



Women's participation in DRM
-Female practitioner's experience in DRM in regional Japan-

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Contents

List of Appendices	v
List of Acronyms	v
Abstract	vii
Chapter 1 Introduction	1
1.1 Research problem	1
Chapter 2 Understanding gender relations in Japan	5
2.1 Introduction	5
2.2 Historical background	5
2.3 Gender-related personal traits in modern Japan	6
2.4 Gender perspective in modern Japan	7
Chapter 3 Theoretical and conceptual framework	8
3.1 introduction	8
3.3 Overview of gender and disaster literature	8
3.4 Progression of gender and disaster studies in Japan	9
3.5 Women's participation in the context of DRM as being male-dominate	11
3.5.1 Gender and vulnerability approach in disaster research	11
3.5.2 Disaster management as a male domain	12
3.5.3 Female emergency response professionalization	13
3.5.4 Women in development and disasters in practice	14
3.6 Contextualizing the framework in Japan	15
3.6.1 Japan's female disaster management and gender needs framework	15
3.6.2 Disaster risk governance approach for women's participation	17
Chapter 4 Methodology	19
4.1 Introduction	19
4.2 Methodological Approach	19

4.2.1 Feminist Theory Approach	20
4.2.2 Semi-structured interview	20
4.2.3 Thematic Analysis (TA)	21
4.2.4 Desk Study Analysis	23
4.3 Materials	23
4.4 Participants	24
4.5 Interview and coding procedure	25
4.6 Ethical considerations	25
4.7 Limitation	26
4.8 Positionality statement	26
Chapter 5 Results and Discussion	28
5.1 Results of semi-structured interview	28
5.1.1 Motivations by female practitioners in DRM	28
5.1.2 Challenges Faced by Women in DRM	30
5.1.3 Opportunities for Advancing Female Participation in DRM	33
5.2 Discussion	35
5.2.1 Introduction	35
5.2.2 Socio-economic factors	36
5.2.3 Socio-cultural factors	37
5.2.4 Legal and institutional factors	38
5.2.5 Summarizing discussion	39
Chapter 6 Conclusion	40
Appendices	42
Appendix 1: Interview guide	42
Appendix 2: Informed consent form	43
Appendix 3: Table 2: Identified by thematic analysis	46
References	47

List of Tables

Table 1: [List of Interviewee](#)

Table 2: [Identified by thematic analysis](#)

List of Appendices

Appendix 1: Interview guide

[Appendix 2: Informed consent form](#)

[Appendix 3: Table 2: Identified by thematic analysis](#)

List of Acronyms

ISS	Institute of Social Studies
DRG	Disater Risk Governance
DRM	Disaster Risk Management
DRR	Disater Risk Reduction
DM	Disaster Management
GDRR	Training Center for Gender & Disaster Risk Reduction (Japan) (減災と男女共同参画研修推進センター)
GEBCO	Gender Equality Bureau Cabinet Office (Japan) (男女共同参画局)
GEJE	Great East Japan Earthquake
GHAE	Great Hanshin-Awaji Earthquake
NGO(s)	Non-Governmental Organization(s)
NPO(s)	Non-Profit Organization(s)
TA	Thematic Analysis
RQ	Research Question(s)
SRQ	Sub Research Question(s)
IFRC	International Federation of Red Cross and Red Crescent Societies
UNDP	United Nations Development Programme
UNDRR	United Nations Office for Disaster Risk Management
WID	Women in Development
PWD(s)	Person(s) with Disability/Disabilities

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¹ SEEDS Asia is an NGO/NPO based in Japan: <https://www.seedsasia.org/eng/>

Abstract

This research explores the enablers and barriers to women's participation as a practitioner in male-dominated disaster risk management (DRM), focusing on Japanese regional context. Employing feminist approach, and thematic approach in qualitative interview, this research examines women's motivation, challenges and opportunity to advance involvement in DRM by analysing six Japanese female practitioners. The findings reveal women's motivation, challenges and opportunities by thematic analysis as well as socio-economic, socio-cultural, and legal and institutional factors respectively. While socio-cultural norm and institutional and economic barriers to women's participation are embedded in Japanese patriarchal society, remarkable opportunities such as women's grassroots networking, DRM training for women, women's resilience are identified. These factors aligned with strategic gender needs, promoting women's empowerment and gender equality. This study emphasizes the importance of incorporating gender perspectives in DRM policies and practices for women's more equitable and transformative participation in DRM. By showcasing women's experiences and voices, it also contributes to sustainable development in regional disaster management.

Relevance to Development Studies

This study incorporates a feminist research perspective and explores the relevance of 'women's participation and empowerment' in disaster risk management (DRM), which have been dominated by men. The participation of women in male dominated DRM sectors in Japan is a crucial issue with development studies as it intersects with key theme: gender equality, social inclusion, and sustainable development. DRM is also a vital component of development efforts, particularly in disaster prone country like Japan. By focusing on the socio-cultural, economic, and institutional barriers faced by women in DRM fields in Japan, this study contributes to understanding how gendered power dynamics hinder the achievement of equitable and sustainable development. Through the lens of development studies, the research emphasizes that fostering women's active participation in DRM is essential not only for empowering women but also for building more inclusive and DRM.

Keywords

Women's Participation, Women's empowerment, Disaster Risk, Disaster Risk Management, Gender role, Gender equality, Patriarchy, Feminist, Japan

Chapter 1 Introduction

1.1 Research problem

Japan's disaster risk management (DRM) remains predominately occupied and operated by men. Japan, historically, has been named as a disaster-prone country and has developed a DRM system at local and community levels in a male-dominated social structure. However, government data indicates more than 60 % of municipalities in Japan have no female staff in disaster management offices in 2021 (GEBCO, 2023). Diverse stakeholders can be involved in DRM, and women are not exception. Various women, including mothers, girls, practitioners, emergency personnel, social workers, and volunteers, participate and engage in DRM.

Women's activities engaging in disaster management, in particular recovery and reconstruction processes, can be seen as prominent, but it is not central in disaster studies, rather focusing more on women's vulnerability. However, I argue that the focusing on women's experiences and involvement in DRM is essential for an effective and inclusive DRM approach. Enarson et al.' (1998b) s research in the U.S. described how an emerging women's grassroots advocacy group, 'Women Will rebuild', raised awareness of women's needs in disaster recovery, influencing funding decisions in the reconstruction committee, despite facing internal tensions and external pressure from male-dominated existing organizations. Although it was short-lived, their effort contributed to enhancing recognition of gender issues and greater voices from women in disaster recovery (Enarson et al.1998b). In Nicaragua, Cupples (2007) focused on women's subjectivity in the reconstruction process after Hurricane Mitch in 1998, emphasizing the importance of understanding the intersectional context between disaster experience and survivor's past life experiences (Cupples 2007). Furthermore, the case study of the 2004 floods in Bangladesh by Ikeda (2009) noted how women's concerns shaped community-based DRM. The community-based organizations provided women with a microfinance scheme, influencing changing the leadership and power dynamics in the community and leading to women's participation to recovery process (Ikeda,2009). In India, Gokhale (2007) noted that the Bhuj Gujrat Earthquake in 2001 highlighted the NGO's critical role in supporting women to empower from the disaster recovery process by providing vocational training, leading to strengthening women's network for knowledge sharing. These case studies are from mostly global south, and it can be different from Japan's context.

In Japan, disaster management has historically been dominated by men, and women's roles and experiences were not given much consideration until the Great East Earthquake Japan (GEJE) in 2011. Kitamura (2024)'s research highlighted several individual women's stories that played crucial roles in DRM. These included a female hotel owner who housed victims after the tsunami, a female fruit farmer coping with rebuilding the area, and a young female staff member at a self-managed evacuation shelter in the Noto region(ibid). The analysis of their experiences and involvement in disaster management processes addresses

the significance of women's intervention in DRM. Hence, I argue that the research focusing and unpacking on women's intervention and experience in male-dominated DRM is also needed to bridge a gap between women's participation and women's vulnerability in disaster management.

Backing to disaster history in Japan, the Great Hanshin- Awaji Earthquake (GHAE) in 1995 led to women suffering from sexual violence, shelters with no privacy, and economic deprivation. Moreover, the earthquake resulted in more deaths among women than men². One reason mentioned by scholars is that more women were elderly and lived in poor-conditioned housing in dense areas with insufficient social care support by the government (Asano and Tendo, 2021 et al.). The following disaster called the Great East Japan Earthquake (GEJE, Magnitude 9.0) on 11th of March 2011 had also tremendous damage to Japanese society, which led to unprecedented tsunamis along the seaside of northeast Japan as well as the Fukushima nuclear accident (Asano and Tendo, 2021:43; Saito, 2012; Saito, 2014). The earthquake resulted in over 18,000 deaths and missing, and the need for assistance differed substantially across the affected areas. Although Japanese government revised its Disaster Management Basic Plan in 2005 to explicitly incorporate gender perspective in DRM processes, the situation during GEJE was not largely changed from 1995. (Ikeda and Asano, 2016). For instance, in evacuation centres women and children suffered from no privacy and harassment, and women had more burden of care work by family separation or living with relatives due to house collapses. (Asano and Tendo, 2021 et al.). However, many studies and articles describe that in the GEJE, many women's groups and individuals tried to support each other for the affected women and children. Women's groups nationwide, for example, sent basic necessities such as underwear, cosmetics and baby goods to affected women through formal and informal networks (Saito, 2012; Saito, 2014; Asano and Tendo, 2021; Ikeda and Asano, 2016; Kaneko, 2023 et al.). Additionally, local women's groups provided laundry services for those unable to do their own laundry due to water cutoffs (ibid). Thus, despite women playing important roles and working hard in disaster and reconstruction sites, its importance is not well recognized, implying a lack of gender perspective and male domain in DRM in Japanese society.

So, how do we overcome this situation, particularly in DRM? Why are women suffering from the conditions during and after the disaster? The answer cannot be straightforward but what is the most remarkable point is gender imbalance participation in DRM in Japan. As having a clear division of gender role have dominated in Japanese society for ages, particularly, Confucianism influenced by China and patriarchy system have still strong influence on Japanese society (Sugihara and Katsurada, 2000). This leads to traditional Japanese social norm that man work outside in public, and women take care housework in private. Although the Japanese government promotes a gender equality policy that more women to be leaders

² Total casualties were 6,434, according to statistics from the Fire and Disaster Management Agency of the Ministry of Internal Affairs and Communications in 2000. Available at: <https://www.bou-sai.go.jp/kyoiku/kyokun/pdf/101.pdf> (accessed on 1 November 2024)

in politics since the Equal Employment Opportunity Act came into effect in 1985³, the Gender Gap Index in Japan has still ranked 116th of 146 countries in 2022 (World economic forum 2022; GEBCO 2024). Remarkably, politics from the four indicators (health, education, economics and politics) in the gender gap is the lowest point at 0.061 (ibid). This indicates many political and economic sphere and their leaders are mostly dominated by men in Japan. However, the lessons from tremendous disaster experiences in the past taught us to problematize this male domain in Japanese society. Particularly, the division of labour in gender roles also affects both everyday life and even strengthening it in times of emergency.

As a result, we now realize that women should be more involved at the community level in DRM. Most women are not representatives in the community or leaders, but once a disaster or emergency occurs, they are well-prepared and understand how to cope with it. Because they are more familiar with their needs based on their daily experience (engagement with more care work) than men (working outside only). Entering a male-dominated field, such as DRM, is always challenging for Japanese women because it has strong masculinity norms and severe situations in the affected area. Since the international DRR framework, Sendai framework, was adapted by UN in 2015, Japanese government have started promoting inclusive participation for women, youth and elders, and training women leaders in DRM (UNDRR, 2015; Munakata, 2021; Kitamura, 2024 et al.). Japanese disaster management initiative is now shifting to importance of women's participation and women's role in disaster management (Kitamura, 2024). After the GEJE in 2011, Japan has experienced consecutive disasters including the Kumamoto Earthquake⁴ in 2016, the Nagano Typhoon⁵ in 2019, and the Noto Peninsula Earthquake in 2024 (Suppasri et al., 2024 et al.), and other disasters. Accumulating experiences and lessons related to disasters also have advanced DRM knowledge through the women practitioners. DRM is increasingly gaining attention, and more women practitioners are engaged in this field. However, there remains a long way to achieve inclusive participation for DRM in Japan, particularly women's effective and meaningful involvement.

Therefore, this study aims to investigate, through a focused lens, how women's participation in DRM in Japan can contribute to a more effective intervention approach. To this end, the study examines the experiences of female practitioners working in DRM fields at the regional level in Japan, specifically examining their motivations, challenges and opportunities. Accordingly, the study sets forth the following research questions and sub research questions.

³ Ministry of Health, Labor and Welfare [厚生労働省] Available at : <https://www.mhlw.go.jp/file/04-Houdouhappyou-11902000-Koyoukintoujidoukateikyoku-Koyoukintouseisakuka/0000087683.pdf> (accessed on 1 October 1)

⁴ Scale and Damage of the 2016 Kumamoto Earthquakes. Available at : <https://www.kumamoto-u.ac.jp/dept/earthquake/> (accessed on 1 October 2024)

⁵ The Nagano Typhoon. Nagano picking up the pieces after Typhoon Hagibis. Available at : <https://www3.nhk.or.jp/nhk-world/en/news/backstories/716/> (accessed on 1 October 2024)

Research question (RQ): What are the enablers and barriers to women's participation as practitioners in a male-dominated disaster risk management at the regional level in Japan?

Sub research questions (SRQ):

1. What are female practitioners' motivations to be engaged as practitioners in DRM?
2. What challenges do women face in their role as DRM practitioners?
3. What opportunities exist to advance meaningful and equal participation for female practitioners in DRM?

This study consists of three main components to answer the research questions. First, I explore the context of the Japanese gender role in Chapter 2 and theorize and conceptualise the framework of gender and disaster in Chapter 3. Then, to examine and compare theory and data, I explain the methodology utilizing the feminist approach and thematic analysis in Chapter 4. I indicate qualitative data analysis, discuss the gaps between theory and results in Chapter 5, and conclude the research in Chapter 6.

Chapter 2 Understanding gender relations in Japan

2.1 Introduction

Apparent segregated gender roles were evident in Japanese society in terms of high economic growth after the Second World War (Saito, 2014). Scholars argue that Japanese gender roles have been strengthened by economic development (Sugihara and Katsurada, 2002 et.al.). A typical Japanese family often includes a father as a primary breadwinner to work for long hours, and a mother take care of the children and household responsibilities. This situation created clear sphere between men and women, which means men are in public(society), and women are in private(domestic) in Japan. Furthermore, social and economic changes increased educational attainment for women, and government initiatives for gender equality in Japan, resulted in more women entering the workforce and receiving promotions (Nemoto2013 et al.). According to the Japanese cabinet office, the female employment rate is 70.6% by 2020, up 12% from 58.1% in 2005(GEBCO, 2022). In contrast, the government statistics describes the imbalance between men's and women's housework time, predominantly skewed toward women, with women spending 224 minutes and men 41 minutes (Statistics Bureau of Japan, 2021). This implies women are doing five times as many hours of housework as men, though both have jobs. This 'gender discrimination' has been problematized by women activists and policymakers from both national and international levels (OECD,2023; GEBCO,2023 at el.). Saito (2014) argues that many policies were implemented to resolve the issues, but Japanese society imposes traditional notions of motherhood on women, forcing them to perform domestic work. To better understand this, I will explore the historical background of gender roles in Japanese society in the following section.

2.2 Historical background

The perception of gender roles is 'products of cultures' and histories (Sugihara and Katsurada, 2002:443). The influence of culture creates each gender role in a different context. Japan, which has more than two thousand histories, isolated itself from historical major wars, and protected their peace and tradition for centuries, has its unique way of gender role perspectives. Originally, Japan had a matriarchal society and turned to patriarchal rule through the influence of Confucianism in China in its early history (Sugihara and Katsurada 2000). The Confucian ethical system emphasises a harmonious society maintaining hierarchical structure, educating people loyalty, devotion and respect of authorities and superiors(Sugihara and Katsurada, 2002) . It also highlights internal strength including 'integrity, righteousness, and warm heartedness' (Sugihara and Katsurada, 2002:444). Furthermore, Confucianism was underlined by the strong patriarchal notion, stressing hierarchical society by male domain (Sugihara and Katsurada, 2000 et al.). Therefore, women's domination and power gradually passed on to men. Moreover, the collapse of the system of *uji*(clan) further led to an imbalance among women and men(ibid). For example, under the clan system, both men and

women could keep their family name and property after marriage, but the newly developed *ie*(family) system forced women to change family name and restricted free inheritance of property(ibid). Furthermore, the warrior ethics(*bushido*) ruled a subordinate relationship within the family, in which the relationship of the couple was characterized by absolute dependence, devotion, and subordinates (ibid). The development of *ie* system led to institutionally gendered division of labour and power disparity between men and women (Sugihara and Katsurada, 2000 et al.). The perpetuated and strong influence of Confucianism and *ie* system ruled and constructed a solid gendered division and labour and a notion of androcentrism in Japanese society (Bem,1993). According to Sugihara and Katsurada(2000), although the ‘Modern’ Constitution of Japan (Constitution November 3, 1946)⁶ declares that ‘All of the people are equal under the law[...](Article 14.)’ there are still traditional social systems and laws based on gender inequality that have a strong impact on citizen’s lives and consciousness.

2.3 Gender-related personal traits in modern Japan

Sugihara and Katsurada (2000:311) argued ‘a distinct set of expectations towards men and women’ results in ‘desirable personal traits for men and women’ respectively. For instance, men are often described as aggressive, independent, objective, dominant, competitive, logical and analytical. They are expected to be leaders, willing to take risks and become decision-makers. On the other hand, women are described as being quiet, kind, affectionate, sensitive to other’s feelings; they are expected to speak softly (Sugihara and Katsurada,2000; Azuma,1979). These two sex-typed personalities are considered to reflect normal, healthy and well-adjusted in Japanese society. (ibid). This implies that typical, well-adjusted adult women are perceived as less assertive, autonomous, and not inclined to take risks and more subjective, emotionally expressive, and physically weaker compared to men (ibid). This is not only in Japanese society. One study shows that gender stereotypes show similar tendencies in Japan and the U.S. and are passed down to the next generations (Azuma, 1997). The other shows similar characteristics towards men and women across cultures (Williams and Best, 1990). Furthermore, Bem (1993) explains the process of Japanese man and women in the society; people in Japanese society have different expectations and social practices toward men and women while maintaining cultural androcentrism. Through cultural transformation, both men and women internalize the cultural expectations and androcentrism for each sex. Then they learn the method of gender-polarizing ways in real life, and it shapes gendered men and women from boys and girls (Bem, 1993).

⁶ The constitution of Japan : <https://www.japaneselawtranslation.go.jp/ja/laws/view/174/jc>

2.4 Gender perspective in modern Japan

The Confucian and patriarchal ways of viewing the desired character/personality of the individuals have further cemented the division of gender roles between men and women in the process of Japan's postwar economic development (Sugihara and Katsurada,2002).. In Japan, Confucian ethics and patriarchal values of loyalty, harmony, and solidarity have been emphasized and encouraged in the development of modern Japan as a highly technological nation since the 20th century (ibid). Corporations adopted a lifetime employment system that imposed loyalty and devotion on Japanese men, reinforcing their value as wage labours. Women began to support their husbands and take care of children, and housework as non-paid care workers in the private sphere (Otake,1977). This resulted in an apparent and strict division of labour that men in public and paid, women in private and non-paid. Moreover, this has been reproduced through the generations and instilled in Japanese people's consciousness.

Chapter 3 Theoretical and conceptual framework

3.1 introduction

This chapter represents the theoretical and conceptual frameworks that guide the analysis of women's participation in DRM in Japan. These frameworks offer a lens from which to understand the socio-cultural, economic and institutional dynamics shaping the enablers and barriers faced by women practitioners in regional DRM as a male domain. It begins with social construction of gender in disaster, gender and disaster literature, vulnerability approach and women's participation, and emergency response and male domains, then followed by aiming to contextualizing in the Japanese context.

3.2 Social construction of gender in disaster

Gender and disaster rest on the social science area as the fact gender is socially constructed in our society and it convinces us to consider gender if we claim knowledge about all people living in hazardous conditions. (Enarson, Fothergill, and Peek, 2006: 130-146). Similarly, gender is a key component of human experience which shapes identity, intimate relationships, household routine, legal standings, access to resources, cultural norms, institutional practices and all aspect of social life (Enarson, Fothergill and Peek, 2018:205-223). Furthermore, gender can influence capability, decisions, and outcomes throughout the disaster cycle (ibid). Notably, while empirical studies indicate that gender disparities and differences rest on primarily disaster vulnerabilities, gender also forms how agency and resilience are described in crisis. Thus, gender further has an impact on how to approach and build disaster risk reduction policies and management itself (Enarson, Fothergill, and Peek, 2018:205-223). In the theoretical approach in this field, scholars have sought to develop a more nuanced, global, and comparative of gender relations in the context of different societal structures and power dynamics including race, ethnicity, nationality, and social stratification (Enarson, Fothergill, and Peek, 2006:130-146). In contrast, in the practical approach, it has been aimed to offer the art and science of DRR with a deeper understanding of inequalities and differences based on sex and gender (ibid).

3.3 Overview of gender and disaster literature

As Enarson et al. published *The Gender and Terrain of Disaster* in 1998, many researchers from around the globe have developed gender and disaster studies. Currently, it is cross-cutting issues with 'the importance of considering gender and sex together with disaster risk, vulnerability, and resilience' (Kitamura, 2023:95). Thus, this section aims to describe gender and

disaster literature at the global level after the 2000s, starting from Asian regions that hold large-scale disasters, Middle Eastern regions, and North and South America.

First, in India, Vasudha (2008)'s research analyzes women's vulnerability and meaningful participation and intervention by NGOs in reconstruction after the earthquake and Indian Ocean Tsunami. In Nepal, Yadav et al. (2021) suggested a feminist approach and investigated women's narratives after the earthquake in 2015 pointing out the lack of DRR policies. Additionally, K.C. and Hilhorst (2022) also researched women's voices after the 2015 earthquake from a humanitarian perspective in similar context. In Bangladesh, Ikeda (2009) and Azad et al. (2023) examined women's roles in community-based disaster risk management, and Mirza's research (2015) also focused on analyzing women's vulnerability with a policy perspective. Next, in the Philippines, typhoon Haiyan in 2013 draws more local and international feminist scholars for research. For example, Ramalho (2019), researched the intersection of gender, disaster, and resilience, highlighting the importance of considering daily experiences and social reproduction such as gendered labor and responsibilities within households and communities in addressing disaster risk. Similarly, Alburo-Cañete (2024) researched the gendered division of labor in disaster recovery, highlighting the often-unacknowledged burden placed on women and advancing a more equitable approach to recovery that recognized the value of care. Furthermore, in the recent publications, 'Disasters in the Philippines', local scholars empirically represented 'women's participation in reconstruction project in a rural remote island' and 'Filipino rural women of transition gender role by disaster event' in recovery terms (Gages,2023; Guiang and Espina, 2023). These studies in the Philippines can offer better understanding of how women's work encompasses both visible and invisible aspects, which should be interpreted and evaluated equally. Moreover, Abdalla et al. (2024) analyzed women's role in DRR enhancement and gender-responsive resilience, utilizing regression data analysis in quantitative data in Oman's context. Furthermore, in North and South America, after Enarson et al.(1998b) published *Women Will Rebuild Miami: A Case Study of Feminist Response to Disaster* in 1998, examining feminist organizations in reconstruction phase in Miami. In the case of Nicaragua Hurricane Mitch, Bradshaw (2001) and Cupples (2007) researched women's empowerment and beneficiaries examining the intervention of NGOs, arguing the importance of women's narratives and insisting on further integration of feminist approach and disaster research (Bradshaw,2001; Cupples, 2007).

3.4 Progression of gender and disaster studies in Japan

The role and experiences of women during disasters in Japan were first addressed by Aikawa (2006) in the study 'Structure of Women's Issues in Disaster and Its Recovery: The Case of the Great Hanshin-Awaji Earthquake (GHAE).' Later, Hori (2016) documented women's activities during the 2004 Chuetsu Earthquake, offering insights into their roles during the disaster response and recovery. Following the 2011 GEJE, women and disaster research received more attention nationally and globally. Kitamura (2023) noted Japanese studies on

gender and disasters began to be published more often in English, including works by Saito (2012, 2014) and Koikari(2012). However, much of this research has highlighted women's difficulties and vulnerabilities rather than women's participation or leadership in disaster management (Saito,2012; Saito 2014; Asano and Tendo 2021; Ikeda 2016, et al.).

The concept of 'gender and disaster' was introduced in the 2000s, with Ikeda(2010) pioneering to integrate vulnerability analysis into social science and disaster studies in Japanese study. Okaniwa(2014) highlights that Ikeda's significant contributions, namely through anthropological methods and comparative analysis of international case studies. This empirical approach has resulted in the application of gender perspectives in disaster management, particularly disaster prevention and preparedness (Okaniwa, 2014). Similarly, Munakata(2017)'s research has shown women's roles and experiences in the GEJE, emphasizing the importance of women's voices and power into the DRM policies and practices. Furthermore, documenting women's experiences in disasters has advanced the understanding of gender-specific vulnerabilities, leading to Japan's DRR policy research from a gender perspective. (Yamaji, 2009; Okaniwa, 2014; Nishioka, 2014; Ikeda and Asano, 2016; Haruyama, 2018; Asano and Ikeda, 2019 et al.).

More importantly, recent research has expanded to explore women's leadership in DRM. Asano (2020) examined how the deployment of female disaster management leaders influenced evacuation center operations during the Osaka Northern Earthquake. Similarly, Ikeda (2021) applied Moser's (1993: 37-54) concept of gender needs to analyze women's participation in community-level DRM in Japan. Additionally, Matsuoka (2023) highlighted challenges in reconstruction projects affected by the GEJE, revealing the exclusion of women in rural areas. Kitamura (2023) further emphasized how women's voices have been marginalized in male-dominated rural communities affected by the GEJE. Furthermore, Asano and Tendo (2021) proposed a '*saigai josei-gaku(women's studies and disasters)*' as a new interdisciplinary and diverse approach, reiterating the importance of the gender perspective in disaster studies in Japan.

In parallel with gender-focused studies in disaster, research on community-based disaster prevention and education has also drawn traction. Studies on local community capacity by Ochiai et al. (2009), and on national-local government cooperation disaster prevention by Takachiho et al. (2020) highlighted the grassroots efforts. Furthermore, research on voluntary community-based DRM organizations includes works by Arima et al. (2023), and Toyoda (2021). Moreover, research by Sato et al. (2015) explored the development of the community disaster management leader program in Sendai city, looking for potential leadership training in community DRM. Then Eta et al. (2022)'s research found the empirical analysis of disaster prevention education in the family level. Furthermore, Kamishirakawa et al. (2023) explored disaster management awareness among mothers with infants through learning disaster education, and Petraroli et al. (2022) investigated how gendered discourses shape women's disaster vulnerability in disaster preparedness and prevention.

3.5 Women's participation in the context of DRM as being male-dominate

3.5.1 Gender and vulnerability approach in disaster research

Most disaster researchers have analysed disaster research, employing the social vulnerability approach (Wisner et al., 2004 et al.). The main idea of the impact of disaster is not solely a function of the magnitude of natural hazards, but is also shaped by pre-existing social, economic, and political conditions leading to certain groups more affected by harm (ibid). Scholars also argued that vulnerability is determined by factors including poverty, marginalization and unequal access to resources (ibid). These factors often have an impact on people's and community's capability for predicting, addressing, and recovering from disaster events. The approach emphasizes that vulnerability is socially constructed and different groups' experiences rest on intertwined dimensions, including socio-economic status, race, sex, age, health, and knowledge level. (Wisner et al., 2004; Enarson, Fothergill and Peek, 2006:130-146).

Within the vulnerability approach, gender has been identified as a critical axis of vulnerability, with researchers documenting the ways in which disasters importunately affect women and girls. Existing research on vulnerability has highlighted how gender-based norms, roles and relations influence the experiences of women and men throughout the disaster cycle from the pre-disaster phase to the response and recovery stages (Enarson et al., 1998a et al.). Studies, for instance, have shown that women often have less access to resources and decision-making power, which can limit their ability to prepare for and respond to disasters (ibid). Women disproportionately face increased risk of gender-based violence after the disaster and often bear more responsibilities for caregiving of children and the elderly (Sinha & Srivastava, 2017; UN Women, 2021; UNICEF 2019; IFRC, 2015).

However, the focus on women's vulnerability has also been critiqued, as it can promote overgeneralized and essentially the notion of women as inherently vulnerable. The tendency to perceive 'women' as a homogeneous group can obscure the broader women's lived experiences, as the interaction of socio-economic status, age, race, and ethnicity give rise of multifaceted forms of vulnerability (Enarson, 2001). Therefore, the scholars argued for a more detailed understanding of how gender interacts with other social factors to shape people's experiences and responses in disasters (Enarson et al., 1998a et al.).

Moreover, socially constructed gender roles and norms significantly influence disaster outcomes. For example, Bradshaw (2014) argues that women's roles as caregivers for children and the elderly, coupled with cultural constraints including permission by male to leave home, can hinder timely evacuation, leading to disproportionately higher female mortality rates. According to quantitative studies by Neumayer and Plümper (2007), natural hazards disproportionately can impact on men and women, with women of lower socio-economic status experiencing more pronounced reductions in life expectancy. This implies the significance of addressing gender-specific vulnerabilities in disaster management.

Gender and disaster studies by the critical approach have critiqued the tendency of gender as a fixed category, instead emphasizing how gender is performative, context-based, and intersects with other social forms differently (Enarson, 2001). For instance, Bradshaw (2001)'s research on gender and disaster in Latin America has illuminated how traditional gender norms and roles can simultaneously be reinforced in the aftermath of disasters, as women assume new responsibilities and exercise their agency (Enarson, 2001). Similarly, Enarson and Morrow's research on Hurricane Andrew in the U.S found that gender intersects with factors like class and race to shape how individuals and communities experience and respond to disasters (Bradshaw, 2014). Although the vulnerability approach has advanced the study of gender and disaster, critical examinations of this body of work highlight certain limitations. While the vulnerability approach has been instrumental in highlighting the disproportionate impact of disasters on marginalized groups, including women, it has also been critiqued for depicting them as passive helpless, and victims (Enarson, 2001; Parida, 2015). Recent research shows the importance of recognizing the strength and abilities of women and other and other marginalized groups during disasters, rather than just capturing the vulnerabilities (Rawal et al., 2021).

3.5.2 Disaster management as a male domain

Scholars (Enarson et al., 1998a; Wison 1998; Provencio 2019 et al.) noted that disaster-related domains in Western developed countries, such as the U.S., that have historically been socially dominated by males. Enarson et al. (1998a) argued due to the need for civil defence and preparedness, disaster practices have been closely associated with civil defence agencies, the military, emergency medicine, and relief agencies. Moreover, at a higher level, it has been dominated by men who serve men's perspectives and attitudes reflecting gender norms, classes, and racial privileges (ibid).

Similarly, Australian forest fire emergencies and organizations often remain male domains because firefighters and volunteers are predominantly men and women are often considered vulnerable evacuees (Chowdhury et al., 2022). Thus, women tend to depend on men's decisions including warning information, evacuation instructions, and rescue efforts (ibid). The traditional male domain in emergency response has also an impact on women's behaviour under the strong patriarchal society (ibid). Moreover, they also argue that gender bias by men often disregards women's work within the household for preparedness and response (ibid). In Australia and New Zealand, rural farming regions where more Indigenous people settle with more patriarchy, policies do not consider this intersectionality, and just set policies with a Western perspective (ibid).

Furthermore, it should not be overlooked that the nature of rural community-based disaster response and preparedness encompasses masculinity which can be seen in emergency response organizations. Moreover, hegemonic masculinity dominates in rural farming areas in Australia, highlighting the need for a better understanding of gender dynamics in rural areas and disasters (Tyler et al., 2013). Forest fire response in rural farming areas is male

dominated, as men are seen as embodying frontier mentality, physical strength, and risk-taking, which often excludes women (Tyler et al., 2013; Pease, 2014). In parallel, gender roles in rural farming areas in Australia represent men as firefighters and women as support roles (ibid). Similarly, in forest fire response in Sweden, men took on firefighter work, while women supported the men's work (Danielsson et al. 2022). This division of labour also made explicit which works and activities are more visible or invisible in media reporting. In other words, men's work is more visible in public, while women's work remains less recognized. More importantly, from a perspective of gender norms women are admired for supporting men's work such as offering sandwiches, but if women do men's work instead are seen as invisible or merely not admired for doing the same work as men (Danielsson et al. 2022). However, when women had an appropriate certificate and tools for dealing with the tasks and showed their results, men finally could admit women's results, showing an example of a woman volunteer wearing a uniform and controlling a water tank in the forest fire in Sweden (Danielsson et al. 2022). Her insights can be instrumental for the analysis of female responders and volunteers to be equal to male responders as well as leading to the transformation of the perspective of gender norm for both men and women.

3.5.3 Female emergency response professionalization

In response to the growing frequency of natural hazards, including hurricanes and flooding, and in an effort to advance gender equality in legislation, a rising number of women have entered the emergency management and disaster response fields. (Enarson et al., 1998a; Wilson, 1999; Provencio, 2019). Colleges and universities, for instance, in the U.S. have also started to open courses on disasters and emergencies (Wilson 1999). As the number of female emergency professionals has increased, more women have knowledge and skills related to disaster management. However, Wilson (1999:111) claims that women are not in 'short supply' in emergency response. Instead, female disaster management leaders need to adopt more masculine traits due to the traditionally male-dominated fields. (Wilson, 1999: 111). In other words, female leaders and professionals in DRM must be 'aggressive' or 'assertive' (Wilson 1999:117-118). This comes from the nature of the masculinized organization of emergency response attributed to the military or fire department (ibid). Similarly, female emergency professionals often were troubled by ageism, which means young female practitioners feel disadvantaged or experience sexism in male-dominated organizations (ibid). Moreover, a recent study by Provencio (2019) from the U.S. has shown opportunities and barriers for female emergency professionals regarding career advancement, discrimination and harassment. Although female emergency professionals need to work hard including networking and building a reputation as a leadership role in the organization, their career advancement often tends to be hindered by harassment, a nature of preference for candidates with fire or law enforcement backgrounds that are highly male domains (ibid.). She also points out that female emergency professionals often assign traditional roles to women, and structural barriers that include stagnant intra-agency mobility limit women's access to high-ranking positions (Provencio, 2019).

As the nature of emergency response for disasters, it also needs flexibility for a 24-hour response, thus men are easier to be in charge of missions rather than women. Because there is a perception that women are regarded as taking care of children or families (Wilson,1999; Enarson et al.,1998a). Similarly, in the context of Japan's crisis management and emergency response during disasters, there is a tendency to exclude women from field work or 24-hour duties due to perceptions around family care responsibilities and health conditions (Yang,2021; Nemoto,2013; Yamada,2024, et al.). This reflects the view that women should not be entrusted with leading dangerous missions (ibid.). According Provencio (2019), most women consider ongoing training or earning an advanced degree, such as a master's or higher, important for career advancement in the U.S. This is women's challenge in a male-dominated society and the organisation should understand and reform the internal structure in the disaster-related to participate and promote for both men and women.

3.5.4 Women in development and disasters in practice

In post disaster context, women are often recognized as participants and beneficiaries (Bradshaw, 2014 et al.). With the recognition of the fundamentals of including women in development and disaster, Moser (1993) suggested the 'practical and strategic gender needs' concept in the 1990s in development strategy. This is underpinned by the 'Women in Development (WID)' approach as women are beneficiaries and participants in development projects in the post-disaster context in the global south. (Bradshaw,2014; Moser, 1993, et al.). Practical gender needs are often perceived as women's basic needs such as water, meals, housing, and health care, resting on their responsibility in households. The identification of practical needs is from immediate response to existing concrete conditions of women. Bradshaw (2014) argues that women are beneficiaries by being provided economic aid in post-disaster terms but oppressive power structures in the household and community did not help them. Hence gender practical needs attributed to unequal division of labor for women in families and communities, signifying and fortifying imbalanced gender power relations rather than contending power imbalance in society (Bradshaw,2014). In contrast strategic gender needs are a more appropriate idea to tackle existing power disparity, leading to the requirement of transformation to change unequal conditions against patriarchy. Strategic gender needs are centered on questioning the nature of the gendered division of labor, aiming to overcome women's subordination in patriarchal society (Bradshaw, 2014). Claiming strategic gender needs encompasses issues such as the male-dominated household system and lack of participation in the decision-making process for women. This is not women's existing responsibilities under the division of labor, but rather focusing on women's rights (ibid.). Moreover, Bradshaw (2001; 2004) argues that particularly in post-disaster times, prioritizing the understanding and meeting of women's practical needs over their strategic needs can reinforce, rather than overcome women's subordinate status. Drawing from the case study in Hurricane Mitch in Nicaragua, she further argues that women's aids or benefit such as livestock or land ownership from reconstruction project might not be equal to man's paid work (Bradshaw,2001; 2014). Furthermore, focusing more on women's support and aids in post-disaster can lead to reinforcing traditional gender roles and negative impact on socio-

economic relationship between man and women. More significantly, due to disaster men can also lose jobs and less income, and more dependent on women within the household, and that is to say, ‘women have their cows and the men are drinking the milk’ (Bradshaw, 2001:83). In such cases, women’s workload in both public and private have been increasing, though there are still existing gender roles. Moreover, while women’s contribution and participation in disaster reconstruction projects are explicit, traditional gender roles resulting in women’s burden rather than before. Hence, Bradshaw (2001) suggests the significance of addressing both practical and strategic needs in post-disaster including activities for women consciousness-raising to improve women’s self-esteem and decision-making skills.

Overall, this framework can be instrumental for a more nuanced analysis of women’s participation in DRM, in particular communities including diverse women. Distinguishing ‘practical’ and ‘strategic’ gender needs can be instrumental in grasping women’s immediate needs in times of disaster and focusing on women’s empowerment in the reconstruction phases for a long perspective as well. It also can be a meaningful framework that analyzes women’s empowerment in both the public and private sphere in DRM processes so that women will not be only participants but also key players in shaping resilient communities. Furthermore, the gender needs concept by Moser (1993) have advanced, and it also can be employed in DRM training for women in Japan. I will explore this in the next section.

3.6 Contextualizing the framework in Japan

3.6.1 Japan’s female disaster management and gender needs framework

As adapted by the Sendai framework in 2015, as well as promoting gender policy promoting under the Japanese government, women’s participation and the development of women leaders in DRM are foremost in their minds (UNDRR, 2015; Munakata, 2021; Kitamura, 2024 et al.). Accordingly, DRM training for women has drawn attention at regional levels. The purpose of developing female leaders implicitly and explicitly is to notice and understand gender bias admitting diversity from women’s perspective, rather than the perspective of traditional men’s leaders. This section explains the Japanese context by applying Moser’s concept of gender needs by Ikeda (2021).

Ikeda (2021) applied Moser (1993)’s concept of ‘gender needs’ and examined the content of women’s disaster risk reduction activities in Japanese communities in her research *‘Preparing gigantic earthquake with participation of Women: towards establishment of community-based disaster risk management system with gender equality perspectives in Shizuoka Prefecture, Japan.’* In her research, women’s activities in DRM are classified into two types. ‘Practical gender needs’ refers to activities aimed at aligning with current gender roles, while ‘strategic gender needs’ involve activities that address the imbalance of power and fixed gender divisions (Ikeda, 2021). She argues that practical gender needs are easily identifiable and responsive to immediate needs, but they can reinforce stereotypical gender roles and inequalities, concentrating care and burdens on women. For example, disaster management courses may teach women

how to perform tasks like cooking without water, preparing toilets, and housework to care for the elderly and children during disasters (ibid). These approaches are based on traditional gender roles and are easily accepted by women. In contrast, ‘strategic gender needs’ is harder to observe and may not lead to immediate change, but it holds the potential to transform the community itself by eliminating inequalities and empowering people (Ikeda, 2021). Examples include reviewing local stockpiles and preparing a community centre as a disaster shelter for expectant mothers operated by women, as well as conducting disaster drills with varied gender roles for men and women, and drills for opening evacuation centres with women in charge or serving on the steering committee (ibid). These efforts and activities focus on eliminating gender role divisions.

However, these are programs and courses offered by DRM training for citizens, particularly women, and it is questioned that the effect of these strategic training will be rippled. Because there are mainly two types of community disaster management organisations in regional Japan. The one is a voluntary community-based disaster risk reduction organization (*jishu- bosai-soshiki*) that is traditionally organized by a unit of neighbourhood associations (Saito, 2014; Asano, 2016; Ikeda, 2021; Munakata, 2021 et al.). The other one is called “Resilient City Planning with Disaster Risk Reduction”, which is relatively newer after the GEJE (Ikeda 2021; Asano, 2016 et al.). The former one, the activities within voluntary community-based DRR organisations, which are normally underpinned by male-dominated neighbourhood associations, will transform into self-volunteer-based organizations in times of disaster (Ikeda 2021; Asano 2016, et al.). Since neighbourhood associations are joined by each household that is usually male-head, the structure of those organizations is highly male-dominated. Within this, women act as the women’s association (*fujin-kai*) in the community during normal times, and in times of disaster, they are responsible for cooking meals and life support at the evacuation centre (Ikeda 2021; Ikeda and Asao 2016 et al.). Due to the nature of the organizations, women often participate in these activities. However, it can be challenging for women to take on roles outside of the traditionally assigned positions in the highly gender-segregated organisations (Ikeda, 2021). Thus, women’s community activities can be understood as being motivated by ‘practical gender needs’ that arise from traditional gender roles.

Activities for ‘strategic gender needs’ can cause transformative approaches for gender role balance in DRM, and often be hindered due to the nature of patriarchal community norms. For example, few women are participating in the decision-making process in community DRM, and there are no female leaders in evacuation shelters. Ikeda (2021) notes that men in the DRM community tend to view female leaders as better suited for activities related to traditional gender roles, such as caregiving and meal preparation, as well as those involving women’s physiological needs that men may not fully understand. Consequently, she suggests that women can assume leadership positions in these areas rather than men (Ikeda 2021). Furthermore, female leaders and trainers in DRM often recognize the importance of understanding men’s perspectives in order to be accepted as leaders in the DRM fields within their communities (ibid).

To go beyond women’s activities in ‘practical gender needs’ and aim to incorporate ‘strategic gender needs’, women’s leadership activities and networking are also significant.

Ikeda(2021) noted that combined with DRM training for women in a wide range of community levels and organizations showing good practice and sharing knowledge is important. For example, women's cooking classes for disaster preparedness by women's leaders can have an impact on not only participants but also female organizers. Cooking is regarded as a practical gender need, and taking leadership in training is regarded as a 'strategic gender need', because it can enhance women's empowerment and lead to transformation in gender equality. However, the issue I argue is that focusing on women participants by women leaders often overlooks gender role imbalance. Accordingly, I question whether aiming to equalize gender roles in everyday life through DRM training for women can also enhance women's burden for disaster risk reduction and preparedness in community-based DRM.

3.6.2 Disaster risk governance approach for women's participation

Hemachandra et al. (2018, 2020) argues that women are also important stakeholders in DRM processes. They identified factors affecting women's empowerment in disaster risk governance (DRG) in Sri Lanka (Hemachandra et al., 2018, 2020). Moreover, they emphasize the importance of identifying the factors that challenged women's empowerment in DRG would be effective for further policy planning in DRM (Hemachandra et al., 2020). The term 'empowerment' is widely used in psychology and other fields (ibid). Empowerment is defined as the process of individuals gaining autonomy and control over their own lives, as well as supporting others to overcome challenges and achieve greater self-determination (Hemachandra et al. 2020, at el.). The conceptualization of empowerment is also rooted in feminist perspectives, which emphasize the transformative power of such process (McWhirter,1998). More importantly, Rowlands (1995) argues that empowerment is not just to give power for decision-making to women, but also other stakeholders can recognize that women also have abilities and capacities for decision-making. The concept of disaster risk governance (DRG) is understood as 'the system that assures capacity and full participation of stakeholders in (national) disaster management structure to reduce disaster risks and enhance resilience' (Hemchandra et al., 2020:1). In the context of DRG, many researchers also emphasize the importance of women's power and role as an important stakeholder in the reconstruction process rather than their vulnerability (ibid). Moreover, from the perspective of DRG, the absence of women also leads to many issues related to women in disaster. Japanese disaster context is no exception. For example, Saito (2014) and other Japanese scholars noted that the lack of women's disaster leaders in evacuation centres and reconstruction committees resulted in women's difficulties (Saito, 2014 at el.).

This study focuses on female practitioners in DRM at the regional level in Japan, examining factors shaping women's participation in DRM processes. More specifically, as this research examines the enablers and barriers to women's participation in DRM fields as main research question, their DRG analytical framework is appropriate in qualitative data analysis. Thus, I apply Hemachandra et al.'s approach to examine the qualitative data analysis from three dimensions: socio-economic factors, socio-cultural factors, and legal and institutional factors (Hemachandra et al., 2018). Socio-economic factors include household income such

as wealth and poor socioeconomic conditions in the household. Socio-cultural factors are considered as patriarchal culture, religious beliefs, the structure of a family, and household workload. Legal and institutional factors are regarded as the political environment, politics and legislation, and organizational cultures. Though assuming that these three main factors also could be intersectional in terms of women's participation and empowerment in DRM, I argue that incorporating Hemachandra et al. 's analytical framework in DRG for women's participation and empowerment will be applied as the most appropriate approach in the qualitative data analysis. In next chapter, I will explain the methodology.

Chapter 4 Methodology

4.1 Introduction

This chapter represents the methodology employed to investigate the factors that influence female practitioners' participation in DRM processes at the regional level in Japan. I employed semi-structured interviews in the qualitative research method and the feminist standpoint theory approach as a positionality. It begins with a methodological approach including qualitative research, feminist theory approach, and thematic analysis, followed by materials including participants and process. Then it follows limitation, ethical considerations and positionality.

4.2 Methodological Approach

This study employed a qualitative research design to examine female practitioners' involvement in a male-dominated DRM processes at the regional level in Japan. This approach was selected because of effectively capturing in-depth insights into the opportunities, challenges, and motivations of female practitioners participating in regional DRM. Additionally qualitative research can be instrumental in bringing women's perspectives and experiences to the forefront of disaster response considerations (Ahmand,2018, et al.).

Qualitative research is less about numerical replication and more about reliability and transparency. To enhance reliability, it is also important to maintain audits such as documents, decision-making processes, and research processes so that others can follow the author's step. Qualitative researchers are required to articulate evidence of four primary criteria to ensure the trustworthiness of the study findings: credibility, transferability, dependability, and confirmability (Mabuza et al., 2014).

Feminist researchers have used qualitative methods to examine disasters from a gender perspective, to understand how women's experiences can lead to more inclusive disaster policies and practice (Enarson et al.,1998a; Wilson,1999; Bradshaw,2001; Cupples, 2007; Danielsson, 2022; Petraroli et al, 2022 et al.). Moreover, Enarson et al. (2006) suggest that disaster sociology and feminist theory work well together to embrace similar concepts such as social power, domination, vulnerability, empowerment. Therefore, the study also employed the feminist theory approach.

Lastly, in analytical framework, I employ Hemachandra's analytical framework in DRG which I mentioned in Chapter 3, to examine factors of enablers and barriers on women's meaningful participation in DRM related to research questions. I will indicate the results in this framework in Chapter 5.

4.2.1 Feminist Theory Approach

Feminist studies have long problematized the exclusion of women's voices in traditional research, rather, favouring the male perspective (Provencio, 2019). The core of feminist notion is the lived experiences, such as emotions, thoughts, and actions in socially constructed contexts. (Alburo-Cañete, 2024). Feminist standpoint theory emerged as a response to address the imbalance by arguing for privileging women's lived experiences as a valid epistemic standpoint (Gurung, 2020). Harding (2014) argues the importance of standpoint epistemology is to understand the dynamics of knowledge production in the context of oppression and discrimination, while traditional epistemologies often fail to account for experiences and insights of marginalized groups. Additionally, Feminist research practices have gone beyond traditional sociological methods by applying research methods such as qualitative data analysis and intensive interviews to better address women's issues and marginalized problems (Nagy Hesse-Biber, 2014). Furthermore feminist standpoint theory emphasizes the need for researchers to critically examine their assumptions and bias and how they influence their research (ibid). Therefore, this study is grounded in feminist standpoint theory because it centres the experiences and perspectives of women, addressing the structural and cultural inequalities that shape their roles and opportunities.

4.2.2 Semi-structured interview

Semi-structured interviews were employed a methodological tool in this research on women's participation in DRM in Japan due to its flexibility and ability to provide in-depth insights, particularly for a nuanced and contextual-specific topic such as women's motivation, challenge, and opportunities in male-dominated DRM processes in Japan.

Semi-structured interview is a common methodology in social sciences, employed to deeply explore the lived experiences and narratives of research participants. This is more flexible than structured interview, because the researcher can adapt questions based on the participant's answer (Whiting, 2008). Moreover, it strikes a balance between directing the conversation and allowing participants to freely share their perspectives (Longhurst, 2009). The key features of semi-structured interviews include informal dialogue, thematic approach, and the production of contextual knowledge. This allows researchers to obtain rich insights into personal experiences and narratives that may be challenging to capture through alternative methods like surveys. Employing semi-structured interviews is frequently shaped by the researchers ontological and epistemological perspectives. As a qualitative methodology, semi-structured interviews align with constructivist and interpretive paradigms that emphasize the socially constructed nature of reality and the significance of contextual understanding (Longhurst, 2009; Caduff et al., 2023; Whiting, 2008). However, qualitative research also highlights understanding the lived experience and perspectives of participants, facing unique challenges related to subjectivity and ethical considerations. In the analysis of qualitative interview data, researchers must consider their preconceptions and biases, which can significantly influence the interpretation and presentation of findings (Aluwihare-Samaranayake, 2012). Therefore, researchers must acknowledge their backgrounds, assumptions and

perspectives can shape the data collection and analysis process. Furthermore, the relationship between researchers and participants introduces a power dynamic that requires careful navigation to avoid exploitation or concern (Hewitt, 2007). Thus, researchers must be attentive to the potential vulnerabilities of participants and ensure that ethical principles of respect, beneficence, and justice throughout the process (ibid).

Semi-structured interviews were appropriately employed for this research, given their adaptable nature and capacity to yield in-depth understanding, especially for a nuanced and context-dependent topics such as examining women's motivations, opportunities, and challenges within the male-dominated field of disaster risk management in Japan (Ruslin et al., 2022). Based on the methodological insights in semi-structured interview, there are reasons to be likely applied for it.

- (1) **Depth and focus:** As an effective tool to obtain in-depth understanding participants' lived experiences, semi-structured interviews align with the research focus on elucidating the nuanced and multifaceted realities of women's participation in DRM.
- (2) **Flexibility within a framework:** Semi-structured interviews allow researchers to maintain a structured focus while also possessing the flexibility to explore novel and emerging themes that emerge throughout the interview process (Ruslin et al., 2022). This adaptability proves valuable for addressing unforeseen yet pertinent aspects of women's experience in DRM.
- (3) **Contextual understanding:** Facilitating the construction or reconstruction of knowledge within a contextual framework, it is vital for understanding how cultural, institutional, and social factors in Japan shape women's roles and experiences in DRM (ibid.).
- (4) **Encouragement of open dialogue:** Semi-structured interview fosters a conversational environment, allowing interviewees to feel more at ease when sharing sensitive or deeply personal insights such as experiences with gender-based challenges in professional or community settings (ibid.).
- (5) **Ethical considerations and reflexivity:** Giving participants more control and freedom during the interview process, it is ethically important when discussing sensitive topics like gender inequality. (ibid.).
- (6) **Situated knowledge production:** Semi-structured interviews allow researchers to contextual and situated knowledge by focusing on particular themes or experiences (ibid.). This is crucial for understanding how Japanese women navigate the opportunities and constraints within DRM, given Japan's cultural and societal norms.

In summary, the selected methodological approach is ideal for producing detailed, qualitative data that offers a thorough understanding of the research subject, while also facilitating a nuanced examination of women's perspectives with a traditionally male-centric field.

4.2.3 Thematic Analysis (TA)

This study also employed Thematic Analysis (TA) in relation to Hemachandra' et al.'s DRG analytical framework. TA is a qualitative method used to identify, analyse, and report

patterns (themes) within qualitative data (Clarke and Braun, 2017). It is widely used in psychology and social sciences to interpret the meaning behind textual data, such as interview transcripts, focus group or written responses. TA can be flexibly applied across a range of theoretical frameworks and research paradigms (ibid.). It is not constrained by specific theoretical models and can be employed to investigate a wide range of research questions, sample sizes, data collection approaches and methods of interpreting associated with wide lived experiences, viewpoints and practices (ibid.). In addition, TA allows for rich interpretation of data, moving beyond simple description to explore underlying meanings and patterns.

The procedure of TA involves a systematic and iterative approach to analysing qualitative data. First, researchers familiarize with the data by thoroughly reading repeatedly it to obtain a comprehensive understanding of the data. Second, initial codes are generated by identifying and labelling meaningful segments of the data. These codes serve as the foundation for the next step, which involves searching for themes, where related codes are grounded into broader patterns or concepts that capture significant aspects of the data. Once themes are identified, they are renewed and refined to ensure they accurately represent the data and are distinct from one another. Subsequently, themes are clearly defined and named to articulate their essence and relevance to the research questions. Lastly, the findings are presented in a report that offers the coherent and clear themes supported by evidence from the data to convey the key insights of the analysis.

Semi-structured interviews aim to investigate the experiences and perspectives of female practitioners in disaster risk management, rendering Thematic Analysis (TA) advantageous for the following reasons:

- (1) **Suitability for exploratory research:** TA is an appropriate methodology for exploratory research aimed at identifying themes related to the facilitating factors and impediments to women's involvement in male-dominated fields. Its inductive approach allows the researcher to directly gather nuanced insights from participants, particularly in a context where gender dynamics and cultural elements crucially influence the phenomenon under investigation.
- (2) **Flexibility in managing with depth and complexity of qualitative data:** Semi-structured interviews can yield rich, detailed data that may not align with predefined categories. TA provides the flexibility to analyse the data systematically without being restricted by rigid theoretical frameworks, allowing themes to be generated naturally from the participants' narratives.
- (3) **Emphasis on lived-experiences:** The use of TA is well-suited for feminist research, as it centres the voices and lived experiences of participants (Hesse-Biber, 2014). The research enables the researcher to unpack patterns that capture the distinct socio-cultural and institutional obstacles encountered by female practitioners in Japan, rendering it a fitting methodology for highlighting marginalized perspectives.
- (4) **Focus on contextual understanding:** The context of this study lends itself well to the use of TA, understanding a more in-depth comprehension of gender roles, socio-cultural norms, and institutional structures in DRM processes. This

analytical approach's ability to examine both implicit and explicit content supports a nuanced, contextual interpretation of the data.

- (5) **Alignment with research objectives:** While the research explores the motivations, challenges, and opportunities for women participating in DRM, TA offers a clear and organized way to identify meaningful themes that capture these perspectives. The researcher can deeply understand the participants' experiences.

To conclude, the TA provides a robust and transparent way to analyse the qualitative interview data. This method captured the nuances of participants' experiences and aligned with the feminist perspective of the research.

4.2.4 Desk Study Analysis

The research employed a desk study methodology, analysing existing secondary data to explore female practitioners' involvement in DRM in Japan. The benefits of employing desk study methodology are that it facilitates and in-depth examination without time and resource constraints of conducting original primary research. (Smith, 2008; Boslaugh, 2007). A desk study approach was employed due to limited resources for relevant data, and ethical considerations. This approach also allowed to cover resources that cannot be covered by primary data collection and makes data analysis more robust. The following documents are scrutinized to analyse disaster management risks and gender norms in the Japanese context. Resource of Publications are openly available on the internet or paper based. Resource for desk study analysis should have been published or made publicly available after the Great Hanshin-Awaji Earthquake (GHAJ) in 1995 and be available and accessible by the author.

Data sources

- (1) Academic databases (paper books, online journals)
- (2) Government reports and statistics: (Related to disaster risk management policy and practices)
- (3) Stakeholder's publications (NGO, NPOs, and relevant organizations)
- (4) Japanese literature and books related disaster risk management and women's participation

4.3 Materials

This qualitative study employed semi-structured interviews to examine the gaps between policy and practice in terms of women's participation in DRM, specifically to observe their opportunities, challenges, and motivations in DRM in regional Japan. An interview guide for semi-structured interviews was prepared based on a research objectives and the development of a theoretical and conceptual framework. The size of data for qualitative interviews was six female practitioners in disaster risk management. Age ranges from 20s to 50s, and the location varies in Japan's northern, central, metropolitan, and western areas.

The interviewee's data was anonymized. The anonymization procedure was that the names of interviewees were anonymized using the alphabet order (Ms. A to Ms. F). In addition, the names of the interviewee's affiliations (such as NPO) were anonymized by adding the number "1" after the anonymized alphabet. Example: The NPO of interviewee Ms. C is 'C1' (See Table 1).

4.4 Participants

This study conducted semi-structured interviews with six female practitioners involved in DRM, response, prevention and preparedness. Firstly, the two female practitioners (Ms. A and Ms. B) were chosen by the author through the publication of the Noto Peninsula earthquake report⁷ as a starting point (GDRR, 2024). This report has been published in April 2024. Ms. A is also an academic and practitioner as a trainer for disaster management professionals in the Kanto region in Japan. Ms. B has worked in DRM fields and women's empowerment for more than two decades. Both Ms. A and Ms. B have been experienced as policy advisors in terms of disaster risk reduction for women's participation. The author's experience as a volunteer with the Japan International Cooperation Agency helped identify suitable interviewees, such as female practitioners from regional non-profit organizations who worked in disaster areas in Japan. Ms. C is a junior staff at NPO C1 in Tokyo, Japan, who engaged in disaster relief activities during the Noto Earthquake in January 2024. Ms. D is a senior staff at the NPO D1 base in the Kansai region and worked on reconstruction projects in the aftermath of the Typhoon in the Nagano region in 2019. Furthermore, through Ms. B, I was introduced to Ms. E who has a different background and motivation to join DRM from others, being a representative of NPO E1. Based in the Tohoku region, she and her organization actively have been conducting DRM education for women and school children as well as supporting activities for women in the aftermath of the Noto earthquake. In addition, one female young practitioner F was identified as a sampling interviewee by SNS (Instagram and Facebook) by the author. She and her organization F1 have been actively working on advocating disaster prevention and preparedness for mothers and children through SNS and media. F is a freelance working mother of a 10-year-old boy as well as a member of a committee for city planning and local DRM in a city in the Tokai region.

Table 1: List of Interviewee

No	Name	Position or Organization	Background	Age	Interview date
1	Ms. A	Professor, Practitioner	Gender and Disaster, Social geography	50s	3 August 2024
2	Ms. B	Practitioner, lecturer,	Community-based DRM,	40s	14 August 2024

⁷ GDRR (2024) '彩りあふれる 能登の復興へ令和6年能登半島地震の女性の経験と思いに関するヒアリング調査 [Towards the colourful reconstruction of Noto. Hearings survey on women's experiences and thoughts about the 2024 Noto Peninsula earthquake].' Available at : <http://gdr.org/wordpress/wp-content/uploads/2024/04/notofukko.pdf> (Accessed on 1 June 2024)

		Researcher	DRM reconstruction		
3	Ms. C	Junior staff in NPO C1	Disability, Humanitarian assistance	20s	19 August 2024
4	Ms. D	Senior staff in NPO D1	Gender, Humanitarian assistance, Disaster Recovery	40s	30 August 2024
5	Ms. E	Representative of NPO E1	Gender training, Career development	50s	23 August 2024
6	Ms. F	Freelancer, Representative of NPO F1	Disaster prevention, Disaster preparedness Civil activity	30s	23 August 2024

(created by the author)

4.5 Interview and coding procedure

The interview process was described as follows. Initially, I notified the participants via email about the purpose of the interview and inquired about the possibility of conducting an interview online. After obtaining their consent, a list of interview questions in Japanese was provided in advance, accounting for the specialized nature of the topic. The list of questions was prepared based on research questions and conceptual framework and developed with slight modifications according to the background of the interviewees in order to scrutinize the research questions in more detail. The list of questions was sent out in advance to encourage respondents to think thoughtfully about their answers, as it includes questions on specific topics and specific disaster relief experiences. Before the interview online for each, it was explained that no individuals were identified, including the use of their real names or organization names. After the interviewees agreed with the informed consent, the interview was conducted.

All documents and interviews related to the master's thesis interview were prepared in Japanese for the participants. Before the start of the interview, an interview explanation was given by researcher, and consent was obtained before the recording was made. The interviews were conducted in online video format (ZOOM, Teams) in Japanese. The interviews for six people were conducted during August 2024 and lasted 1 to 1.5 hours per person. Once the interview was completed, the recording data was saved on the author's computer and transcribed in Japanese by utilizing the NOTTA application software and anonymized, then summarised and translated into English by the author. Then coding process was conducted utilizing the MAXQDA application and analysed by the author.

4.6 Ethical considerations

This research could be regarded as a reflective work as a feminist with an interest in gender and disaster, who was involved in disaster recovery assistance in the Japanese private sector. To prevent researcher bias, I am not be personally involved in this issue. I strictly follow the protocols of doing science research as being professional and objective to observe this

phenomenon. In conducting the research high consideration was given to interviewees and participants from the organizations. The six people were interviewed online in August 2024. The objectives of the study were communicated in writing to all key informants and stakeholders. The purpose of the interview was well explained to the interviewees and gatekeepers in writing, and they were requested to submit a consent form before the interview was conducted. The interviewees in this research are anonymous and sufficient care is taken to ensure that they are not identified.

4.7 Limitation

This study applied a desk study analysis and qualitative interviews online on women's participation and empowerment in the DRM processes at the regional level of Japan for my master's thesis. There were spatial and temporal limitations regarding data collection. Interviewees were six Japanese female practitioners who were from NPOs through the author's formal and informal network. This selection of only female interviewees was conducted to emphasize women's voices and perspectives based on research questions. As the literature and interviews are in Japanese, they have been translated and summarised into English by the Japanese author understanding the Japanese context. As such, it may not fully convey the exact nuances.

4.8 Positionality statement

As a feminist researcher, my perspective is rooted in the belief that questioning the existing system and looking at power dynamics in constructed society. My positionality rests on my experience as a Japanese woman, who has a conservative society background, is currently studying a Master of Arts in Development Studies, focusing on gender and disaster studies at ISS. First, I grew up in Niigata, Japan, witnessing women's limited opportunities in my hometown. My mother, grandmothers, and aunts faced educational and economic disadvantages due to traditional gender roles. I remember being told that girls did not need an education, and the daughters were expected to marry and leave their families, as sons would succeed the family name and property. Despite these expectations, I pursued higher education, obtaining a Bachelor of Law and focusing on human rights. My aunt, who was denied a high school education despite her intelligence, has always encouraged me to challenge gender inequalities for people. Second, I experienced disasters including the Niigata Chuetsu Earthquake in 2004, the Great East Japan Earthquake (GEJE) in 2011, and other local disaster events further solidified my interest in DRM. Working as an initial responder at a call centre of an insurance firm during the 2011 Earthquake exposed me to the realities of disaster management and the vulnerabilities of affected populations, particularly women. This experience led to me the reality, highlighting the connection between gender roles and disaster vulnerability. Additionally, I had an opportunity to work as a community development volunteer in the Philippines, where participated in DRM drills and workshops. This provided me with a comparative perspective on disaster management practices. These combined experiences have motivated me to research women's roles in DRM in Japan. My interest in this

research is to explore how traditional gender roles and societal expectations influence women's participation and empowerment in DRM processes in Japan.

I approach this research with a commitment to amplifying the marginalized voices and challenging patriarchal norms that influence disaster risk management practices. I recognize the privilege and limitations of my own position as a Japanese feminist researcher. I reflect my interpretations and ensure they are grounded in the lived realities of the participants. participants may feel more or less comfortable accepting an interview with a researcher. To address this, I aimed to better understand them and answer the questions appropriately. As a feminist, I strive to create a collaborative and respectful research environment that values participants' agency and prioritizes their perspectives in shaping the narrative. With my feminist lens, I also recognise that how it can shape the interpretation of data. To address this, I employed triangulation supplement interview data with policy documents from DRM-related organizations to check whether institutional structures support or challenge the interpretations.

Chapter 5 Results and Discussion

The purpose of this study is to explore women's participation in male-dominated DRM at the regional level in Japan. The purpose of this chapter is to assess and represent women's motivation, challenges and opportunities as female practitioners in DRM. This chapter demonstrates the result of semi-structured interviews and discuss the findings and theorization.

5.1 Results of semi-structured interview

The purpose of this section is to show the results of semi-structured interviews with the six female practitioners, based on thematic analysis. Detailed themes were identified based on sub research questions divided into three categories: motivations, challenges, and opportunities. Identified themes also followed in Hemachandra et al.'s analytical framework, which I explained in Chapter 3. They have identified three factors: socio-cultural, socio-economic, legal and institutional factors (dimensions). Several themes were identified with overlapping (See [Table 2: Identified by thematic analysis' in Appendix 3](#)).

After the interviews online in August 2024, these processes, including transcribing, translating, and analysing data employing thematic analysis, were conducted by the researcher. Name of participant and related affiliations were anonymized and denoted. (Examples: Ms. A, Ms. B, Ms. C, Ms. D, Ms. E, and Ms. F. affiliations (NPOs): C1, D1, E1, and F1.)

5.1.1 Motivations by female practitioners in DRM

Personal and historical experiences

What I was the most interested in female practitioners in DRM is what motivation drove me to get into this field. The six female participants not same motivations but also distinguished motivation based on their experiences and beliefs. Ms.E, who is based in the Tohoku region and established her own NPO E1 for women's empowerment and disaster management training for women a decade ago, expressed that her motivation is the following.

"When I worked in the gender equality centre in my city, we heard that there were many difficulties for women in the GHAE, because women's perspectives were missing, and we have continued to pass this on in our training. [...] You know, the National Disaster Management basic plan states that such a perspective must be considered, but even in the GEJE, this was not utilized at all. [...] Japan could have a major disaster next time, and we have been working on disaster management and gender equality since I was at the centre to prevent the same thing from happening again at that time. [...] The (gender equality) centre is a designated manager and can only work according to the prefecture's policy, so I wanted to do disaster management and gender equality activities in a more flexible way, so I set up a NPO in 2017." (Ms. E)

Her work focuses on empowering women to integrate gender perspectives into disaster response, preventing the neglect of women's needs during disasters. She also explained that she came to the city after marrying her husband (she was originally from a neighbouring prefecture), so she was a stranger. This environment led to her actively focusing on gender equality training and career coaching for women. Her initial career shifted to include disaster management for women.

The others had disaster experiences and witnessed the vulnerability of people and communities at a young age. Ms. B explained about her early age witnessing economic instability and disaster vulnerability of people in her hometown, Tokyo.

"I grew in a single-parent family in downtown Tokyo, and I witnessed economic instability and disaster vulnerability. My family ran their own business too, which was also one reason. I imagined when the disaster happened in my area, it made me scared, and I felt might be raped by someone. this made me study related to social work in university because I am more interested in supporting the marginalized, such as the elderly and women. then, when the Great Hanshin-Awaji Earthquake (1995) happened, [...] I went to volunteer there. I supported to creation of women's groups in the reconstruction project and tried to listen to women's voices and needs." (Ms. B)

Ms. F, a mother of a boy, also explained her motivation that for the first time, she felt the importance of disaster management when attending a workshop for local women.

"I experienced the GHAE but did not live in that area, so I think I was indirectly affected. I saw the news on TV about this earthquake and felt so scared. I could not believe such a scary disaster happened in Japan. I heard my classmates' grandparents live in the area; I was worried about them too. I felt the impact of the earthquake, but I thought it was presumptuous to talk about the earthquake and the damage it caused. [...] Then, when I became an adult, there was a disaster prevention workshop in the area, so I attended with my son. He was just 3 years old. I was shocked to hear the stories of women who experienced the GEJE. I wondered if I would be able to protect my child in disaster. I didn't have any knowledge about disaster prevention. [...] So, I decided to start disaster prevention activities for mothers and children because I also like to work for local communities such as NPOs. I also studied regional development in a college." (Ms. F)

Sense of Contribution to Society

Several participants wanted to contribute to their communities through disaster preparedness education and leadership. Ms. F established "NPO F1" to raise awareness among mothers and children, making disaster preparedness a normal part of life.

"Our vision is disaster prevention is normal in the society. Our mission is to create a culture of disaster preparedness for parents and children. Everyone can survive, help each other, and smile at all times. The future we want to achieve is not just about saving lives through disaster prevention, but also looking beyond that." (Ms. F)

Focusing on the marginalized community

Ms. C, who is a junior staff at NPO C1, described her motivation.

“Our NPO(C1) has a mission to focus on the marginalized, particularly PWDs, so I have been motivated to focus on it, and now I am keen on looking at often-overlooked communities including PWDs and women during disaster relief distribution as well as trying to listen to their needs and perspective. [...] This is also because of my experience supporting my friend after the GEJE. She was suffering from it, and I realized it should not be rushed or hurried because each person has a different clock pace. In the Noto earthquake, many people started to refer to a reconstruction project, calling for the reconstruction committee to join with their voices, but victims and local people varied. You know, how the marginalized, such as PWDs’ voices and needs have been reached out to the committees? But maybe they can’t, right? Our organization and I just try to focus on those people, and if our support can be useful for them, we feel happier. Because they realize they are not overlooked.” (Ms. C)

5.1.2 Challenges Faced by Women in DRM

Cultural barriers and gender norms

Most participants reported that cultural barriers and gender norms, such as patriarchy, were the main challenges faced by women, including DRM practitioners, in regional Japan. Ms. D, who worked on the Nagano Typhoon reconstruction project in 2019, expressed her challenge and difficulty in involving in the rural community as a female advisor. As a female stranger(outsider), she faced scepticism and criticism from local people when participating in a reconstruction project as an NPO staff.

“I was fascinated with how this community has served their tradition, particularly for disaster prevention activities. There have been many disasters such as flooding and typhoons in this region and the local community and people developed their disaster prevention system, so that’s why only a few casualties in this disaster. However, I think, the system and tradition, on the other hand, have been underpinned by strong patriarchal norms and, therefore male-dominated society, both everyday life and emergencies. I felt like there was a sense of ‘machoism’ (She used ‘machoism’ as meaning masculinity during the interview) in community-based DRM organizations and practices. In addition, I guess, the male leaders who worked with us had a kind of lens for women, which they are just assistants for men, such as taking minutes or serving tea and food in the meeting, rather than participating decision-making process in communities.” (Ms. D)

Additionally, stereo-typed gender roles are still deeply rooted in rural communities and the local people. Their bias is men should be leaders, and women should be supporters. Male-dominated leadership structures often marginalize women's contributions, reinforcing traditional gender roles where men dominate decision-making.

“National Disaster Management Basic Plan is designed to include women, but few municipalities are adhering to it. [...] Voluntary disaster prevention organizations in rural areas have also basically exclusively male domain, as neighbourhood associations mainly organize them. Many of them are older men, and they think of everything based on a sense of gender roles. I think that is still a factor that makes it difficult for women

to be involved. [...] In terms of women's participation, the number of volunteers with a gender perspective has been increasing in local communities. However, I still think there are not enough." (Ms. A)

Similarly, Ms. B also explained the care burden for women due to cultural barriers that are traditional in a rural area in Japan.

"[...] Also, the Hokuriku Region (including the Noto region) has a high female labour force participation rate. Because grandparents take care of their grandchildren. And eventually, the yome (wife in Japanese) will also take care of the grandparents. We need to seriously consider social support for care." (Ms.B)

Additionally, a pervasive patriarchal norm with local communities and disaster management groups often restricts women's engagement. For instance, male-dominated voluntary disaster prevention organizations typically exclude women due to imbalanced gender roles. Ms. B again explained.

"I think it is important to preserve traditional culture in the community, but it is also a problem that the current state of the community makes it difficult for women to be involved in community DM. The fixed gender role divisions should be changed. [...] The uneven burden is particularly problematic. Lack of gender balance in decision-making and burden of care is a problem. In the past, we used to say that men were equal in work and women were equal in soup kitchens and care, but not anymore." (Ms. B)

Practical Issues During Disaster Response

During and after the disaster, generally, community-based evacuation shelters are set up by neighbourhood associations or other community-based organizations in Japan. In the Noto earthquake, an NPO junior staff Ms. C was assigned to the Noto region in January 2024. Ms. C, herself was the only female practitioner (staff) in the activity area, and other members and professional responders were all men. Her story in the Noto amplified 'disaster response is a male domain'. Access to toilets and water was the most crucial issue during disaster response. The Noto earthquake happened in January, and most disaster responders and volunteers suffered from accessing the field due to the cut-off route to the Noto Peninsula with winter snow. She also struggled with the toilet due to menstruation, when staying at the Inn where water was cut off. She emphasized as a female staff that women's difficulty during disaster response and reflected.

"About women's needs and perspective, one time, a male staff brought clothes or items for local women, but when I saw it, I thought it wasn't what they really needed. So, male staff tried to understand women's needs, but they didn't know exactly what it was. I think for women's needs, women have to listen to women's voices. But when I was there, no female staff or female leaders. It was so harsh situation for women. In addition, as an activity of our NPO, we took pictures with local beneficiaries when we donated. But most women didn't want to be taken a picture because they did not take a bath for a week, nor makeup. I understand their feeling because I am also a woman. The men seem to be difficult to understand it, I guess. So, I am trying to raise a voice about what I noticed from a woman's perspective. Otherwise, women's situation will not change. Plus, I suppose women often felt uncomfortable discussing their needs with male staff (or leaders), which led to their needs being overlooked." (Ms. C)

Societal Constraints for women

To participate in DRM activities at the community level, Japanese women face difficulties in the role of mother. Ms. F, who is a freelance mother and a representative of her NPO, highlighted.

“Simply, I think Japanese women and mothers are busy. Mothers often juggle multiple roles, such as motherhood, housework, and sometimes full-time work, so there is little time for active participation in DRM. I see many members who are also mothers from baby to teenager. I am a freelancer and representative of NPO, so I could handle it, but I don't think usual working mothers handle it because there are so many things to do if they are working at a company.” (Ms. F)

Undervalued women's Contributions

In DRM processes, women with a disaster management qualification⁸ are often not recognized and excluded in leadership roles, while men with minimal disaster management training dominate decision-making. Ms. B expressed.

“I think qualified disaster management is an important qualification and knowledge, but it can be looked down upon as foolish. So, even though qualified, women are sometimes not recognized as leaders in disaster management. We hear the word ‘career’ in social welfare and childcare. But it is not easy (for women) to be recognized (in the community). In the case of men, just because they worked for any company, they(men) became neighbourhood association presidents even though they were not trained in the community. So, in that sense, I would say women need to be certified as disaster management specialists when they want to work hard in disaster management fields. [...] Many of the women have experience in care roles and have worked in the corporate world, so potentially they(women) all have power. To be clear, I think female disaster management professionals are more useful than men who just did their regular jobs and got certified as disaster management professionals.” (Ms. B)

Internalized Attitudes

Ms. E, who has worked for women empowerment and disaster management for ages, referred to women's ingrained attitudes also hindering their participation in decision-making in disaster relief and disaster prevention/ preparedness practices. I asked a question to her what factors make it difficult for women to participate in policy decision-making in disaster management.

⁸ ‘Disaster management specialist’ (防災士: Bousaishi) is a non-national certification for disaster management prevention in Japan. Japan Bousaisi organization. Available at <https://bousaisi.jp/license/> (accessed on 1 November 2024)

"I think it's a gender issue. It's not just a problem of men's attitudes, but also women's attitudes. Some women believe that women should not be outspoken. Unfortunately, also, 'women often drag women down.' As for participation in decision-making, there are many women who say that they are second best. I think that's irresponsible in a way. So, both men and women need to change their attitudes a bit. It's not just in the community but in everything, including local government and school education." (Ms. E)

5.1.3 Opportunities for Advancing Female Participation in DRM

Gender-sensitive policies and practices

Since the GEJE and other disaster experiences in Japan, gender-sensitive policies and practices have become more aware among Japan's disaster management. Most participants referred to the increasing presence of gender perspectives in disaster management policies, such as incorporating women into disaster councils and providing training programs. In addition, DRM policies and practice gender-sensitive resulted in more women's participation in DRM sectors and related committees at the national and municipal levels. Ms. A explained.

"As the percentage of women in the Disaster Prevention Council increases, stockpiled items could be selected with consideration for diversity in terms of gender, disabilities, foreign nationals, etc.[...] A manual for shelters will be well prepared, and nursing and changing rooms will be set up. [...] On the other hand, the number of female employees in government crisis management is not increasing local communities are the slowest." (Ms.A)

Community-Based Support Structures

It also identified grassroots organizations by women, such as traditional local women's associations and soup kitchen volunteer group during disaster. Ms. B explained about the traditional women's disaster management group in Japan.

"[...] there have been women's disaster management organizations in cities and rural areas in Japan since 1960s. They began conducting disaster prevention activities under the name of 'fire prevention clubs', which spread nationwide. [...] For example, in a village alongside of coastal area in the Tohoku area, while their fathers were away on a distant sea fishing trip, mothers were engaged in firefighting and first aid activities to protect their children and elderly people. So, there is a history of women providing soup kitchens during disasters and support to the affected areas. At the time of the GEJE, there were still such organizations along the Tohoku coast, so women were working quite hard." (Ms. B)

Networking and Collaboration

The importance of networking opportunities for women in the community was also identified. Attempting to networking with key persons in community DRM. Ms. B explained "Noto Mirai Talk" that demonstrated the potential for collaborative discussions to include

young people and women in the disaster reconstruction plan for the Noto Peninsula earthquake.

"(Regarding the reconstruction initiative after the disaster) I think we need to discuss this with the staff, various experts, and residents. We also need to listen to the residents and think together. Inspired by the Noto Mirai Talk (one of the reconstruction projects by Ishikawa Pref.), I heard that more young people and women get involved in reconstruction projects. In the case of Noto, in the past, the hierarchy was probably clear, and the older, titled people had a strong voice, while the younger generation did not often express their opinions directly in the official." (Ms.B)

Incorporation of Women's Perspectives

Similarly, the inclusion of women in committees like the Reconstruction and Town Planning Committees has allowed them to contribute significantly to decision-making, such as advocating for inclusive recovery plans that address women's needs.

"[...] I was told that these active women also became members of the Reconstruction Committee and became even more active. [...] Afterward, they also joined the Town Planning Committee (machizukuri iinkai). [...] They(women) began to express their willingness to be involved and to think permanently about the state of the town. [...] It was very good. [...] The Reconstruction Measures Committee and Town Planning Committee were also tools that provided an opportunity for women to participate in the decision-making process in self-governance organizations. [...] More importantly, the style of discussing and deciding things together became firmly rooted in that community. This made it easier for women to speak up and be involved in future town planning. [...] The town planning committee is about 30 people in size, one-third are women, and the age range includes both young and senior citizens. I think it was significant that it became pervasive that the opinions of various generations and diverse people were necessary for reconstruction." (Ms. D)

Empowerment through training and leadership roles

Programs aimed at training women as disaster management specialists and leaders have contributed to empowerment. Such training helps women gain confidence and skills to influence their communities and disaster preparedness efforts. Ms. E, who is organizing disaster management training for women, described.

" We provide training for women disaster management leaders, but our emphasis is on practical training. Not only knowledge or technical skills for disaster management, but it is also important to obtain soft aspects such as communication skills, facilitation skills as a leader, and consensus building for community disaster management. [...] In our practical training, trainees will also learn the importance of incorporating a gender perspective into disaster management through evacuation drills that emphasize a gender perspective." (Ms.E)

Ms. F, who has been participating in disaster management training in her city, described 'Certified disaster management specialist.'

"I think this certification contributes to their women's motivation to act and empowerment in DRM.[...] In my case, I had wanted to work in disaster prevention even before I was certified. I found it more persuasive with a certificate, so I obtained one. [...] I think I am qualified and making good use of it. But many people study disaster prevention but end up wondering what to do with them. So, I think the purpose is also important. Moreover, though I am working as a freelance I feel like I must do it myself." (Ms. F)

Cultural Shifts Among Generations

Compared with the senior generation, younger generations have a better understanding of diversity and gender roles, due to partly gender education in schools. This shift can lead to an opportunity for more women's participation in DRM. Ms. F elaborated.

"I wonder if the difference in gender role consciousness among generations is due to school education. I think gender education in schools teaches the importance of accepting diversity. So, I guess young people in their 20s have a better understanding of diversity because of gender education in schools. [...] But at the same time, there is a custom that we do it because our mothers and grandmothers say so. This may be male domination of women, but it is a Japanese custom. These are not things that can be enforced through schooling. Even though they have received gender education in schools, when they enter the office or make a family, their seniors still carry on the old customs. Even if you think it is diversity or gender equality, they may be re-educated on seniority and gender roles, etc., and their good thoughts (understanding of diversity or gender) can be shattered. I feel pity for them." (Ms. F)

5.2 Discussion

5.2.1 Introduction

The study aims to explore women's participation in male-dominated DRM at the regional level in Japan from the perspectives and experiences of female practitioners. Furthermore, the objective of the study is to examine women's motivation, challenges, and opportunities to further advance participation in DRM in Japan. Before diving into the discussion, I review the research questions.

RQ: What are the enablers and barriers to women's participation as practitioners in male-dominated disaster risk management at the regional level in Japan?

SRQ1: What are female practitioners' motivations to be engaged as practitioners in DRM?

SRQ2: What challenges do women face in their role as DRM practitioners?

SRQ3: What opportunities exist to advance meaningful and equal participation for female practitioners in DRM?

The previous section presented findings from semi-structured interviews, which identified themes related to women's motivation, challenges, and opportunities for advancement in DRM. This section aims to synthesize the results of the semi-structured interview (5.1), desk study analysis (4.4.1) and the theorization and construction of women's participation in DRM and gender roles that are presented in Chapters 2 and 3. This section reviews and discusses research questions of what factors are the enablers and barriers from three factors, such as socio-economic, socio-cultural, and legal and institutional factors, to female practitioners' participation in male-dominated DRM at the regional level in Japan.

5.2.2 Socio-economic factors

While gender roles in Japan seem to be evolving, Japanese women continue to face economic dependence and time constraints that hinder their participation in DRM activities. Women's disproportionate responsibility for childcare and domestic labor, compounded by economic constraints, can restrict their ability to actively participate in community-based DRM activities. In statistics of Japan, women spend time on household chore five times more than that of men. (Statistics Bureau of Japan, 2021). Unlike freelance mothers, working mothers often lack time to engage in activities beyond their immediate domestic responsibilities, such as housework and childcare.

During and after the disaster, there is an issue that is limited access to resources. As discussed in the former chapter, gender and disaster research focus on women's vulnerability in a series of disasters. The situation in the Noto earthquake by Ms. C and the report shed light on women's vulnerability again after the GEJE in 2011. In Noto, women including practitioners and victims struggled to address basic needs in the disaster area. Few female staff and leaders during disaster response in the evacuation centers. In the case of the Noto earthquake, geographical and communal features also had a different impact on women in disaster fields. Ms. C noted the difficulty of addressing basic needs such as hygiene products, and clean water in disaster zones, which disproportionately affects women and marginalized people. In times of and immediately after disasters, women's empowerment cannot be seen due to a lack of resources. Moreover, from a broad economic aspect, the reconstruction phase is the key to recovering and rebuilding their life and community. In the process of the recovery process, the participation of women and youth is also crucial. To recover from their economic challenges aftermath the disaster, considering care needs is crucial. For example, in the recovery process, not only reconstructing infrastructure but also care facilities such as nursing homes and childcare is essential for women's economic recovery and prevents a care burden.

Women's participation in the regional Japanese workforce can act as enablers of socio-economic factors that foster their meaning involvement in DRM. For instance, women's experience in care work and professional experiences can leverage their knowledge and skills to contribute to community-based DRM, such as DRM training initiatives targeting women. Moreover, NPOs and community-based groups in rural Japan can also play pivotal roles. Traditional women's associations at the local level and novel women's organizations led by

Ms. E and Ms. F can offer economic and logistical assistance, as well as expertise, to support activities necessary for disaster preparedness.

5.2.3 Socio-cultural factors

Among three factors, socio-cultural factors are strongly deep-rooted in Japanese society and DRM. Particularly, gender norm and patriarchal society show the critical aspects piling up with a manly nature of emergency response and DRM. This norm and nature often confine women to caregiving or assistant roles rather than leadership roles during disasters as seen in the Noto and Nagano. Furthermore, In the hearing survey from the Noto earthquake (GDDR, 2024), it also emphasized imbalance gender roles in the community and women's burden in highly male-dominated community. The report also indicated the uniqueness of Japan's rural community norm that is called 'community wife/mother (*chiiki no yome*)', encapsulating the socio-cultural expectation that women in rural areas serve their families and communities in domestic capacities (ibid). I assume this phenomenon can be similarly seen in case studies on forest fires in Australia and Sweden (Tyler et al. 2013; Danielsson, 2022 et al.). Moreover, male leaders often showed resistance to changing the rule of the committee in DRM, such as incorporating women's participation in the decision-making process because it has a strong hierarchical structure and conservative norm in Japan (Ms. D). This implies that women's voices are often marginalized in rural community settings, as Kitamura (2024) and Matsuoka (2023) described in their field studies in rural areas of the Tohoku region. Furthermore, internalized gender roles were identified as women themselves as secondary to men in the community in decision-making (Ms. E). This mindset of women can lead to a pervasive imbalance of gendered participation. Additionally, I argue that internalized attitudes among women can be explained by further examining gendered consciousness and behavior which is a gendered personal trait in the Japanese context (Sugihara and Katsurada 2000).

However, the younger generation, especially in urban areas, has advocated rejecting traditional gender roles and promoting gender equality in all aspects of life, including during disasters, due to the advancement of gender equality initiatives and increased of women in the workforce (GDRR, 2024). The report by GDRR showed young women from urban areas reject the traditional gender roles such as 'community wife/mother (*chiiki no yome*)' in rural areas and argued the equal participation in DRM processes (GDRR, 2024). Moreover, the accumulation of experiences by women and their stories can inspire broader participation and challenge the barrier to participation in DRM. This was seen in both prior research (Enarson et al., 1998a; Bradshaw, 2001; 2014; Cupples, 2007; Ikeda, 2009 et al.) and qualitative interview data (Ms. B and Ms. D). Such stories of women leading recovery efforts in disasters, such as those who joined Reconstruction Committees, empowered women supported by NPOs, can challenge stereotyped gender roles in DRM processes. It is also noted that existing and emerging community groups were underpinned as enablers for women's meaningful participation in DRM.

5.2.4 Legal and institutional factors

As I stated research problem in this research, a male domain in economics, politics and DRM has a significant impact on the decision-making process. In crisis management and emergency response fields, due to the nature of masculinity and the military, women remain underrepresented in leadership roles. This was not seen merely in Japan but also in Western nations such as the U.S. and Australia (Williams 1999; Provencio 2019; Tyler 2013 et al.). Rural regions can be seen as more male-dominated norms. As in the rural farming area mentioned by Tyler et.al. (2013), hegemonic masculinity is also referred to as pervasive. Moreover, forest fire work is regarded as men's job, women tend to depend on man's judge on evacuation warning and disaster preparedness (Chowdhury et al. ,2022). Japan's case is slightly different. Because even though community DRM organizations and local disaster councils are highly male domain, women's community organizations, such as '*fire prevention club*', working in the communities. Ms. A elaborated in her interview about traditional grassroots women's organizations for disaster drills without men in rural coastal areas in Japan. This can be based on a history of gender roles in Japan. What is different from other Western nations from Japan, I argue, is due to a history of Confucianism and a '*ie system*' as mentioned in Chapter 2. Therefore, Japanese women as a wife and mothers, could understand their roles at home and community. That implies men are leaders in the public, women are men's supporters. However, MS. E disagreed with the idea that women are the second best in the decision-making process. Though the National Disaster Management Basic Plans include gender perspectives, its implementation remains inconsistent across the municipalities in Japan (GEBCO, 2023). Hence, I argue also that women should be more empowered to participate in the community and take a leadership for more transformative approach in DRM.

As the enablers, the inclusion of gender-sensitive approaches in national policies such as the Basic Act for Gender Equal Society⁹(Act No. 78 of June 23, 1999) and Disaster Management Basic Plan¹⁰(Central Disaster Management Council, 2024) have provided a framework for enhancing women's participation. According to Japanese government statistics, there is still lower women's participation in the committee (GEBCO, 2023), but it gradually increases the number of women in the disaster management committee in national and regional level, and it can lead to the improvement of incorporating diverse perspectives in DRM program and practices (Ms. A). Furthermore, certification of DRM also can signify women's participation (Ms. F). This is not only instrumental for women for recognition in the communities, but also it can lead to women's empowerment in DRM. As Provencio (2019) refers to women's career advancement and motivation as a professional responder, there is a similar point. These programs and trainings in Japan and the U.S empower women

⁹ Basic Act for Gender Equal Society(男女共同参画基本法), available at <https://www.japaneselawtranslation.go.jp/ja/laws/view/2526> (accessed on 7 September 2024)

¹⁰ The Basic Disaster Management Plan is the government's basic plan for disaster management, prepared by the Central Disaster Management Council in accordance with Article 34(1) of the Basic Disaster Management Act (Act No. 223 of 1961) available at: https://www.bousai.go.jp/taisaku/keikaku/pdf/kihon_basicplan.pdf(accessed on 7 September 2024)

by providing the credentials to challenge traditional hierarchical structures and assume leadership roles. Furthermore, in the disaster reconstructions, municipalities incorporated diverse people and voices. In Miami's case, a feminist organization 'Women will rebuild Miami' challenged against a male-dominated existing organizations, incorporating diverse women and raising their voices (Enarson et al. 1998b). Similarly, 'Noto Mirai Talk' (Ms. B) and a reconstruction project in Nagano (Ms. D) embodied the importance of collaborative approach within the stakeholders. For example, Noto Mirai talk (reconstruction project in Noto region) foster inclusive discussion, creating opportunities for women and youth to participate in shaping local disaster recovery strategies (Ms. B).

5.2.5 Summarizing discussion

The discussion aimed to synthesize the existing theory and findings from the qualitative data, considering the enablers and barriers of women's meaningful participation in DRM, focusing on socio-economic, socio-cultural, and legal and institutional factors. Women's responsibility in domestic work combined with economic constraints restrict their engagement in DRM activities. Rural areas' issues such as traditional family structure and limited resources for women explicit women's barriers in DRM. Reconstruction projects should be considered more care facilities for women's economic recovery as well as active involvement by women's grassroots organizations. As patriarchal norms and fixed gender roles remain deeply embedded in Japanese society, the possibility of women's meaningful participation in DRM was largely hindered. Although promoting gender education among young people fosters diversity, longstanding traditional gender norms persist across the generations. The advancement of DRM policies and practices for incorporating gender perspective is effective but still inconsistent due to the lack of female representatives and leaders in DRM. While DRM training for women and their certification of DRM enable female practitioners' empowerment, the recognition of female leaders in DRM and representatives remains low. Furthermore, I argue that the intersection of socioeconomic constraints, cultural norms, and institutional gaps results in significant barriers to women's participation in DRM. While enablers including supportive policies, grassroots networks, and societal attitudes towards gender and disaster will offer possible pathways for addressing these challenges, multidimensional approaches including systematic change and gender equality education are required.

The study examined the perspectives and experiences of women practitioners involved in DM in Japan, thereby collating and analyzing their lived experiences and voices of women in DRM and disaster response settings. The study also examined the connection between gender and women's involvement in local disaster response and recovery in Japan to understand the unique Japanese context. This study explored the nexus between gender and women's engagement in local disaster response and recovery processes within the unique Japanese context. While many barriers were identified, factors promoting women's participation were also found. I also emphasized the significance of qualitative data research informed by a feminist perspective. However, I believe that the analysis based in interviews with six female practitioners from different regions of Japan is inadequate as an empirical study. I also note that Japan's distinct geographical, historical, cultural and traditional attributes set it apart from other nations.

Chapter 6 Conclusion

This study aimed to investigate the enablers and barriers to women's participation as a practitioner in a male-dominated DRM at the regional level in Japan, exploring their motivation, challenges and opportunities to advance meaningful participation in DRM. This study applied the feminist theory approach, qualitative research method utilizing thematic analysis, and analytical framework of Hemachandra's DRG capturing socio-economic, socio-cultural, and legal and institutional framework. To better understand and interpret the qualitative data, this study reviewed gender relations in Japan's context, explored theoretical and conceptual frameworks relation to gender and disaster, social vulnerability approach, male domain and emergency response, practical and strategic gender needs, and women's role in disaster risk governance approach. Throughout this research process, the results indicated that socio-cultural norms and institutional factors remain significant barriers in male-dominated society, while women's grassroots organizations, strategic DRM training for women, inclusive DRM policies and practice are facilitating women's participation and empowerment in DRM in regional Japan.

Moreover, the answers to three sub research questions that involve women's motivation (SQ1), challenges (SQ2), opportunities (SQ3) have shown by thematic analysis. Motivations by female practitioners in DRM were identified by thematic analysis, that are 'Personal and historical experiences', 'Sense of Contribution to Society' and 'Focusing on the marginalized community'. Challenges Faced by Women in DRM were identified: 'Cultural barriers and gender norms', 'Practical Issues During Disaster Response', 'Societal Constraints for women', 'Undervalued women's Contributions', 'Internalized Attitudes'. Opportunities for Advancing Female Participation in DRM were identified: 'Gender-sensitive policies and practices', 'Community-Based Support Structures', 'Networking and Collaboration', 'Incorporation of Women's Perspectives', 'Empowerment through training and leadership roles', 'Cultural Shifts Among Generations'. The identification and categorization these themes were instrumental to looking at the enablers and barriers to women's participation as practitioners.

Major enablers to women's participation in DRM include women's resilience, strong community networks, and strategic DRM training incorporating gender perspectives in community level. However, pervasive socio-economic constraints and patriarchal norms lies on preventing women's active participation. This also limits women's empowerment and leadership roles in DRM due to the embedded gendered personal traits in Japan. Moreover, gender-sensitive policies were introduced and more women have participated and been involved in DRM, their implementation was not consistent in a regional context. However, due to gender education and an increase in the female workforce in Japanese society, the perspectives of the young generation have been changing, advocating gender equality and diversity among the young generation and rejecting traditional gender roles. This may lead to more equal and meaningful participation in regional DRM.

This research contributes to the fields of disaster risk management (DRM) and gender and disaster, offering the women's unique motivation, experiences, challenges and opportunities as a practitioner in androcentric DRM fields in regional Japan, which has in-depth and unique context. Focusing on women's voices and experiences as a practitioner through a qualitative interview, this research also contributes to bridging a gap that existing literature focused more on women's vulnerabilities, rather shedding a light women's active roles and leadership in DRM in Japan.

However, this study had several limitations. The scope of this research was constrained by the size and diversity of the sample, because focusing on six female practitioners in regional Japan, predominately, drawn from the author's network. This provided in-depth insights, while it prevented generalizing the findings in other regions and organizational contexts in Japan. This study focused on merely women's experiences in regional DRM, and it did not incorporate other stakeholders such as male practitioners. This can limit to fully understand the dynamic of gender and their influence in DRM. Additionally, this study depended on only qualitative data through online semi-structured interviews. As feminist research, the method was effective in capturing more-nuanced women's experiences, but it had difficulty in observing non-verbal cues in a virtual format, which could have enriched the analysis. Additionally, due to the Japanese context, interviews and materials were prepared and conducted in Japanese, and then the author translated into English. Therefore, subtle nuance may have missed during the research process. Thus, I suggest further research could address these limitations by employing wider sampling from DRM stakeholders and possibly mixed method approach, aiming to conduct a more robust and applicable data research.

To conclude, more integration of gender perspectives in DRM policies and practices at regional level is crucial to challenge inequitable participation in DRM in Japan. Moreover, coming from a disaster-prone country, not only promoting gender-sensitive policies and practices for systematic inequalities, but it is also necessary to recognize the existing gender inequalities and deep-rooted patriarchy norms that hinders women's equal and meaningful participation in the decision-making process. As more women participate in DRM-related fields such as female practitioners whom I interviewed, the nature of Japanese DRM will lead to transformative change for both men and women in times of disaster as well as everyday life.

Appendices

Appendix 1: Interview guide

Note: The interview guide was originally written in Japanese and distributed to the interviewees. The author has since translated the guide in English and included it in the present work.

Experience in the disaster relief experience

1. Please introduce yourself. (including background, origination, position, special fields etc.)
2. Please briefly describe your activities and involvement in (ex. the Noto Peninsula Earthquake or disaster relief experience).
3. What disaster relief experience do you have other than the Noto Peninsula Earthquake?
4. What is your impression of the area you worked or supported?
5. Were there any difficulties you faced in providing disaster relief and what were they?
6. Please elaborate on the report “The Difficulty of Women's Participation in Decision-making Emerging Issues in the Hearing Survey on Women's Experiences and Thoughts about the 2024 Noto Peninsula Earthquake.”

Motivation and Motto as a female DRM practitioner

7. Are you aware of gender issues in your or your organization's activities? Or have gender issues been discussed in your activities?
8. What is your motto or what do you always keep in mind in your support activities?
9. Please tell us about your motivation for establishing the NPO/your organization.
10. What are the prospects for you or your organization's activities?

Women's participation in DRM

11. Please tell us specifically about the activities of local and outside women's groups after the Noto Peninsula earthquake (or your experience in other areas).
12. In your disaster experience, have you seen women playing an active role in disaster relief situations? Or, conversely, have you seen women's activities being interrupted?
13. Do you think that a meaningful participation approach by women during the disaster and recovery phases will lead to a change in gender attitudes in Japan? Or conversely, do you think that changing gender norms will lead to support and response that incorporates a gender perspective during the disaster and recovery phases?
14. What is your opinion on the importance of incorporating women's and gender perspectives into disaster relief and disaster management?
15. Do you think that the training of female disaster prevention specialists and leaders contributes to the empowerment of women?

16. What do you think are the factors that make it difficult for women to participate in policy decision-making, disaster relief and disaster prevention?
17. What is your thought on “DRM Training for Women” and “Certificate of Disaster Prevention Specialist”?

Gender issues

18. Regardless of the disaster, do you think attitudes toward gender differ by generation? (e.g. younger generation vs. senior generation, etc.)
19. Do you think that policies and laws on “disaster reduction” and “gender” in Japan effectively promote women's participation and women's empowerment in disaster reduction?

Building the women’s organization

20. Please tell us about the motivation for setting up your organization. And how are the size and members.
21. Please tell us your (group) activities in terms of civic and community disaster management activities.

Appendix 2: Informed consent form

Information Letter

Title: Requesting Interview for Research Paper

I am Junko Aoki, and I do research for International Institute of Social Studies of Erasmus University Rotterdam. I am conducting research on “Gender and Disaster”. The research is for Master’s degree’s Research Paper (Thesis). I am conducting this research independently: the financial contribution has no influence on the outcomes of this study.

- About Research: Gender and Disaster: Women’s participation in disaster risk management in Japan.
- I investigate women's participation in disaster risk management at the regional level in Japan. I ask you to participate because of your opinion and experience as female practitioners in disaster-related situations, and that helps us learn about them.
- If you participate in this study, you will take part in:
Semi structured Interview (duration: 30 min to 1 hour, format: online (ZOOM, Teams))
- Once scheduled time and format, I will conduct an interview with you online Each interview will last 1 hour. If you do not want to answer a question during the interview, you are not required to do so. I will make an audio recording of the conversation.
- At the end of the interview/discussion, you will have the opportunity to comment on your answers. If you disagree with my notes or if I misunderstood you, you can ask to have parts of them amended or deleted.
- Participation in this study is completely voluntary. You can stop at any time and would not need to provide any explanation.
- We do not anticipate any risks or discomforts while participating in this study.
- There are no immediate, or financial benefits for participating in the study, however sharing your experiences will shed more light on the situation concerning “Gender and Disaster” and Gender Equality in Disaster related situation.
- I will store your data so that I can be in contact with you. For the study, I will also need other data from you.

- During the interview, I will ask you about the following personal data: Name, age, gender, occupation, cultural background, ethnic background, sentiments about / feelings about / opinions about, IP address, information about physical or mental health.
 - In addition, it is also possible that you will talk about your political affiliation and religious or philosophical beliefs and those of others, as these may also relate to your opinion about your answer.
 - I also need your email address, to contact by email.
 - I store all your data securely.
 - Only persons involved in the research can see (some of) the data.
 - Recordings are transcribed. Your name is replaced with a number/made-up name.
 - Data such as your name and recordings (direct personal data) will be deleted separately from yours in the transcription.
 - I will write a research paper (Thesis) about the results of the study which will be published online in Erasmus University Rotterdam page. The results will be accessible by anyone.
 - I may use your specific answers in the article. In that case, after you have given your permission in this consent form, I will replace your name with a number or pseudonym so that you cannot be identified.
-
- Although I do not include your name in publications or communicate it to other participants or third parties, there is a risk that you could still be indirectly identified. This for example because they are familiar with the organisation you work for.
 - **How long will your personal data be stored?**
 - Your data will be retained for 10 years after completion of the research. We retain the data so that other researchers have the opportunity to verify that the research was conducted correctly. Your name and contact details will be deleted within 6 months.
 - **Using your data for new research**
 - We will make anonymised data publicly available so that any interested person can use it. We ensure that the data cannot be traced back to you/we do not disclose anything that identifies you.
 - (Part of) the data we collect may be useful in anonymized form, for example for educational purposes and future research, including in very different research areas. We ensure that the data cannot be traced back to you/we do not disclose anything that identifies you.
 - In addition, in the consent form we ask you to give us permission to use your personal data excluding name, mail address, and recordings for follow-up or another scientific research. The data shared are (potentially) traceable to you/ pseudonymized.
 - **What happens with the results of the study?**

We publish the results on a website <https://www.iss.nl/en/research-0/iss-publications> so that interested parties can learn about the study.
 - **Do you have questions about the study?**

If you have any questions about the study or your privacy rights, such as accessing, changing, deleting, or updating your data, please contact me: Junko Aoki.
 - Do you have a complaint or concerns about your privacy? Please email the Data Protection Officer (fg@eur.nl) or visit www.autoriteitpersoonsgegevens.nl.
 - **Do you regret your participation?**

During or after the study, you may regret your participation. Please indicate this by contacting me. I will then delete your data. Sometimes we need to keep some of your data so that, for example, the integrity of the study can be checked.
 - This research has been reviewed and approved by an internal review committee of Erasmus University.

- This committee ensures that research participants are protected. If you would like to know more about this RERC/IRB, please contact ethics@eur.nl.

Declaration of Consent

I have read the information letter. I understand what the study is about and what data will be collected from me. I was able to ask questions as well. My questions were adequately answered.

<p>By signing this form, I:</p> <ol style="list-style-type: none"> 1. consent to participate in this research. 2. consent to the use of my personal data 3. confirm that I am at least 18 years old; 4. confirm that I understand that participating in this research is completely voluntary and that I can stop at any time; 5. confirm that I understand that my data will be anonymised for publication, educational purposes and further research.
--

Check the boxes below if you consent to this.

	Yes	No
Data : I consent to the collection, use and retention of data by the researcher (interviewer) in relation to the information disclosed in the interview.	<input type="checkbox"/>	<input type="checkbox"/>
Audio recording I consent to the interview being audio recorded.	<input type="checkbox"/>	<input type="checkbox"/>
Visual recording I consent to the interview being filmed.	<input type="checkbox"/>	<input type="checkbox"/>
Sharing of data I consent to the sharing of my data with International Institute of Social Studies of Erasmus University Rotterdam in the Netherlands.	<input type="checkbox"/>	<input type="checkbox"/>
My answers in the article I give permission for my answers to be used in papers, such as an article in a journal or book. My name will not be included.	<input type="checkbox"/>	<input type="checkbox"/>
Use for educational purposes and further research I hereby consent to having my personal data, namely sex, <i>occupation</i> , <i>age</i> stored and used for educational purposes and for future research, also in other areas of research than this research.	<input type="checkbox"/>	<input type="checkbox"/>
New research I give permission to be contacted again for new research.	<input type="checkbox"/>	<input type="checkbox"/>

Name of participant :

Participant's signature:

Date :

You will receive a copy of the complete information and consent form.

Appendix 3: Table 2: Identified by thematic analysis

Identified themes		Dimentions/ factors		
		Socio-cultural	Socio-economic	Legal and instittuonal
Motivation	Personal and Historical Experiences	✓	✓	
	Sense of Contribution to Society	✓		
	Focusing on the marginalized community	✓		✓
challenges	Cultural Barriers and Gender Norms	✓		
	Practical Issues During Disaster Response	✓	✓	
	Societal Constraints	✓	✓	✓
	Undervalued Contributions	✓		✓
	Internalized Attitudes	✓		
opptunities	Gender-Inclusive Policies and training	✓		✓
	Community-Based Support Structures	✓	✓	✓
	Networking and Collaboration		✓	
	Incorporation of Women's Perspectives	✓	✓	✓
	Empowerment Through Training and Leadership Roles	✓		✓
	Cultural Shifts Among Generations	✓		✓

(created by author)

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Declaration of AI-assisted technologies in the writing process

During the preparation of this work the author used Grammarly in order to improve English language and detect the grammatical error. After using this tool/service, the author reviewed and edited the content as needed and takes full responsibility for the content of the publication.