.2 The socio-economics of disasters

#### 2.2.1 Gender-differentiated impacts of a disaster are closely linked to the socioeconomic conditions and norms that existed well before the disaster struck.

Disasters are not experienced uniformly across society. Rather, the underlying socioeconomic conditions, norms, disadvantages and inequalities that existed prior to disasters are major factors in an individual's pre-existing level of financial and economic security. Unequal distribution of power and positions of influence along gendered lines can also erode the subsequent degree of agency and influence that individuals have over decisions that impact on their lives and livelihoods.

Protective factors that enhance an individual's economic resilience include a secure income, access to savings or credit, employment with social protection, marketable job skills, education and training, and control over productive resources.<sup>5</sup> These factors not only help individuals prepare for disasters, but also influence their subsequent ability and time it takes to absorb, cope, respond and recover from disaster shocks.

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<sup>3</sup> See for example: Larkin, B. (2019). Pride and prejudice: LGBTIQ community responses to disaster events worldwide. *Australian Journal of Emergency Management*, 34(4), 60-66.

<sup>4</sup> UN Women. (n.d.). *Gender-responsive risk assessment*. Retrieved from Women's Resilience to Disasters: <https://wrd.unwomen.org/practice/topics/risk-assessment>

<sup>5</sup> Shi, H., & Jin, E. (2022, December). Valuing the costs of natural disasters using the life satisfaction approach. *Victoria's Economic Bulletin*, 6(4).

The next section describes some broad trends and conditions for women, men and gender diverse peoples. It highlights the systemic factors that have contributed to gender-based discrimination and inequality over time. While this is true at a cohort level, it is important to note that this does not necessarily always reflect the experiences of individuals within each cohort, nor fully capture the intersectionality of gender with age and other attributes and dimensions of identity, such as Indigenous identity, disability, cultural and migrant background, household circumstances and socioeconomic background – all of which may add or detract from their individual economic resilience within and across the gender spectrum.

## Women

Figure 1 Reflections on impacts of gender discrimination and exclusion in labour force in economic literature

“ When a woman gets as good a job as a man with equal skills would obtain but is paid less, the exploitation creates unjustified inequalities... [If] women are excluded from responsible jobs, they are prevented from using their skills to the fullest extent; that is inefficiency - in effect, the worker's hand is tied behind her back.

The empirical evidence identifies exclusion as the main form of discrimination in labour markets. It produces a triplet of evils: unequal opportunity, unequal income, and inefficiency. Moreover, unequal opportunity at one point in time generates unequal opportunity over time. Once people are excluded from good jobs, they are deprived of the incentives and opportunities to develop the skills that would otherwise qualify them for good jobs. (Okun, 2015)

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Consistent with international experience, being a woman is associated with lower levels of economic resilience to disasters in Australia, particularly in comparison to men. This is due to a variety of interconnected factors including gender inequality, socio-economic and power disparity, and access and control over resources.

Women have historically been under-represented in positions of power. As of 1 January 2022, 39 per cent of federal parliamentarians and 39 per cent of state and territory parliamentarians were women.<sup>6</sup> Despite higher educational attainment levels, Australian women are less likely than men to hold managerial positions or own businesses (women comprised 29.3 per cent of total owner managers of incorporated enterprises with employees as of July 2023).<sup>7</sup> While progress is being achieved, women continue to be under-represented in key decision-making roles across almost all industries. Women make up over 50 per cent of the workforce, but hold less than 20 per cent of CEO positions. They also hold 41 per cent (2 in 5) of manager positions, although this has trended upwards from 36 per cent in 2013. Such under-representation extends to the emergency management context, with Australian men tending to dominate leadership roles compared to women.<sup>8</sup>

While there have been significant increases in women's labour force participation and earnings over the last few decades, the gender-patterned nature of the workforce's industry of employment has a direct bearing on women's earning potential. Historically male dominated industries sit in the upper half of the average earning spectrum, while the average earnings in many industries that are large employers of women – including healthcare and social assistance, retail trade, accommodation and food services, and education and training – are in the lower half of the earnings spectrum.<sup>9</sup> The

<sup>6</sup> Hough A. (2022). *Trends in the gender composition of state and territory parliaments*. Parliamentary Library, Parliament of Australia. Retrieved from: [https://www.aph.gov.au/About\\_Parliament/Parliamentary\\_departments/Parliamentary\\_Library/FlagPost/2022/May/Gender\\_composition\\_of\\_state\\_and\\_territory\\_parliaments](https://www.aph.gov.au/About_Parliament/Parliamentary_departments/Parliamentary_Library/FlagPost/2022/May/Gender_composition_of_state_and_territory_parliaments).

<sup>7</sup> Australian Bureau of Statistics. (2023, August 24). *Labour Force, Australia, Detailed*. Retrieved from Australian Bureau of Statistics: <https://www.abs.gov.au/statistics/labour/employment-and-unemployment/labour-force-australia-detailed/latest-release>

<sup>8</sup> Parkinson, D., Duncan, A., & Archer, F. (2019). Barriers and enablers to women in fire and emergency leadership roles. *Gender in Management*.

<sup>9</sup> KPMG (2022), *She's Price(d)less: The economics of the gender gap*, <https://assets.kpmg.com/content/dam/kpmg/au/pdf/2022/kpmg-shes-priced-less-2022.pdf>

historic undervaluation and gendered associations with the care economy, in which women are over-represented, also add to gender differentials in workforce outcomes.<sup>10</sup>

Women are also more likely than men to work in part-time positions, accounting for 68.5 per cent of the part-time workforce in 2022.<sup>11</sup> Women's choices to participate in the labour force, and the extent of their participation, are inherently constrained by the unequal distribution of care-giving within society.<sup>12</sup> A 2021-22 Australian Bureau of Statistic (ABS) survey investigating the barriers and incentives for labour force participation found that the main reason women were unavailable to start work or work more hours was "Caring for children" (25%), which was higher for mothers with children under 15 years (56%).<sup>13</sup> Social and cultural norms revolving around the 'ideal worker' or male breadwinner act as a barrier for men taking up parental leave<sup>14</sup> or time away to care for a child, which may not seem 'masculine' in Australian culture.<sup>15</sup>

Women also overwhelmingly head one parent families with children and dependants, with the ABS Census 2021 reporting 79.8 per cent of single parents being female.<sup>16</sup> Such single parent households are more at risk of being in housing stress compared to couples with or without children.<sup>17</sup> While forming a lower proportion of overall people experiencing homelessness as reported in the 2021 Census (44.1 per cent or 53,974) compared to males, females accounted for 81.7 per cent of the 6,067 increase in people experiencing homelessness compared to 2016.<sup>18</sup> Women's experience of homelessness is intricately tied with family violence which is currently one of the leading causes of homelessness in Australia. In the 2020-21 financial year, 77 per cent of people (116,200) who sought assistance from specialist homelessness services due to domestic family violence were female, with 40 per cent of the women accompanied by children. 62 per cent of Indigenous clients presenting to these services were female. While older females' homelessness rates declined marginally from 20 to 19 people per 10,000 in 2021 over the same time period, it remains above historical averages.<sup>19</sup> Lower lifetime earnings and savings is further compounding factor to their experience of homelessness, with the amount of wealth accumulated generally lower compared to men.<sup>20</sup>

Females are also more likely to be carers for people with disability. For example, the ABS 2018 Disability, Ageing and Carers, Australia survey found that while prevalence of disability was similar for women (17.8 per cent) and men (17.6 per cent), seven in ten (71.8 per cent) primary carers were

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<sup>10</sup> The Senate, Finance and Public Administration References Committee (2017), 'Gender Segregation in the Workplace and Its Impact on Women's Economic Equality,' Parliament House, June 2017, accessed April 2023.  
[https://www.aph.gov.au/parliamentary\\_business/committees/senate/finance\\_and\\_public\\_administration/gendersegregation/Report](https://www.aph.gov.au/parliamentary_business/committees/senate/finance_and_public_administration/gendersegregation/Report)

<sup>11</sup> Ibid.

<sup>12</sup> Preston, A., & Yu, S. (2014). Is there a part-time/ full-time pay differential in Australia? *Journal of Industrial Relations*, 57(1), 24-47.

<sup>13</sup> The main reason men were unavailable to start work was "Long-term sickness or disability" (35%).

Source: ABS. (2022, November 4). *Barriers and Incentives to Labour Force Participation, Australia*. Retrieved from Australian Bureau of Statistics: <https://www.abs.gov.au/statistics/labour/employment-and-unemployment/barriers-and-incentives-labour-force-participation-australia/latest-release#key-statistics>

<sup>14</sup> Australian Human Rights Commission (2022). Experiences of Employees during pregnancy, parental leave and on return to work after parental leave. <https://humanrights.gov.au/our-work/chapter-3-experiences-employees-during-pregnancy-parental-leave-and-return-work-after>

<sup>15</sup> Borgkvist, A. (2022). 'It Would Be Silly to Stop Now and Go Part-Time': Fathers and Flexible Working Arrangements in Australia. In M. Grau Grau, M. L. Maestro, & H. R. Bowles, *Engaged Fatherhood for Men, Families and Gender Equality* (pp. 231-243). Springer Cham.

<sup>16</sup> Australian Bureau of Statistics. (2022, October 18). *Labour Force Status of Families*. Retrieved from Australian Bureau of Statistics: <https://www.abs.gov.au/statistics/labour/employment-and-unemployment/labour-force-status-families/latest-release#:~:text=In%20June%202022%2C%20there%20were,of%20these%20being%20single%20mothers>

<sup>17</sup> Robinson E (2009), Sole-parent families: Different needs or a need for different perceptions?, *Family Matters*, vol. 82, [https://aifs.gov.au/sites/default/files/re\\_0.pdf](https://aifs.gov.au/sites/default/files/re_0.pdf), accessed 7 June 2023.

<sup>18</sup> It is noted that the data collection period for the 2021 Census coincided with state and territory government COVID-19 responses, including provision of temporary accommodation to people in crisis situations or sleeping rough for individual and community protection from the virus. These measures may mask the true rates of homelessness experienced at the time. Source: Australian Bureau of Statistics. (2023). *Estimating Homelessness: Census*, Retrieved from: <https://www.abs.gov.au/statistics/people/housing/estimating-homelessness-census/latest-release>

<sup>19</sup> Australian Human Rights Commission. (2019, April). *Older Women's Risk of Homelessness: Background Paper Exploring a growing problem*. Retrieved from Australian Human Rights Commission: <https://humanrights.gov.au/our-work/age-discrimination/publications/older-womens-risk-homelessness-background-paper-2019>.

<sup>20</sup> Australian Institute of Health and Welfare 2021, Specialist Homelessness Services Annual Report 2020-21, Retrieved from: <https://www.aihw.gov.au/reports/homelessness-services/shs-annual-report-2020-21/contents-2020-21/clients-services-and-outcomes>.

women, and over one-third (37.4 per cent) of primary carers had disability, twice the rate of non-carers (15.3 per cent).<sup>21</sup>

Combined with discriminatory work practices, these factors contribute to a gender pay gap between men and women,<sup>22</sup> and have important implications for women's financial security and total economic earning potential over their lifetime, including in retirement. Women on average live longer than men<sup>23</sup> but retire on less, with a median superannuation balance of \$208,200 compared to \$168,000 for males aged 65+ years.<sup>24</sup>

Cumulatively, these factors reduce women's capacity to prepare for, and manage the financial impacts of a disaster. With less access and control over economic resources, women face hindrances to recovery and longer-term resilience.

## Men

Men as a group broadly have relatively greater financial security and more power in decision making which support economic resilience to disasters.

However, they also represent a greater proportion of people experiencing homelessness (68,516 or 55.9 per cent of those experiencing homelessness were male), and more likely to be living in improvised dwellings, tents, or sleeping out compared to females of all ages.<sup>25</sup>

They can also be vulnerable in disasters due to gender social norms and expectations. Hyper-masculinity norms can reinforce their role as 'provider and protector', heightening their exposure to hazards in work and disaster contexts, and normalising risky behaviour.<sup>26,27</sup> Such behaviour leaves men at greater risk of dying from disasters if and when they do occur, with research consistently pointing to men having relatively higher mortality rates (over 64 per cent of fatalities reported) across disaster events including heatwaves, bushfires, flood, tropical storm and cyclone events in Australia.<sup>28</sup> Hyper-masculine norms can also lead to self-destructive coping strategies (including interpersonal violence and substance abuse) during disasters and create barriers to asking for help which inhibit recovery from trauma. These have important implications on their ongoing ability to participate and engage in the workforce. Cumulatively, this affects the longevity and quality of their life and wellbeing.

Figure 2 Men's reflections on social norms following disasters

“ My second eldest son was with me, and grandson ... I was the father figure and they had me to lean on, or felt I was their protector. So they didn't have the fear that I had ... I'm at the forefront ... I was there as their fatherly figure, and they felt protected. Whereas I didn't have any protection. ”

<sup>21</sup> For example, the Australian Bureau of Statistics 2018 Disability, Ageing and Carers, Australia survey found that while prevalence of disability was similar for women (17.8%) and men (17.6%), seven in ten (71.8%) primary carers were women, and over one-third (37.4%) of primary carers had disability, twice the rate of non-carers (15.3%).

<sup>22</sup> Various estimates exist. The ABS estimates the gender pay gap to be between 8.8 per cent and 27.5 per cent.

ABS. (2023). Gender indicators. Retrieved from Australian Bureau of Statistics: <https://www.abs.gov.au/statistics/people/people-and-communities/gender-indicators#gender-pay-gap-measures>.

<sup>23</sup> Life expectancy at birth was 81.3 years for males and 85.4 years for females in 2019-21. ABS. (2022, November 11). *Life tables*. Retrieved from Australian Bureau of Statistics: <https://www.abs.gov.au/statistics/people/population/life-tables/2019-2021>

<sup>24</sup> Australian Bureau of Statistics. (2023). *Gender indicators*. Retrieved from Australian Bureau of Statistics:

<https://www.abs.gov.au/statistics/people/people-and-communities/gender-indicators#gender-pay-gap-measures>.

<sup>25</sup> Australian Bureau of Statistics (2023). *Estimating Homelessness: Census*. Retrieved from Australian Bureau of Statistics

<https://www.abs.gov.au/statistics/people/housing/estimating-homelessness-census/latest-release#homeless-operational-groups>

<sup>26</sup> Zara, C., Parkinson, D., Duncan, A., & Joyce, K. (2016). Men and disaster: Men's experiences of the Black Saturday bushfires and the aftermath. *Australian Journal of Emergency Management*, 31(3), 41-48.

<sup>27</sup> Parkinson, D. (2022). 'I thought you were more of a man than that': Men and disasters. *The Australian Journal of Emergency Management*, 37(4), 20-25.

<sup>28</sup> Life in Mind. (2023). *Culturally and linguistically diverse communities*. Retrieved from Life in Mind:

<https://lifeinmind.org.au/suicide-prevention/priority-populations/culturally-and-linguistically-diverse-communities#:~:text=CALD%20communities%20have%20diverse%20views,%2C%20carer%2C%20friends%20and%20community>

Coates, L., van Leeuwen, J., Browning, S., Gissing, A., Bratchell, J., & Avci, A. (2022). Heatwave fatalities in Australia, 2001–2018: an analysis of coronial records. *International Journal of Disaster Risk Reduction*, 67, 102671.

“ For men, the risk of not managing emotions was too big. Many spoke of consequences for not being in control, or struggling with grief and loss in the workplace. The penalties extended to being sidelined, no longer thought of as reliable, and not promoted. If I tell someone in the brigade that I’m feeling a certain way, they might likely take me off the rescue. So that holds me back.”

Source: ‘I thought you were more of a man than that’: men and disasters | AJEM Report ([aidr.org.au](http://aidr.org.au))

### Gender diverse peoples

Historical discrimination and disadvantages experienced by LGBTQAI+ communities have created ongoing barriers to housing, participation in educational and economic opportunities and willingness to access official essential services and supports.<sup>29</sup>

While official data is limited,<sup>30</sup> a recent study involving almost 7,000 LGBTQAI+ people living in Australia (6,835) found relatively higher rates of poverty and homelessness compared to the general population. Almost a third of participants (31.3 per cent) reported an income of less than \$400, which is below the Australian poverty line for single person (\$411.38, excluding housing<sup>31</sup>). Trans men participants were most likely to report an income below the poverty line (46.5 per cent) compared to non-binary participants (46.3 per cent) and trans women (42 per cent). Homelessness was a significant experience. One in five (22 per cent) of participants reported having ever experienced homelessness, including almost one in three trans and gender diverse people.

Such socioeconomic conditions are known to erode individual financial and economic resilience to disasters.<sup>32</sup>

### Intersections of gender with broader, socioeconomic context

The intersection of individual characteristics, including gender, with broader social and economic context within their community can create further vulnerabilities or compound the longer-term impacts of disasters. This is illustrated by the below disaster case study, which reflects research commissioned by the Northern Rivers Community Foundation following the 2022 February and March flood events.

The research highlighted the role that chronic housing shortages, domestic violence, and limited services and supports in the region played in exacerbating the devastating impacts of the floods on the Northern Rivers communities. Relationship breakdowns and instances of domestic violence resulted in women and children resorting to insecure and unsafe sheltering practices. Social prejudices and biases also restricted access to housing and social supports for those who needed it most. Organisations and community participants reported instances of both active and passive discrimination when attempting to secure rental accommodation. This included LGBTQAI+ people, older aged people (particularly women 65 years and older), people with disabilities, Aboriginal and Torres Strait Islanders, people with low socioeconomic status and pet owners.<sup>33</sup>

<sup>29</sup> Equality Australia. (2023). *LBTIQ+ Experiences of Poverty Submission to the Senate Community Affairs and References Committee Inquiry into the Extent and Nature of Poverty in Australia*. Equality Australia.

<sup>30</sup> Hill, A., Bourne, A., McNair, R., Carman, M., & Lyons, A. (2020). *Private Lives 3: The health and wellbeing of LBTIQ people in Australia*.

<sup>31</sup> Melbourne Institute. (2022, March). *Poverty Lines: Australia*. The University of Melbourne.

<sup>32</sup> See discussion in Chapter 2: Indicators of: Parsons M, Reeve I, McGregor J, Morley P, Marshall G, Stayner R, McNeill J, Glavac S and Hastings P (2020) *The Australian Natural Disaster Resilience Index: Volume II – Index Design and Computation*. Melbourne, Bushfire and Natural Hazards CRC.

<sup>33</sup> Northern Rivers Community Foundation and Paper Giant. (2022). *Housing and Homelessness in a Flood Recovery: Final Report*. Retrieved from <https://nrcf.org.au/wp-content/uploads/2022/12/Housing-and-Homelessness-in-a-Flood-Recovery.pdf>



Figure 3 Underlying conditions influencing housing and homelessness in the Northern Rivers region following the 2022 NSW Floods.



Source: Northern Rivers Community Foundation (Sep 2022): Housing and Homelessness in a Flood Recovery Final Report.

### 2.2.2 Gendered social norms and expectations influence individual financial decision-making and access to services during disasters.

Gendered expectations are prevalent in times of disaster.<sup>34</sup> Disasters can lead to a greater emphasis on traditional allocation of duties and responsibilities within heterosexual relationships, where men are the breadwinners and women take care of the household.<sup>35</sup>

Following bushfires in East Gippsland in 2003, women often took on responsibility for seeking and accessing government assistance, and in persuading their partners to access local help services.<sup>36</sup> A similar pattern was observed in the 2011 floods in Queensland and Victoria, where women took time off work to secure and organise necessities such as shelter and water, especially for children and the elderly.<sup>37</sup>

These gendered roles were also apparent during the COVID-19 pandemic as women typically reduced their working hours, simultaneously increasing their caring responsibilities.<sup>38</sup> The shift to online learning led to women managing the household and remote learning whilst the men focused on

<sup>34</sup> Parkinson, D., & Zara, C. (2013). The hidden disaster: Violence in the aftermath of natural disaster. *The Australian Journal of Emergency Management*, 28(2).

<sup>35</sup> Risse, L., & Jackson, A. (2021). A gender lens on the workforce impacts of the COVID-19 pandemic in Australia. *Australian Journal of Labour Economics*, 24(2), 111-144.

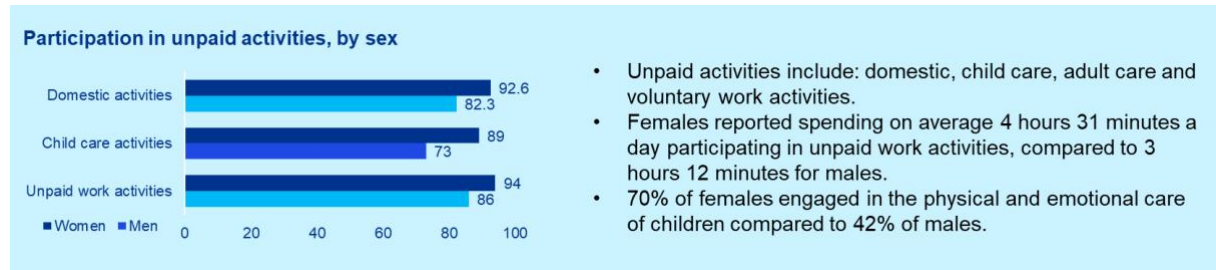
<sup>36</sup> Whittaker, J., Handmer, J., & Mercer, D. (2012). Vulnerability to bushfires in rural Australia: A case study from East Gippsland, Victoria. *Journal of Rural Studies*, 28, 161-173.

<sup>37</sup> Shaw, C., van Unen, J., & Lang, V. (2012). *Women's Voices from the Flood Plains*. economic Security4Women. Melbourne: JERA International.

<sup>38</sup> Pfitzner, N., Fitz-Gibbon, K., & True, J. (2022). When staying home isn't safe: Australian practitioner experiences of responding to intimate partner violence during COVID-19 restrictions. *Journal of Gender-Based Violence*, 6(2), 297-314.

generating income.<sup>39</sup> During Victoria's lockdowns, 67 per cent of women took responsibility for supervising their children's remote learning, compared to 24 per cent of men.<sup>40</sup>

Figure 4 Participation in unpaid activities during COVID-19 pandemic, by sex



Source: Australian Bureau of Statistics 2022, Time Use Survey 2020-21.

Such roles played by women following disasters are pivotal for relief and recovery, at both a household and community level. However, the disproportionate burden and time-consuming nature of these activities can reduce women's capacity to participate in income generating activities.<sup>41,42</sup> Where such disruptions persist, they can manifest in longer-term economic consequences including loss of earnings (potential and actual), lower wages and likelihood of employment, thus reinforcing and further entrenching existing gender inequities.<sup>43</sup>

The gendered roles also have flow-on effects on men's access to health support services. While men impacted by disaster events (including bushfires, flood and storm events) are more likely to seek psychosocial support than those who haven't been impacted, work commitments were found to be a key barrier to men's ability to access effective treatment of disaster-related mental health challenges.<sup>44</sup>

### 2.2.3 Disasters can compound health and financial effects, with gendered variations in health and wellbeing outcomes.

Disasters affect whole communities, not only destroying lives and livelihoods, but also creating mental health effects through the trauma of the experience itself.<sup>45</sup> Financial and mental health challenges are often experienced alongside each other. People affected by disasters experience stressors associated with direct exposure to the disaster as well as aftermath stressors, including the difficulties experienced in the days and months afterwards in meeting basic needs and obligations, and navigating supports, insurance, and entitlements.<sup>46</sup>

<sup>39</sup> Risse, L., & Jackson, A. (2021). A gender lens on the workforce impacts of the COVID-19 pandemic in Australia. *Australian Journal of Labour Economics*, 24(2), 111-144.

<sup>40</sup> Australians Investing in Women & Equity Economics. (2021). *Gender-wise investing: A springboard for Australia's Recovery*. Retrieved from <https://www.aiiw.org.au/wp-content/uploads/2021/04/AIIW-Report-Gender-wise-Investing-A-Springboard-for-Australias-Recovery-April-2021.pdf>

<sup>41</sup> Shaw, C., van Unen, J., & Lang, V. (2012). *Women's Voices from the Flood Plains*. economic Security4Women. Melbourne: JERA International.

<sup>42</sup> Pfitzner, N., Fitz-Gibbon, K., & True, J. (2022). When staying home isn't safe: Australian practitioner experiences of responding to intimate partner violence during COVID-19 restrictions. *Journal of Gender-Based Violence*, 6(2), 297-314.

<sup>43</sup> Weiss, C., Parkinson, D., & Duncan, A. (2015). Living Longer on Less: Women, Paid Work, and Superannuation in Victoria, Australia. *SAGE Open*, 5(3). <https://doi.org/10.1177/2158244015597966>

<sup>44</sup> O'Donnell, K., Prattley, J., Wong, C., Quinn, B., Tajin, R., Jenkinson, R., & Rowland, B. (2022). *Recent natural disasters in Australia: Exploring the association with men's mental health and access to health care*. Australian Institute of Family Studies .

<sup>45</sup> Heartward Strategic. (2022). *Money and mental health: Social research report*. Beyond Blue.

<sup>46</sup> National Mental Health Commission. (2021). *Our Stories: Beyond the Disaster*. Sydney: National Mental Health Commission.

Figure 5 Simultaneous financial and mental health impacts sparked by disasters and other challenging personal events



Adapted from: [Money and Mental Health \(beyondblue.org.au\)](https://www.moneyandmentalhealth.org.au/)

Groups that have been found to be at higher risk of post-disaster mental health problems include women, children, those with greater exposure to the disaster, and those with low or negative social support, and prior mental health conditions.<sup>47</sup> While most people eventually recover, ongoing post-disaster stressors, such as rebuilding challenges, reduced income, and relationship stress can also contribute to mental health problems.<sup>48</sup>

Such stressors can be experienced by people of different genders in different disasters in different ways. In a longitudinal study of the Victorian Black Saturday Bushfires 2009, rates of psychological distress, depression, and resilience were comparable for men and women. However, females were more likely to experience PTSD 3-4 years after the bushfires, while men were more likely to report heavy drinking.<sup>49</sup>

In contrast, during the COVID-19 pandemic, women were more likely to report higher psychosocial distress and increased alcohol consumption compared to men.<sup>50</sup> Where increases in alcohol consumption were observed, this was associated with boredom due to reduced work hours for men, and increased care responsibilities for women.<sup>51</sup>

Men (particularly rural males) are over-represented in national suicide rates, with disasters including droughts linked to increases in observed suicide rates among this cohort.<sup>52</sup> Studies have linked suicide to increased financial distress and helplessness, lower levels of services in rural and regional areas, as well as highly gendered social norms that result in a reluctance to seek help and assistance.<sup>53</sup>

The traumatic and high stress nature of disasters are also associated with increased conflict and tension within households, and higher rates of domestic violence which are largely borne by women and children.<sup>54</sup> Following the Black Saturday bushfires, communities more heavily impacted by the disaster had higher rates of violence compared to those who experienced less impact.<sup>55</sup> For women impacted by these fires, experiences of violence were also linked with income loss and poorer mental

<sup>47</sup> Black Dog Institute. (2020). *Mental Health Interventions Following Disasters*. Black Dog Institute.

<sup>48</sup> Gordon, R. (2006). Acute responses to emergencies: findings and observations of 20 years in the field. *Australian Emergency Management Institute*, 21(1), 17-21. <https://ajem.infoservices.com.au/items/AJEM-21-01-05>

<sup>49</sup> Gibbs, L., Molyneaux, R., Harms, L., Gallagher, H. C., Block, K., Richardson, J., . . . Bryant, R. (2020). *10 Years Beyond Bushfires Report*. Melbourne: University of Melbourne.

<sup>50</sup> Farrugia, C. (2021). *Alcohol-related harm in families and alcohol consumption during COVID-19*. Australian Institute of Family Studies.

<sup>51</sup> Ibid.

<sup>52</sup> Public Health Association of Australia. (2022, December 15). *Lessening mental health impacts of climate change on rural men*. Retrieved from National Rural Health Alliance: <https://www.ruralhealth.org.au/partyline/article/lessening-mental-health-impacts-climate-change-rural-men#:~:text=A%20recent%20study%20in%20regional.can%20delay%20or%20limit%20access>

<sup>53</sup> Suicide Prevention Australia. (2021). *Pre-Budget Submission*. Sydney: Suicide Prevention Australia. Retrieved from [https://treasury.gov.au/sites/default/files/2021-05/171663\\_suicide\\_prevention\\_australia.pdf](https://treasury.gov.au/sites/default/files/2021-05/171663_suicide_prevention_australia.pdf)

<sup>54</sup> Parkinson, D. (2019). Investigating the Increase in Domestic Violence Post Disaster: An Australian Case Study. *Journal of Interpersonal Violence*, 34(11), 2333–2362.

<sup>55</sup> National Mental Health Commission. (2021). *Our Stories: Beyond the Disaster*. Sydney: National Mental Health Commission.

health.<sup>56</sup> A 9 per cent increase in reported domestic violence incidents was also observed during the COVID-19 pandemic in Australia.<sup>57</sup>

Such mental health stressors and harmful coping mechanisms can have adverse social and economic costs. A recent report<sup>58</sup> examining the costs of the South East Queensland Rain and Flooding Events estimated overall mental health, disease and social costs of the floods to be approximately \$4.4 billion. This comprised:

- **\$84 million** fatalities and physical injury costs
- **\$1.9 billion** mental health impacts
- **\$18 million** cost of alcohol misuse
- **\$1.7 million** cost of chronic disease
- **\$0.8 million** family violence.

From an economic lens, these effects can have detrimental impacts on employment and long-term health and wellbeing. In a study examining life satisfaction over a ten year period (2009-2019),<sup>59</sup> women and non-home owners who had experienced direct damage from disaster events saw a 0.113 point and 0.210 respective decrease (on a 10-point scale) in their life satisfaction. This is greater than the impact on homeowners (0.091 decline), with the negative impacts for men not found to be statistically significant.

#### 2.2.4 Over-representation of women and at-risk cohorts in industry sectors or types of employment can contribute to widening income gaps and differentiated labour outcomes following disasters.

The literature review has highlighted the complex ways that different types of disasters interact with sectors of employment, which in turn are transmitted to individuals via income.

Of the studies that applied a gender lens (binary), gender-differentiated income effects were observed where women are over-represented in less secure forms of employment (e.g. part time or casual roles), or where there is an over-concentration of a gender (either men or women) in industries that were either adversely impacted by the disaster or benefited from increased economic activity generated by the disaster. This created observable differences in the relative income trajectories of men and women, with implications on their long-term earning potential.

The studies also highlighted in some instances the persistent adverse losses experienced by low-income households. Such losses can detract from the financial security and ability of individuals within these group to accumulate wealth. As noted earlier, women and gender diverse peoples (in particular trans men) are more likely to be part of low-income households or have incomes below the poverty line.

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<sup>56</sup> Gibbs, L., Molyneaux, R., Harms, L., Gallagher, H. C., Block, K., Richardson, J., Bryant, R. (2020). *10 Years Beyond Bushfires Report*. Melbourne: University of Melbourne.

<sup>57</sup> Australians Investing in Women & Equity Economics. (2021). *Gender-wise investing: A springboard for Australia's Recovery*. Retrieved from <https://www.aiiw.org.au/wp-content/uploads/2021/04/AIIW-Report-Gender-wise-Investing-A-Springboard-for-Australias-Recovery-April-2021.pdf>

<sup>58</sup> Deloitte Access Economics. (2022). *The social, financial and economic costs of the 2022 South East Queensland Rainfall and Flooding Events*. Queensland Reconstruction Authority.

<sup>59</sup> Shi, H., & Jin, E. (2022, December). Valuing the costs of natural disasters using the life satisfaction approach. *Victoria's Economic Bulletin*, 6(4).

Figure 6 Summary of key studies investigating links between disasters and gender differentiated economic impacts via the labour force.

 <b>Floods</b>	<p><b>Overall studies:</b> In a study examining disaster events over a 2002-2009 period, Hickson J and Marshan J (2022) found the location of floods influenced the types of sectors impacted, with subsequent gendered flow-on effects on labour supply due to sector workforce composition.<sup>60</sup></p> <p>The study found that floods in Australia unambiguously increased labour supply for both sexes (male and female). Floods were found to increase relative employment levels in the services sector (by 5.5 percentage points) and raise average hours worked in mining (9.0 per cent) and manufacturing (8.6 per cent). In Australia, floods tend to occur in places with a greater population density, which may in turn increase demand for services and employment in associated industries. As female employees are prevalent in the services sector, this may explain the results.</p>
 <b>Bushfires</b>	<p><b>Overall studies:</b> Hickson J and Marshan J (2022) examined bushfire events over a 2002-2009 financial year period, finding that unlike floods, women faced greater labour market vulnerability following bushfires. Intra-household dynamics showed increased labour force participation for mixed sex couples where one breadwinner lost employment.<sup>61</sup></p> <p>The study found that bushfires are associated with an increase in the likelihood of employment for males and a decrease for females, resulting in 10,000 additional jobs per year among males and the loss of 4,780 jobs per year among females in Australia. The paper attributed this to increased post-disaster employment in male-dominated sectors such as mining and transport. On the other hand, the likelihood of full-time employment in trades and services declines after a bushfire, industries where more females likely to be employed in.</p> <p>The paper also investigated intrahousehold dynamics and found the “added worker” effect where mixed sex couples responded to natural disasters by temporarily increasing their labour supply if one breadwinner loses their employment. Partner job loss was associated with increased labour participation, with relative average hours increased by 7.5 per cent for men and 13.3 per cent for women.</p> <p><b>Disaster case studies:</b> In a Victorian Black Saturday Bushfires 2009 case study examining the economic dimensions of resilience at the individual level, Ulubasoglu and Onder (2020) found income losses that were deeper for some cohorts (females and low-income households) and the accommodation and food services sector which has higher levels of casual employment and lower earnings potential.<sup>62</sup></p> <p>Income declines in the accommodation and food services sector (which include tourism-related industries) were causally linked to the disasters and estimated to be around 16 per cent (A\$4,600). Considering the significant number of low-income earners and females employed within the sector, the study highlighted how the income losses in this sector were likely to be disproportionate to the financial capacity of its workforce to absorb.</p> <p>The bushfires were also causally linked with persistent income losses for females in the short (9.7 per cent decline; AUD \$2,961 loss) and the medium term (8.2 per cent decline; AUD \$2,618 loss). This was attributed to the significant proportion of women with part-time positions. No statistically significant income effects were observed for males.</p> <p>While income is a recognised and important measure of economic resilience, the authors caution that other financial dimensions are also likely to influence an individual’s financial capacity to cope and recover from disasters. This includes access to credit cards, home loans, and ability to draw loans on existing assets. Even when the income trajectory remains stable, the additional financial pressures created by disasters may be beyond the budget of an individual to cope with, even if government and or other assistance is provided.</p>
 <b>Pandemic</b>	<p><b>Overall studies:</b> Studies analysing the impact of COVID-19 pandemic found that the COVID-19 induced recession differed from past recessions due to its impact on women’s employment, with women experiencing greater job losses than men. Women were also exposed to higher risks working in frontline jobs. Intra-household dynamic effects showed increased care responsibilities for women which affected their labour force participation.</p>

<sup>60</sup> Hickson, J., & Marshan, J. (2022). Labour Market Effects of Bushfires and Floods in Australia: A Gendered Perspective. *Economic Record*, 98(S1), 1-23.

<sup>61</sup> Hickson, J., & Marshan, J. (2022). Labour Market Effects of Bushfires and Floods in Australia: A Gendered Perspective. *Economic Record*, 98(S1), 1-23.

<sup>62</sup> Ulubasoglu, M., & Onder, Y. (2020). *Disasters and economic resilience: the effects of the Black Saturday bushfires on individual income*. Melbourne: Bushfire and Natural Hazards CRC.

A study by Risse and Jackson (2021)<sup>63</sup> found that despite only accounting for 47 per cent of total employment pre-pandemic, women experienced the equivalent of 55 per cent share of total months of lost employment throughout the first twelve months of the pandemic (March 2020 to February 2021). Women were also more likely than men to drop out of the workforce completely under the pressures of the pandemic. Care responsibilities were mostly taken on by women such as performing domestic duties and managing remote learning of children.

The study also found that men were over-represented among the cumulative increase in underemployment. Younger cohorts were also impacted, with the number of young people not in education or employment had risen by 28 per cent for women, and 20 per cent for men in May 2020.

While women's overall workforce numbers returned to pre-pandemic levels in 2021, the study cautioned that labour force statistics do not necessarily reflect the experiences of vulnerable cohorts of women, including single-parent mothers, Aboriginal and Torres Strait Islander women, women living with a disability, LGBTIQ women, migrant women, and women from culturally and linguistically diverse backgrounds who experienced relatively more severe effects of the pandemic.

The study concluded that these effects had repercussions for gender gaps in overall economic security, lifetime earnings and superannuation.

### 2.2.5 Gender aware government disaster programs are critical to disaster recovery and resilience.

Government disaster programs are critical to recovery and resilience by providing critical buffers and assistance to support communities in their social and economic recovery journey, while also reducing future risks and vulnerabilities to disasters.

However, their design can overlook gender impacts, and inadvertently contribute to exacerbating poverty and detracting from gender equality outcomes.

In examining Australian disaster recovery programs across a number of disaster case studies, Ulubasoglu (2021) noted that Australian disaster recovery program funding and tax deferrals predominantly tend to be channelled to businesses, not households.<sup>64</sup> Combined with limitations of access to benefits by employment status, such funding limitations preference business owners (which predominantly include men) and do not account for the greater vulnerability of lower-income households and households that depend on part-time, casual work and other forms of insecure work. Such cohorts were found in the disaster case studies to be more susceptible to income impacts following disaster events. As noted earlier, such households are more likely to include women and LGBTQAI+ peoples.

Assistance measures may also prioritise support for some sectors over others, without considering the gender composition of their workforces. This was particularly evident during COVID-19 pandemic, where numerous exclusions to JobKeeper benefits disproportionately impacted women due to their over-representation in the excluded sector or employment type. This included:

- Exclusion of casual employees who had been with their employer for less than 12 months. Casual workers experienced greater economic instability and were the first to lose employment when the pandemic began in Australia.<sup>65</sup> More women are in this category than men, especially in the hardest-hit industries. In total, 14 per cent of employed women are short-term casuals, compared to 12.5 per cent of employed men.

<sup>63</sup> Risse, L., & Jackson, A. (2021). A gender lens on the workforce impacts of the COVID-19 pandemic in Australia. *Australian Journal of Labour Economics*, 24(2), 111-144.

<sup>64</sup> Ulubasoglu, M. (2021). *Optimising post-disaster recovery interventions in Australia - final project report*. Melbourne: Bushfire and Natural Hazards CRC.

<sup>65</sup> Australians Investing in Women & Equity Economics. (2021). *Gender-wise investing: A springboard for Australia's Recovery*. Retrieved from <https://www.aiiw.org.au/wp-content/uploads/2021/04/AIIW-Report-Gender-wise-Investing-A-Springboard-for-Australias-Recovery-April-2021.pdf>

- Exclusion of higher education workers from JobKeeper – 59 per cent of employees in that sector are women.
- The earlier withdrawal of JobKeeper payments offered to workers in the childcare sector compared to workers in other industries also meant that women were more likely to miss out on government supports and at greater risk of losing jobs due to less secure forms of employment.

This was combined with stimulatory measures that benefited male-dominated construction and trade-based industries, despite these sectors being less affected by job losses compared to sectors that were larger employers of women, such as accommodation and other services-oriented industries.<sup>66</sup>

While overall employment numbers have since recovered, Risse and Jackson (2021) caution that the effects on the female workforce have repercussions for gender gaps in their overall economic security, lifetime earnings and superannuation.<sup>67</sup> Time spent out of the workforce depletes opportunities to develop skills that can support career progression. By affecting continuity of service, individuals might lose out on employment entitlements like parental leave. They may also face the 'scarring' effects of unemployment, including lower job prospects. These factors all add up to widening gender gaps with women facing disproportionately more setbacks compared to men, and stalling progress in their economic opportunities and outcomes.

## 2.3 Policy implications and considerations

Our literature review has confirmed that disasters can and do have profound and long-lasting socioeconomic impacts on communities, which can vary by gender.

However, these impacts and consequences are not inevitable. Local and national socioeconomic policy responses can support more gender-inclusive and responsive approaches to aid long-term disaster recovery and resilience, and contribute to lessening (or at least, not widening) the pre-existing gender inequities that are often disproportionately borne by those already living on the margins.

This requires concerted effort across society and government, with key proposed areas for improvement across the literature including:

### 1. **Better gender (and intersectional) data across the disaster management cycle at local and national levels.**

Gender-disaggregated data can indicate how the different genders are impacted by disasters. Therefore, this data is key to designing appropriate policies and programs that can appropriately meet the various needs of all people affected by disasters.

Currently, no holistic approach has been adopted and gender-disaggregated data is unavailable.<sup>68</sup> This also applies to intersectional data. What snapshots of data exist, as included here, are evidence that women are disproportionately impacted socio-economically by disasters. More systematic collection of sex and gender disaggregated data across local areas and nationally will assist in tailoring programs and responses to increase agency and economic resilience. Equally, such a gendered data base will assist in accurately

reflecting the experiences and needs of LBTQAI+ people within society.

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<sup>66</sup> Wood, D., Griffiths, K., & Crowley, T. (2021). *Women's work: The impact of the COVID crisis on Australian women*. Grattan Institute.

<sup>67</sup> Risse, L., & Jackson, A. (2021). A gender lens on the workforce impacts of the COVID-19 pandemic in Australia. *Australian Journal of Labour Economics*, 24(2), 111-144.

<sup>68</sup> Commonwealth of Australia. (2022). *Australia's national midterm review of the Sendai Framework for Disaster Risk Reduction 2015-2030 Report*. Canberra.

Promisingly, the Australian Government is in the process of establishing gender-responsive budgeting and gender impact analysis which will assist in collecting gender-disaggregated data and adopting a gender approach to disaster policy in the future.<sup>69</sup>

## **2. Incorporating gender impact assessments into policy and program formulation.**

Evidence-based programs to enhance gender outcomes following disasters require understanding of the central role of gender as an organising principle in our society, the social construction of gender to achieve this, as well as an understanding of the local socioeconomic context of the communities in which men, women and gender diverse individuals live. Gender analysis considers structural inequalities and the specific and differing needs and perspectives of women and girls, men and boys, and people of diverse genders. In doing so, it forms a critical part of emergency risk assessments by unpacking the root causes of gendered vulnerability and supporting more evidence-based decision making.

The broader adoption of Gender Responsive budgeting in Australia can also support broader government responses to addressing systemic challenges creating gender inequities in the first place. Applying a gender lens across all government decision-making and actions has been identified as a crucial mechanism for bringing about the transformative change needed to create a gender-equal Australian society.<sup>70</sup>

## **3. Designing and delivering gender responsive disaster programs that promote longer term economic resilience, particularly for more at-risk cohorts.**

Informed by the gender impact assessment processes, post-disaster programs can be designed to actively promote reductions in observed equity gaps and gender differentiated socioeconomic-outcomes. Priority areas that have been identified across the cited research include:

- Programs that target businesses, sectors and industries which are sensitive to disasters and have a higher representation of an at-risk gender/cohort;
- Programs that focus on getting at-risk cohorts (including women, low-income, part-time or casual workers) back to work, supporting them with job matching, and providing workplace support programs; and
- Domestic violence crisis support services, and tailored suicide and mental health support services that cater to different gender cohorts (for example, women, LGBTQAI+, males, Aboriginal and Torres Strait Island community members who may be reluctant to access mainstream support services).

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<sup>69</sup> Ibid.

<sup>70</sup> Risse, L. (2022, November 30). *Submission to Australian Government Employment White Paper*. Retrieved from Leonora Risse: <https://storage.googleapis.com/files-au-treasury/treasury/p/prj21fd9c34c6ccdc3c8f12/spc21fd9c747a308e1a91a84/Submission%20to%20Employment%20White%20Paper%20-%20Dr%20Leonora%20Risse%20%2830-11-2022%29.bb451dea5bb26.pdf>



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