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A FRAMEWORK FOR EMPOWERING WOMEN IN DISASTER RISK GOVERNANCE IN SRI LANKA

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A thesis submitted to the University of Huddersfield in partial fulfilment of
the requirements for the degree of Doctor of Philosophy

School of Applied Sciences
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DEDICATION

I dedicate this research to people who have been victimised due to disasters.

DECLARATION

This thesis is submitted under the University of Huddersfield rules and regulations for the award of a PhD degree by research. Some findings were published in refereed journals and conference papers prior to this submission, as presented in Appendix 1.

The researcher declares that no portion of the work referred to in this thesis has been submitted in support of an application for another degree of qualification of this, or any other university or institution of learning.



.....
Dias Weligamage Kinkini Hemachandra
February 2022

ABBREVIATIONS

Conceptual Framework (CF)
Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)
Corona Virus Disease 2019 (COVID-19)
Disaster Risk Management Framework (DRMF)
Disaster Management Centre (DMC)
Disaster Risk Governance (DRG)
Disaster Risk Reduction (DRR)
District Disaster Management Coordination Unit (DDMCU)
District Secretariat Office (DS)
Divisional Disaster Management Committees (DivDMC)
Divisional Secretariat Office (DivS)
Focus Group Discussion (FGD)
Gender Inequality Indicator (GII)
GN Disaster Management Committees (GNDMC)
Grama Niladhari (GN)
Gross National Income (GNI)
Human Development Index (HDI)
Human Development Report (HDR)
Hyogo Framework for Action (HFA)
Indian Ocean Tsunami (IOT)
International Decade for Natural Disaster Reduction (IDNDR)
International Federation of Red Cross (IFRC)
International Risk Governance Council (IRGC)
Key Performance Indicators (KPIs)
Local Government (LG)
Meteorological Department (MET)
National Building Research Organisation (NBRO)
National Council for Disaster Management (NCDM),
National Development Programme (NDP)
National Disaster Management Centre (NDMC)
National Disaster Management Plan (NDMP)
National Disaster Relief Services Centre (NDRSC)
National Emergency Operational Plan (NEOP)
Sendai Framework for Disaster Risk Reduction (SFDRR)
Sri Lanka Comprehensive Disaster Management Programmes (SLCDMP)
Sri Lankan Administrative Service (SLAS)
Sustainable Development Goals (SDGs)

Theoretical Framework (TF)

United Nations International Strategy for Disaster Reduction (UNISDR)

Village Disaster Management Committees (VDMCs)

Women's Empowerment (WE)

World Meteorological Organization (WMO)

ABSTRACT

Disasters have disproportionately affected women and girls globally. Limited representation of women in disaster risk reduction related decision-making is one of the main reasons for their high vulnerability. In this background, women's empowerment could create opportunities to represent in decision-making. Especially through empowering women in disaster risk governance could provide opportunities to represent women in disaster risk reduction related decision-making. Nevertheless, no systematic studies are available explaining how to empower women in disaster risk governance. Hence, this study was conducted to propose a framework for empowering women in disaster risk governance. The study was carried out in Sri Lanka within the disaster preparedness system. The high disaster profile and the lower level of women's empowerment were the reasons for conducting the study in Sri Lanka. Sri Lanka has been faced multiple hazards over the period and predicted an increasing trend of future hazards. Furthermore, the present women's representation in decision-making positions, including the parliament, judicial institutions, public and private sector organisations, is significantly low compared to the regional and global level. A detailed literature review was conducted around the main concepts and/or theories related to hazards, disasters, women's empowerment, disaster risk governance, and disaster preparedness. After following a systematic and methodological selection process, the study was conducted within the Sri Lankan disaster preparedness system. Accordingly, the study conducted three case studies in selected districts representing their disaster preparedness systems. The research conducted case study interviews using a semi-structured interview guideline. In addition, several expert interviews were conducted for better triangulation of results. The study collected its data at the cross-sectional level and carried out a qualitative analysis in delivering study objectives.

Accordingly, the study reveals the importance of women's empowerment in disaster risk governance within the disaster preparedness system in Sri Lanka across case studies and expert opinions. The study also revealed the minimum level of women's empowerment in disaster risk governance within the Sri Lankan disaster preparedness system. Accordingly, the research identified six categories of challenges affecting women's empowerment in disaster risk governance: individual, organisational, socio-cultural, legal and policy, political and job-specific thematic areas. After matching the challenges with the suggestions made by the interviewees, the study proposed four types of interventions to achieve women's empowerment in disaster risk governance. The four interventions are: individual, community, institutional and legislative interventions. The framework was further improved and validated by conducting a focus group discussion. Accordingly, the interventions were further identified as primary and secondary interventions under each category for effective implementations. Accordingly, the study findings contribute to the

theory, practice and policy through this validated framework. Finally, the study contributes broadly in delivering the fifth goal of the Sustainable Development Goals and the second and fourth priorities of the Sendai Framework for Disaster Risk Reduction.

Chapter 1 Introduction

1.1 Introduction

This chapter provides a summarised overview of the study conducted. It begins with a background to the study, followed by the research problem. Next, the study's scope is presented and followed by the aim and objectives of the study. A brief research methodology and the contribution of the study is explained consecutively. Finally, the chapter distribution and the summary and the link is presented.

1.2 Background

Natural hazards cause a significant level of impact on individuals, societies, economies and social structures, livelihoods, and the environment (CRED-UNISDR, 2020; R. Haigh & D. Amaratunga, 2010). From 2000 to 2020, more than 7,300 natural hazards were recorded worldwide, including some mega-disasters that killed more than 100,000 people. For example, Indian Ocean Tsunami in 2004, Cyclone Nargis in Myanmar in 2008 and Haiti earthquake in 2010, earthquake and tsunami in Japan in 2011, Earthquake in Nepal in 2015, Palu and Sulawesi in Indonesia in 2018, bushfire in Australia in 2019 are some of the disasters reported during the last three decades (EMDAT, 2020).

These natural hazards become deadlier disasters when it significantly affects human lives and livelihoods (Alam & Rahman, 2014; CRED-UNISDR, 2020; R. Haigh & D. Amaratunga, 2010). Disasters' impacts are diverse. For example, the highest numbers of deaths were reported from developing countries, while the highest economic losses were reported from developed countries (CRED-UNISDR, 2018).

Disasters have also disproportionately affected more women than men across the world (Enarson & Chakrabarti, 2009; Enarson & Morrow, 1998a; Ginige et al., 2014b; Islam, 2010; Islam et al., 2017; Reyes & Lu, 2016; F. Ross-Sheriff, 2007; Saito, 2012). Increasing disasters and their impacts urged policy-makers and practitioners to identify ways to reduce disasters' disproportionate impact on women, considering women as one of the most vulnerable groups to natural disasters.

While several researchers highlighted women's vulnerabilities in disasters and the necessity of gender-specific disaster risk reduction (DRR) measures, others have recognised women's role in DRR efforts (Alam & Rahman, 2017; Bradshaw, 2013; Drolet et al., 2015; E. P. Enarson, 2012; Islam et al., 2017; Khan & Ara, 2006; S. Kottegoda, 2011; Ruszczuk et al., 2020; UNISDR, 2015a). Women play a significant role in DRR,

contributing as caretakers, social networkers, and managers in rebuilding societies severely affected by disasters (Bradshaw, 2013; E. P. Enarson, 2012; Ginige et al., 2015).

Women have become vulnerable to disasters due to socio-economic, socio-cultural and political context within societies (Enarson & Morrow, 1998a; Islam, 2010; Reyes & Lu, 2016). Besides, their vulnerabilities to disasters are affected by their minimum representation or participation in DRR related decision-making (Alam & Rahman, 2017; Ariyabandu, 2005; Asaju & Adagba, 2013; De Silva & Jayathilaka, 2014; Dhungel & Ojha, 2012; Saito, 2012; Thurairajah & Amaratunga, 2009). Their minimum representation has led to designing DRR strategies, leaving behind one of the most affected stakeholders in building disaster resilience in society.

This unequal representation of stakeholders in DRR related decision-making challenges disaster risk governance (DRG) (Aven & Renn, 2018; Ikeda & Nagasaka, 2011; Renn et al., 2011; Van Asselt & Renn, 2011). Disaster risk governance helps implement public policies suitable for the country in achieving development objectives while reducing disaster risks (Ahrens & Rudolph, 2006). Disaster risk governance provides opportunities for making decisions through the participation of all relevant stakeholders to avoid any possible trade-offs through decision-making (Renn, 2015). However, many instances have shown that the level of impact of weak governance structures contributed to increasing complexities in DRR efforts (Ahmad, 2020; Ahrens & Rudolph, 2006; Ansell et al., 2020; Collins et al., 2020; Renn et al., 2011; Tierney, 2012). Thus, ensuring DRG has been identified as essential for effective and efficient DRR and a resilient system (Ikeda & Nagasaka, 2011; Renn, 2015; Renn et al., 2011; UNISDR, 2015a). A key element of DRG is the equal participation of relevant stakeholders in decision-making (Ikeda & Nagasaka, 2011; IRGC, 2019; Meerpoël, 2015; Renn, 2015). As stated above, women's representation/participation in DRR decision-making is significantly low, increasing their vulnerabilities.

Hence, several researchers argue to empower women in DRR decision-making as a solution to reduce their vulnerabilities (Ariyabandu., 2006; Dhungel & Ojha, 2012; Ginige et al., 2015; S. Kottegoda, 2011; Moreno & Shaw, 2018; Rusczyk et al., 2020; Thurairajah et al., 2010). Furthermore, several others argue to empower women as a mechanism to strengthen disaster risk governance (Dhungel & Ojha, 2012; Khan & Ara, 2006; Thapa & Pathranarakul, 2019). Thus, women's empowerment in DRR related decision-making would deliver win-win situations for one of the minor representative groups in the community and strengthen the DRG.

1.3 Research Gap

According to World Meteorological Organization (WMO), the current threat of natural hazards is five times higher than in the 1970s (WMO, 2018). Increasing the magnitude of hazards has made many people live in disaster-prone areas across the world. Furthermore, with the rising global temperature and the rising sea level within the next century, it has been predicted to result in additional risk of droughts, storms, floods in the future (IPCC, 2019).

Natural hazards are developed into natural hazards when it affects vulnerable communities with less coping capacities (UNISDR, 2017). These natural hazards have caused a significant level of disruptions to daily lives, economies and social structures, and the environment (Botzen et al., 2019; CRED-UNISDR, 2018; R. Haigh & D. Amaratunga, 2010). These disasters killed more than 1.23 million people, affected more than 4 billion people and destroyed the global economy with a US\$ 2.97 trillion economic loss during 2000-2019 across the world (CRED-UNISDR, 2020).

Most reported disasters have shown the gendered nature of disasters (Alam & Rahman, 2014; Bradshaw & Fordham, 2015; Enarson & Chakrabarti, 2009; Enarson & Morrow, 1998a; S. Kottegoda, 2011; Reyes & Lu, 2016). Due to disasters, high mortality rates, morbidity rates, and harassment/violence have been reported from women compared to men. For example, the reported number of women's deaths was four times higher than that was for men during the Indian Ocean Tsunami in 2004 (Kottegoda, 2007; MacDonald, 2005). In another example, flood and cyclone in Gorky in 1991 in Bangladesh, reported a death ratio among women and men as 14:1 (UNISDR, 2015b); 2015 Nepal earthquake similarly reported 55% of women and girls deaths when compared to men and boys (Thapa & Pathranarakul, 2019). Cyclone Nargis in 2008, the death rate among women was 61% in Myanmar (Fritz et al., 2008; UNISDR, 2015b; WCDRR-UN., 2015); from Ebola pandemic, the number of women who died was higher than men in 2014 in Africa (Hanson et al., 2016).

Besides, women and girls have been disproportionately affected during all stages of the disaster cycle, including pre, during and post-disaster stages (Alam & Rahman, 2014; Arora-Jonsson, 2011; Cutter, 2017; Enarson & Chakrabarti, 2009; Neumayer & Plümper, 2007). Most women and girls face higher risks in the post-disaster stage due to their gender-specific roles performed in households. For example, many women and girls died in the Ebola outbreak because they had to look after the diseased people at home and wash the dead bodies (Nkangu et al., 2017). Similar findings were reported from the latest tsunami incident in the Sulawesi earthquakes in 2018 in Indonesia. Women and girls face

secondary risks from domestic violence, abuse and exploitation, and sexual harassment caused during the post-disaster stage (Kumala Dewi & Dartanto, 2019).

Many researchers have identified the reasons for their high vulnerabilities. Women and girls have become vulnerable to disasters due to socio-economic background, cultural limitations and physical qualities (Alam & Rahman, 2014; Enarson & Chakrabarti, 2009). Women face many restrictions accessing resources, information and lower decision-making powers in households (Azad et al., 2013; Islam, 2010). Furthermore, their minimum representation in many DRR strategies made them vulnerable during and after disasters (Ariyabandu., 2006; Bradshaw, 2013; Ginige et al., 2014b; Neumayer & Plümper, 2007; Reyes & Lu, 2016; Saito, 2012; WCDRR-UN., 2015).

Most disaster management agencies represent a higher proportion of male officers, specifically at the decision-making level. Hence, most of their decisions does not represent women's concerns, needs, requirements, vulnerabilities, and thoughts (Dhungel & Ojha, 2012; Ginige et al., 2014b; S. Kottegoda, 2011; Saito, 2012). Hence, many researchers have emphasised the necessity to empower women in society while performing their gender-specific roles as well as other societal roles (Bari, 1998; Dhungel & Ojha, 2012; Khan & Ara, 2006; Moreno & Shaw, 2018; Rezazadeh, 2011; Thurairajah et al., 2010).

Despite their vulnerabilities, women contribute to decision-making in many ways (Dhungel & Ojha, 2012; S. Kottegoda, 2011). Their participation has been identified as essential in all decision-making levels for socio-economic development (Khan & Ara, 2006). The General Assembly of Beijing Platform for Action in 2005 also highlighted women's role at all levels of decision-making (Baten & Khan, 2010). It was evidenced that without women's participation in decision-making at all government levels, the status of equality, development and peace cannot be achieved (Dhungel & Ojha, 2012; Khan & Ara, 2006). Hence, women's empowerment has been considered as an effective way to address many issues among women themselves as well as to the overall society (Ariyabandu., 2006; Dhungel & Ojha, 2012; Ginige et al., 2015; Kimber & Steele, 2017; S. Kottegoda, 2011; Moreno & Shaw, 2018; Ruszczyk et al., 2020; Yogendrarajah, 2013) and as a mechanism to strengthen disaster risk governance (Dhungel & Ojha, 2012; Thapa & Pathranarakul, 2019). Their empowerment in disaster risk governance, concerns, requirements and vulnerable conditions could be incorporated into a better, effective and accountable decision-making process (Kabir et al., 2018; Kimber & Steele, 2017; Thurairajah & Amaratunga, 2009).

Women officers' engagement in disaster management agencies can be identified at top-level, middle-level, and lower-level. Top-level officers represent the national level

agencies, for example, the Disaster Management Centre in Sri Lanka and its related technical agencies. The middle-level officers represent the district level officers who engage in disaster management related decision-making. Finally, lower-level officers represent the Grama Niladharis and village level officers within the Sri Lankan disaster management structure (Ministry of Disaster Management, 2014).

Specifically, their empowerment at the preparedness stage would be important. Studies have demonstrated that a minimum number of women's participation in disaster preparedness decision making has resulted in adverse effects (Reyes & Lu, 2016; Saito, 2012). Disaster preparedness has received unprecedented recognition due to its ability to reduce the significant response and recovery measures and its ability to secure lives and resources (Thomalla & Larsen, 2010; UNISDR, 2015a; Welby-Everard et al., 2020).

Through women's empowerment in DRG within disaster preparedness would deliver win-win situations for one of the minor representative groups in the community, while strengthening the DRG and reducing disasters' disproportionate impact on women (Asaju & Adagba, 2013; Kabir et al., 2018; Renn & Schweizer, 2009; UNISDR, 2015a). However, evidence demonstrates the minimum level of women's empowerment in disaster preparedness decision-making processes (Alam & Rahman, 2017; Ariyabandu, 2005; Bradshaw, 2013; Dhungel & Ojha, 2012; Saito, 2012; Thurairajah & Amaratunga, 2009). Therefore the study has identified this as the research gap for the study.

1.4 Research Problem

In order to solve the above-stated research gap, a dearth of studies is available. Moreover, the available literature is limited to empowering women at the household level decision-making rather than national/ sub-national or local decision-making/policy-making levels. This unavailability of any studies providing solutions to empower women in DRG has been identified in this study. Hence this study aims to propose a framework to achieve women's empowerment in DRG. Thus, this novel study identified the need to undertake empirical research to emphasise why women's empowerment in DRG is essential and how to achieve women's empowerment in DRG within the disaster preparedness system to reduce their vulnerabilities and build societal resilience. Accordingly, the study's problem statement was written as, "How to empower women in disaster risk governance within the disaster preparedness system?".

1.5 Aim and objectives

1.5.1 Aim of the study

The study aims to “**Develop a framework for empowering women in disaster risk governance within the disaster preparedness system in Sri Lanka**”. Accordingly, the study set the following objectives.

1.5.2 Research objectives

1. To explore the impact and the role of women in the context of disasters
2. To explore the importance of women’s empowerment in disaster risk governance in the context of disaster preparedness system to reduce women’s vulnerabilities
3. To examine and analyse the current contribution of women in disaster risk governance within the disaster preparedness system in Sri Lanka
4. To investigate the factors affecting women’s empowerment in disaster risk governance within the disaster preparedness system in Sri Lanka
5. To propose strategies for empowering women in disaster risk governance within the disaster preparedness system in Sri Lanka

1.6 Scope of the study

The study set its scope in the following ways to develop a framework for achieving women’s empowerment in disaster risk governance.

First, the study limit empowering women who engage in disaster management agencies. Because empowering women at the decision-making will be more powerful and meaningful than empowering women at the community level (Burnet, 2008; Khan & Ara, 2006; Rezazadeh, 2011). Empowering women in decision-making could deliver multiple benefits to establish governance in DRR strategies and provide role models to women in the community (Burnet, 2008; DiRienzo & Das, 2019; UN, 2015; UNDP, 2013). Therefore, the study’s scope is limited to women’s empowerment representing women officers working in authorities and agencies related to disaster management in Sri Lanka.

Secondly, natural hazards were chosen over man-made hazards. Natural and man-made phenomena generate disasters (Malalgoda et al., 2014). The study focused on vulnerabilities and risks caused by natural disasters. The reason is that disasters caused by natural events have been doubled compared to man-made hazards from 1900 to 2019.

Besides, natural hazards' impact (in terms of death) is 85 times higher than that of disasters caused by man-made hazards during this period (EMDAT, 2020). Therefore, this study considers disasters caused by natural hazards when providing solutions to reduce risk and enhance resilience among women and society.

The study's scope was further defined by selecting a particular stage in the disaster management cycle. Disaster management comprises mitigation, preparedness, response and recovery stages (S. L. Cutter, 2003; Sadiq et al., 2016). Disaster recovery and reconstructions take months and years (Collins & Kapucu, 2008; Kapucu, 2008; McLean & Whang, 2019; Myers, 1994; Story et al., 2018). Therefore, it is worthwhile to reduce economic costs and human losses of disasters through effective disaster preparedness strategies (Col, 2007a; Fariyal Ross-Sheriff, 2007b; UNISDR, 2015a, 2015b). However, disaster preparedness measures have not been utilised and strengthened compared to response and recovery measures (Hallegatte et al., 2016; Quarantelli, 1994; UNISDR, 2015a). Thus, the importance of strengthening disaster preparedness systems at any level has been recognised. Available literature highlights several issues within present disaster preparedness systems. Most of such problems are related to DRG (Pal & Shaw, 2018; Seng, 2013). For example, lack of equal representation of both men and women in disaster preparedness decision-making (Myers, 1994; Reyes & Lu, 2016; Saito, 2012). Many researchers suggested introducing women's participation in decision-making, especially at the planning level, to incorporate their issues, their experience, their particular requirements, their concerns into preparedness measures that can reduce future disaster risk and their vulnerabilities (Bradshaw, 2013; Ginige et al., 2015; Myers, 1994). Most disaster preparedness systems have been designed by male-dominant culture (Sarah Bradshaw & Maureen Fordham, 2013; Reyes & Lu, 2016; Saito, 2012). Hence, women's needs and their requirements have been overlooked within disaster preparedness systems. Hence, the necessity of women's contribution in disaster preparedness decision-making was identified as essential (E. P. Enarson, 2012; S. Kottegoda, 2011; Parkinson & Zara, 2013). Saito (2012) highlighted the issues raised within Japan's disaster management system in which women's empowerment in decision-making was not assured. As a result, the disaster management system could not reduce vulnerabilities and issues faced by women and other vulnerable groups during the disaster. Her study emphasised how disaster preparedness measures were designed with a limited number of stakeholders in Japan. For example, during the 2011 tsunami incident, women suffered disproportionately high at the emergency centres in Japan. According to Saito, a significant reason was the lack of women's representation at the decision-making level during the disaster preparedness stage. Ariyabandu (2005) also explained the importance of engaging women in disaster preparedness related policies and measures. Fothergill (1996) also highlighted

the minimum women engagement in emergency planning and preparedness decisions within the developing world. Hence this study was conducted within the disaster preparedness stage to address the gap identified in the study.

Finally, the study scope is further defined by selecting a particular geographical location. The study was carried out in the Sri Lankan context. This is because of the high intensity of natural hazards during the recent past and the indicators highlighting the risk of future natural hazards in Sri Lanka (Jayawardane, 2006b; Wickramaratne, Ruwanpura, Ranasinghe, Walawe-Durage, et al., 2012). Besides its geographical location with proximity to the equator, Sri Lanka has been often affected by droughts and monsoon rains, leading to frequent floods as a tropical country (Wickramaratne, Ruwanpura, Ranasinghe, Walawe-Durage, et al., 2012). Further, being an island country in the Indian Ocean, many storms and coastal hazards are reported in the country's disaster profile (Wickramaratne, Ruwanpura, Ranasinghe, Walawe-Durage, et al., 2012). Another reason for choosing Sri Lanka was its present status of women's empowerment level and the impact of natural hazards on women. Regarding the effects of natural hazards on women, there is no exception to women in Sri Lanka (Fisher, 2010; Kottegoda, 2007). For example, the highest mortality rate from the 2004 Indian Ocean tsunami was reported among women in Sri Lanka (Kottegoda, 2007; S. Kottegoda, 2011). Regarding women's empowerment, the level is low compared to other developing countries (Herath, 2015; UNDP, 2019a, 2019b). Furthermore, the level of governance is also not at a satisfactory level (Ramasamy, 2020). Due to these reasons, Sri Lanka was selected as the study site.

There are several studies conducted on women's empowerment in the Sri Lankan context. For example, Herath (2015) studied women's empowerment in the public sector and found their empowerment level inadequate. Bombuwela and Alwis (2013) reviewed women's empowerment level in private sector organisations and found it unsatisfactory. Fisher (2010) and Kottegoda (2007) examined the level of violence women faced in Sri Lanka after the 2004 Indian tsunami incident. Furthermore, Ginige et al. (2015) emphasised the importance of incorporating women's perspective in DRR to reduce their vulnerabilities within the built environment context in Sri Lanka. However, those studies have a general view of overall DRR rather than specific to one particular disaster management phase. At the same time, most of the studies are limited to the built environment context and community women's perspective. Hence this study will be novel to the literature since it aims at empowering women in DRG within the context of the disaster preparedness system in Sri Lanka.

Thus, the study identified the present research gap within the above context and framed the research problem as "How to empower women in disaster risk governance within the

disaster preparedness system in Sri Lanka?” In answering this research problem, the study adopted the following research methodology.

1.7 Brief research methodology

Chapter 3 presents the research methodology of the study in detail. It begins with the motivation to identify the research gap, as explained in Section 3.2. Section 3.3 explained the study’s aim and objectives. Section 3.5.1. presented the Research Onion model, which is explained the research design for the study. The study's philosophical standpoint was explained in Section 3.5.4, based on epistemological, ontological and axiological assumptions. The study opted for the abductive research approach. The approach and the reason for choosing the abductive approach were presented in Section 3.6.4. A multi-method qualitative method, as presented in Section 3.7.4, was selected as the methodological choice. According to the Research Onion, the next layer is the research strategy. Accordingly, the study adopted a case study strategy, and the reason for selecting the case study strategy and the specific case study design was explained in detail in Section 3.8.9.

The cross-sectional data collection technique was adopted as the relevant time horizon for the study, as described in Section 3.10.3. Data collection techniques used in the study were presented in detail in Section 3.4.9. Accordingly, expert semi-structured interviews, case study semi-structured interviews were described in Section 3.11.1. Expert validation process was explained in Section 3.14. Section 3.11.2 explained the data analysis techniques used in the study. The study’s validity and reliability have been assured by conducting validity and reliability tests as described in Section 3.12.

1.8 Contribution of the study

1.8.1 Contribution to the knowledge

Women’s vulnerabilities and their role in the DRR context have been studied extensively in the available literature. However, the way to empower women in DRG, particularly within the disaster preparedness system, has not been empirically studied in the literature. Hence, this novel study contributes to knowledge creation by adding an unfulfilled knowledge gap in the women’s empowerment and DRG literature.

1.8.2 Contribution to policy

As part of the study's objectives, identifying factors affecting women's empowerment in DRG within the disaster preparedness system will guide policy-makers toward a more resilient society. Specifically, ensuring women's empowerment contributes to the Sustainable Development Goals (SDGs) - Goal 5 on gender equality. Further, the strengthening DRG contributes to the second priority while strengthening disaster preparedness measures delivers the fourth priority of the Sendai Framework for Disaster Risk Reduction (SFDRR). Therefore, this study will contribute to two global policy frameworks assuring gender equality, reducing disaster risk, and strengthen resilience.

1.8.3 Contribution to practice

This study provides recommendations through its validated framework to achieve women's empowerment in DRG within the disaster preparedness system in Sri Lanka.

1.9 Chapter distribution

The thesis comprises nine chapters, as presented below.

1.9.1 Chapter 1: Introduction

This chapter presents the rationale for the study through its background and research problem section. Accordingly, the chapter presents the study's aim and objectives at the end of the research problem with the study's scope. A brief research methodology was also provided in the chapter. The methodology section was followed by the contribution to the knowledge, policy and practice of the study.

1.9.2 Chapter 2: Literature review

Chapter 2 presents fundamental concepts around the study's scope. The chapter begins with an introduction to natural hazards, their impact specifically on women, and the importance of women's empowerment and key issues and initiatives related to women's empowerment, based on the literature. The chapter also provides an overview of the disaster profile, women's empowerment status, DRG and disaster preparedness system in Sri Lanka.

1.9.3 Chapter 3: Research methodology

Chapter 3 presents a detailed research methodology adopted by the study in achieving study objectives. The chapter includes the study's motivation, philosophical stands, research strategy, research approach, methodological choice, time horizons and data

collection, and data analysis methods used in the study. The chapter also explains the validity and reliability procedures adopted in the study.

1.9.4 Chapter 4: Conceptual framework

The chapter introduces the difference between a conceptual framework and a theoretical framework at the beginning. This was followed by presenting the rationale for selecting a conceptual framework for the study. The chapter also explains the key issues, concepts, and interrelationships identified in the literature review chapter. Finally, the chapter presents all relevant concepts and their relationship diagrammatically at the end of the chapter.

1.9.5 Chapter 5: Expert interviews analysis

Chapter 5 presents the expert interview analysis in detail. Then, the chapter introduces the importance of women's empowerment in DRG, the status of women's empowerment in DRG, the challenges for their empowerment within the disaster preparedness system in Sri Lanka. Finally, the chapter presents strategies to overcoming the challenges identified by experts.

1.9.6 Chapter 6: Case study interviews analysis

The case study interview analyses present the importance of women's empowerment while exploring their present status in DRG within the disaster preparedness system. Besides, case study interviews further explained the challenges and relevant suggestions overcoming them.

1.9.7 Chapter 7: A cross-case analysis

The chapter presents a cross-case analysis to highlight the importance of women's empowerment in DRG compared to three case studies. It evaluates their present level of empowerment in DRG within the disaster preparedness system. The chapter further presents the challenges and suggestions in comparison among case studies.

1.9.8 Chapter 8: Findings and discussion

This chapter summarises expert interviews, case study interviews and documentary review outcomes as the study's findings across its objectives. Further, the chapter discusses the results with the support of the literature. Finally, this chapter provides the final validated framework for achieving women's empowerment in DRG within the disaster preparedness system in Sri Lanka.

1.9.9 Chapter 9: Conclusions

This chapter summarises the findings of the study across its four objectives. The chapter also provides limitations of the study while emphasising the contribution to the knowledge, policy and practice. Finally, chapter nine also highlights the future research avenues based on the study results.

1.10 Summary and the link

Chapter One introduces the research problem, its aim and objectives, and the study's scope covered in the thesis. A brief of the research methodology and the study's contribution towards knowledge, policy and practice are also presented. Next, the nine chapters and their contents are presented, demonstrating the structure of the thesis. As explained above, the next chapter, Chapter Two, presents a detailed literature review conducted around the concepts related to this study.

Chapter 2 Literature Review

2.1 Introduction

After introducing the study in Chapter 1, this chapter presents a literature review around the main concepts related to the study. Accordingly, Section 2.2. presents concepts related to natural hazards, disasters, their impacts on diverse groups of communities. Section 2.3. describes women in disasters, in terms of effects, the reasons for their vulnerability, and their role in disasters. Section 2.4. presents concepts related to women's empowerment, including definitions and importance specifically within disaster decision-making. Section 2.5. synthesises concepts related to disaster risk governance, including definitions, elements of disaster risk governance, and significance. Section 2.6. introduces disaster preparedness related concepts, including definitions, importance and challenges associated with disaster preparedness. Lastly, Section 2.7 presents all the above-explained concepts within the Sri Lankan context. It introduces the country and its disaster profile, status of women's empowerment, Sri Lankan disaster preparedness system, highlighting the level of women's empowerment in disaster risk governance.

2.2 Disasters induced by natural hazards and their impacts

2.2.1 Hazards

Hazards significantly impact economies and their agents irrespective of their scales (Papathoma-Köhle et al., 2015). During 1900-2020, more than 24,000 hazards were reported across the world. Of them, natural hazards were more than 15,000 (EMDAT, 2020).

A hazard is defined as;

"A dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage" (UNISDR, 2017, p. 17).

Susan L Cutter (2003) provides a similar definition to hazards as:

"The potential threats to people and the things they value" (S. L. Cutter, 2003 p.439).

This study is limited to natural hazards, which is a sub-category of hazards. UNISDR defines a natural hazard as,

“Natural process or phenomenon that may cause loss of life, injury or health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.” (UNISDR, 2017, p. 20).

Several researchers also defined the term natural hazards as similar to the UNISDR definition. The study adopted the UNISDR definition because the study’s scope covers natural phenomena that affect the lives, livelihoods of women and overall society.

2.2.2 Disasters

The UNISDR defines disasters as:

“Serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources” (UNISDR, 2017, p. 9).

A similar definition was presented by The International Federation of Red Cross (IFRC), as;

“Sudden, calamitous event that seriously disrupts the functioning of a community or society and causes human, material, and economic or environmental losses that exceed the community’s or society’s ability to cope using its own resources” (IFRC, 2014).

Researchers also described the term disaster. For example, Stallings (1998) explained disasters as fundamental disruptions of routines, while Quarantelli (1998) explained it as an event that destabilises the social system, with a failure of normal functioning and requires intervention to secure stability.

Several other scholars redefined the initial definition in different contexts. For example, Cutter explained disasters from a vulnerability context in natural disaster studies. According to S. L. Cutter (2003), disasters are large scale high impact events.

The study applies the UNISDR definition within the context of the natural hazard for framing the term disasters. The definition covers all elements in the society and situation where their coping strategies are inadequate to face severe disruptions caused by hazardous events where women become vulnerable, and measures are required to build resilience.

2.2.2.1 Types of disasters

Disasters are categorised based on its, for example, origin, physical characteristics, size and level of intervention (Rodríguez et al., 2007; Wickramaratne, Ruwanpura, Ranasinghe, Walawe-Durage, et al., 2012).

Based on their origins, disasters are classified as disasters caused by natural phenomena and man-made interventions (Malalgoda et al., 2014; Wirasinghe et al., 2013). Examples of natural hazards, floods, cyclones, earthquakes, tsunami and volcanic eruptions. Natural hazards occur due to natural phenomena (Khan et al., 2008), while humans and their interactions create man-made disasters. Conflicts, famine, displaced populations, and accidents are few man-made disasters (IFRC, 2014). A third category was hybrid disasters caused by natural forces with human errors (Shaluf, 2007). For example, landslides are identified as hybrid disasters resulting from human interventions caused by clearing forests leading to soil erosion supported by heavy rains as natural phenomena.

Natural hazards are further classified based on the cause of the disaster. Accordingly, disasters are classified into biological events, geophysical events (mass movements dry, earthquakes and volcanoes), meteorological events (storms), hydrological events (floods, mass movements wet), climatological events, and extra-terrestrial events (meteorite and asteroid) (Wirasinghe et al., 2013).

UNISDR presents two categories of natural hazards: geophysical and climate and weather-related hazards. Hydrological (Floods and landslides), meteorological (storms and cases of extreme temperatures) and climatological hazards (droughts and wildfires) are classified together and named as climate and weather-related hazards (CRED - UNISDR, 2016). A similar classification was presented by Jayawardane (2006a) within the Sri Lankan context. He categorised droughts, windstorms and floods as hydro-meteorological disasters (weather-related). Figure 2.1 illustrates natural hazards reported during 1990-2019 across the world.

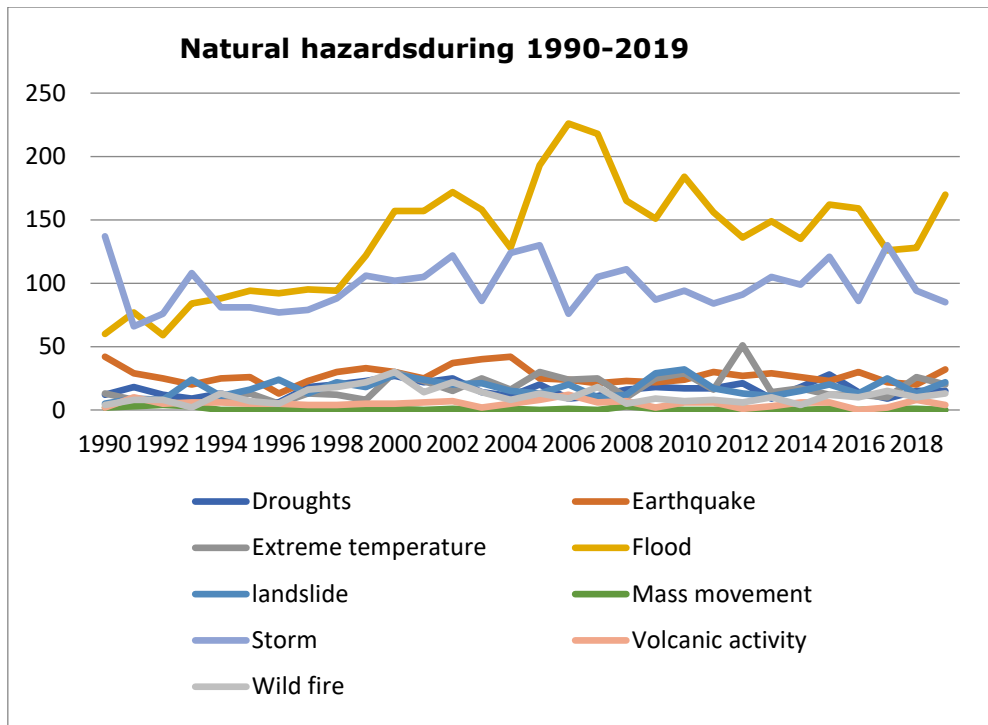


Figure 2.1 Natural hazards reported during 1990-2019 across the world

Source: (EMDAT, 2020).

Based on the extent of the impact, disasters are classified as major or minor. The number of deaths and the severity of the damage is commonly used to measure disaster impact (Ferro, 2005). According to UNISDR-CRED, a disaster is an event that reports ten or more deaths, affects more than 100 people, declares a state of emergency and calls for international assistance (CRED - UNISDR, 2016).

Disasters are also classified as sudden onset or developing over a period of events (Wirasinghe et al., 2013). For example, the Nepal earthquake in 2015 and 2011 tsunami incidents in Japan were classed as sudden-onset disasters, which occur less frequently but significantly affect lives and properties (Reyes & Lu, 2016). In contrast, floods and droughts are classified as disasters that develop over a period (Wirasinghe et al., 2013). Therefore, after considering all available facts, the study limits its scope to natural hazards, as explained in the following section.

2.2.2.2 Disaster context for the study:

The study focuses on natural hazards formed as geophysical events or weather and climate-related events and are both the onset and slow-moving disasters. One of the reasons for this choice is that most studies highlighted the disproportionate effects of natural hazards on women. Such natural hazards ranged from geophysical and weather to

climate-related disasters (Kottegoda, 2007; Saito, 2012; The Kathmandu Post, 2015). All disasters mentioned increased women's vulnerabilities than men (Alam & Rahman, 2014; Arora-Jonsson, 2011; Sultana, 2010). Therefore, the study considers disasters induced by natural phenomena related to geophysical and weather and climate-related events in the form of either sudden onset or development over a period.

2.2.3 Impacts of natural hazards

Disasters cause a significant impact on human lives, the economy and the built and natural environment and disrupt local institutions and livelihoods (S. L. Cutter, 2003; Richard Haigh & Dilanthi Amaratunga, 2010). From 2000 to 2019, more than 1.23 million people lost their lives due to natural disasters, including geophysical and climate and weather-related disasters, across the world. More than 4 billion people were affected and damaged economies, with an estimated US\$ 2.97 trillion across the world (CRED-UNISDR, 2020). 7,348 disasters were reported during 2000-2019 compared to 1980-1999, which had only 4312 events, showing a 74 per cent increase (CRED-UNISDR, 2020). Accordingly, human losses and economic losses significantly increased, as shown in Table 2.1.

According to EM-DAT, Asia reported more than 42 per cent of recorded disasters during 2000-2019 as a single region. In terms of countries, China, the USA, India, the Philippines and Indonesia reported more than 250 disasters annually during 2000-2019. In 2004, 2008 and 2010 mega-disasters, which killed more than 100,000 people, happened. 2004 Indian Ocean tsunami killed more than 226,000 people, reporting the highest deaths, more than 165,000 deaths from Indonesia, 35,000 deaths from Sri Lanka. Among the top ten countries, Sri Lanka ranked eighth in terms of the number of deaths reported during 2000-2019 (CRED-UNISDR, 2020). Among these natural disasters, the tsunami was identified as the deadliest disaster on Earth, recognising its impact as 16 times deadlier than ground movements (CRED-UNISDR, 2018).

Table 2 1 Comparison of the impact of disasters between 1980-1999 and 2000-2019

| Period | Reported disasters | Total number of deaths | Total number of people affected | Estimated economic loss in US\$ |
|------------------|--------------------|------------------------|---------------------------------|---------------------------------|
| 1980-1999 | 4,212 | 1.19 million | 3.25 billion | 1.63 trillion |
| 2000-2019 | 7,348 | 1.23 million | 4.03 billion | 2.97 trillion |

Source: (CRED-UNISDR, 2020)

2.2.4 Differentiated impacts of natural disasters

Forty-four per cent of deaths were reported from low-middle income countries, while sixty-seven per cent of the economic losses were reported from the high-income countries. Two hundred eighty-four fatalities per disaster were reported from low-income countries, whereas sixty-seven fatalities were reported from high-income countries (CRED-UNISDR, 2020). However, there is no gender-segregated disaster data in the EM-DAT, CRED database.

The above-stated data demonstrates the diversity of disasters' impact across communities (Drolet et al., 2015). Even though databases are limited to capture the gendered nature of the disasters, several scholars have highlighted the disproportionate impact of disasters on women and girls irrespective of countries' level of development. Section 2.3 provides a detailed account of the status of women in natural disasters.

2.3 Status of women in disasters

2.3.1 Disasters' impact on women

There is no single data source available to capture disaster impact on women and girls globally. For example, EM-DAT-CRED reports global disaster data regarding deaths, number of affected people, economic losses and countrywide. However, the database lacks gender-segregated data to represent the global overview of disasters on gender (Eklund & Tellier, 2012; Enarson & Chakrabarti, 2009; Mazurana et al., 2013).

Nevertheless, several researchers have documented the disproportionate impact of disasters on women and girls using national and local level data (Alam & Rahman, 2014; Bradshaw & Fordham, 2015; Enarson & Chakrabarti, 2009; Enarson & Morrow, 1998a; Kottegoda, 2007; Neumayer & Plümper, 2007). The following section provides an account of such studies under main categories: mortality, morbidity and violence.

2.3.1.1 High mortality among women:

Several researchers have emphasised the additional deaths caused by disasters on women and girls (Dhungel & Ojha, 2012; Drolet et al., 2015; Horton, 2012; Neumayer & Plümper, 2007). According to Sommer and Mosley (1972), the highest deaths were reported among women, children and older people in the 1970's Bangladesh cyclone. Again, the Cyclone Gorky incident in 1991 reported more deaths among women in Bangladesh (Chowdhury et al., 1993; Ikeda, 1995). Not only from the low and low-middle income countries, but high-income countries also reported a similar situation. For example, the highest deaths

were reported from older women in France due to the heatwave incident in 2003 (Pirard et al., 2005). During the 2004 Indian Ocean Tsunami, the reported deaths among women were four times higher than men's (S. Kottegoda, 2011; Oxfam, 2005). Hurricane Katrina in the United States reported the highest deaths among Afro-American women and their children (Gault et al., 2005). Nepal earthquake in 2015 showed the death toll of women and girls was 55% compared to men and boys (Kathmandu Post, 2015; Thebe Limbu, 2016). Sarah Bradshaw and Maureen Fordham (2013) estimated that women are seven times more likely to die in disasters than men.

2.3.1.2 High morbidity and violence:

In addition to disproportionate death rates among women and girls from disasters, high morbidity rates and being victimised to domestic violence and abuses were reported by women and girls (Alam & Rahman, 2014; Arora-Jonsson, 2011; Azad et al., 2013; Cutter, 2017; Enarson & Chakrabarti, 2009; Fisher, 2010; Kottegoda, 2007). For example, Enarson and Morrow (1998a) highlighted the impact of disasters on women and girls. Even after two decades, the situation remains unchanged. Alam and Rahman (2014) revealed the additional effects of disasters on Bangladesh women. A similar result was found by Nguyen (2019), conducting a study to evaluate the aftermath effects of Typhoon Haiyan in the Philippines in 2013. Her research explained the violence faced by many women in the Eastern Visayas after the disaster. Thebe Limbu (2016) found that women and girls faced many difficulties aftermath of disasters, specifically finding secure places, shelters and food. Many studies identified women reporting being victims of violence during the post-disaster stage (Brown, 2012; Horton, 2012). Horton (2012) found sexual abuse and exploitation, especially in camps after the Haiti earthquake in 2010.

2.3.2 Reasons for high vulnerabilities

Within the context of understanding the disproportionate impact of disasters on women and girls, many researchers conducted studies to identify the reasons for their vulnerabilities. Many scholars identified cultural norms and practices as a reason for additional vulnerabilities to women and girls caused by disasters. For example, early and forced marriages resulted in poverty, and forced migration increased women's vulnerabilities to disasters (Bradshaw, 2013). Such cultural practices also shape gender norms among countries as well as communities. Women have to perform extra workloads and responsibilities at home at different stages of the disaster cycle. For example, before a disaster strike, they have to arrange all preparedness matters (Alam & Rahman, 2014; Drolet et al., 2015). Similarly, after a disaster strike, women become responsible for looking after family members, their health, and sometimes finding some income support

(Ariyabandu et al., 2003; Drolet et al., 2015; Gokhale, 2008). In some instances, women have been seriously affected by the specific roles they perform after disasters. For example, during the Ebola outbreak, women cleaned the dead bodies who died from the virus. Such practice made them further vulnerable in physical health and psychological health (Drolet et al., 2015; Nkangu et al., 2017).

Some societies restrict women's right to acquire life-saving skills such as swimming and climbing trees due to cultural practices and norms. Specifically, during the 2004 Indian Ocean tsunami, many women died from drowning due to their inability to swim during the disaster (S. Kottegoda, 2011). The above evidence demonstrated how socially constructed gender norms shape women into less mobilized, limited access to information, and face many different forms of sexual violence and abuse, making them more vulnerable to disasters.

Similarly, access to resources and wealth in households and society also increase their vulnerabilities to disasters (Alam & Rahman, 2014; Ariyabandu, 2009; Bradshaw, 2013; Dhungel & Ojha, 2012; Hamidazada et al., 2019; Horton, 2012; Nguyen, 2019). Another reason for their increased vulnerabilities due to disasters is access to education. Linking to resources and cultural norms, limited education access also makes women and girls further vulnerable to disasters (Bradshaw, 2013). Due to limited access to education, their knowledge and right to access other resources and information significantly affect women in disasters (Asaju & Adagba, 2013). For example, a study revealed how girls have become vulnerable to violence because their school dropped out, which was later forced into early marriages and trafficking (Alston & Akhter, 2016).

Pre-existing socio-economic conditions are another reason for women's vulnerabilities in disasters (Alam & Rahman, 2014; Bradshaw, 2004; S Bradshaw & M Fordham, 2013; Islam et al., 2017). Bradshaw (2004) explained how women were affected by Hurricane Mitch in Central America in 1998 due to their pre-existing socioeconomic statuses. Similar findings were reported by Reyes and Lu (2016), conducting a study in the Philippines in the flood-prone areas in Metro Manila. They found that most women were significantly affected by disasters due to their low socio-economic status and the level of resource ownership.

A similar finding was reported by Sarah Bradshaw and Maureen Fordham (2013), showing how poverty exacerbates women's vulnerabilities, specifically after disasters. Another study by Neumayer and Plümper (2007) confirmed that socio-economic as the most significant factor for their gender gap in life expectancy, reflecting their vulnerabilities to disasters based on the meta-analysis covering 141 countries in the sample. Alam and

Rahman (2014) also explained how insecure employment and changes to family support structures enhance the adverse impact on women and girls in disasters. Another study by Alston (2015) found how women's economic strength and food security affect high vulnerabilities, specifically during post-disasters.

Similarly, women vulnerabilities to disasters are further affected by disaster risk governance issues in the disaster management system. For example, most disaster management decisions are taken by males in the disaster management systems. This has led to the minimum representation of women's voices in the disaster management systems (Kimber & Steele, 2017; Moreno & Shaw, 2018; Rezazadeh, 2011; Saito, 2012). The lack of women in disaster risk governance is further explained in detail in Sections 2.3.3 and 2.3.4.

The above section highlights the factors that increase women's vulnerabilities by making them less empowered in decision-making at the household, societal and organisational level within the context of disasters. For example, cultural norms, socio-economic conditions, and limited accessibility to education limit their empowerment in decision-making in the context of disasters which result in increasing women's vulnerabilities. More specifically, due to their minimum voice and minimum representation in the disaster risk reduction related decision-making make them more vulnerable to disasters. Therefore, the following section synthesises literature related to women's empowerment in disaster risk governance.

2.3.3 Lack of women's empowerment in disaster risk governance

Lack of women's empowerment in disaster risk governance has been revealed by several scholars in the field of disaster literature (E. Enarson, 2012; Ginige et al., 2015; Sepali Kottegoda, 2011; Reyes & Lu, 2016; Saito, 2012; UNISDR, 2015a). For example, a study by Saito (2012) explained how minimum women's representation in Japanese disaster management created additional vulnerabilities for women and girls who stayed in temporary shelters. Thurairajah et al. (2010) also described how minimum women's contribution in post-disaster reconstruction activities in Sri Lanka increased women's vulnerabilities to disasters. Accordingly, they proposed to empower women in post-disaster reconstruction by increasing the level of women representation in the post-disaster reconstruction planning process to minimize issues faced by women. Similarly, Ginige et al. (2015) similarly confirmed this opinion based on a study carried out in Sri Lanka examining the post-disaster impact where minimum women's representation during post-disaster reconstructions. They emphasised the necessity of mainstreaming women into disaster reduction decision-making within the built environment context.

In contrast, several researchers confirmed the role of women in decision-making is crucial, and their presence is, however, not evident in most disaster management policies and programmes (Chanthy & Samchan, 2014; Le Masson et al., 2016; Saito, 2012). Hence, their needs and interests have been overlooked in disaster management programmes, leading to increased vulnerabilities (UNISDR, 2015b).

Women and girls have contributed in many ways to our societies. Specifically, women play a crucial role as caretakers in households. Family is the prime element of community that plays a vital role in community disaster resilience (Takeuchi et al., 2011). Women prepare their families and communities ready for natural hazards as a part of the social role assigned by cultures (Mulyasari & Shaw, 2013). Within that role, women maintain their family functions and reconstruct their societies after a disastrous event happens (Drolet et al., 2015). Therefore, women and girls have been identified as agents of change in society. A study by Alam and Rahman (2014) identified distinctive roles women perform in all three stages of the disaster cycle, pre-disaster, during the disaster and post-disaster. All such work is related to socially assigned duties as part of stereotyped gender roles. The role of women in resilience has become a key theme in discussing gender and disasters (Wisner et al., 2017).

In addition to their direct contribution to families and societies, women also contribute as experts in many areas for disasters. Women represent all sorts of agents in the community, such as policymakers, academics, researchers and practitioners. Morchain and Kelsey (2016) have identified women's role as technical experts who assess and analyse disaster risks. Gokhale (2008) presented how a group of grass-root level women called Swayam Shikshan Prayog trained to be involved in post-disaster reconstructions in Maharashtra, India, after a massive earthquake in 1993. They helped neighbouring states and women to rebuild their societies. Besides, they showed how they have physically contributed to the process of rebuilding societies after disasters. Further, they revealed how to enhance women's capacity by building their capacities in decision-making at the families and community level.

Another significant finding was that women's role in disasters was mainly limited to the implementation level, as explained above (Alam & Rahman, 2014; Reyes & Lu, 2016; Saito, 2012; Thebe Limbu, 2016). Through their participation in decision-making, women can establish an effective risk governance system in society (Morchain & Kelsey 2016; UNISDR, 2015a). Several researchers argue that women's capabilities in disaster decision-making have been largely untapped (Ariyabandu, 2000; Baten & Khan, 2010; Gokhale, 2008; Reyes & Lu, 2016; F. Ross-Sheriff, 2007; Saito, 2012; Shaw & Childs, 2006; UNISDR, 2015b; van Daalen et al., 2020).

The above examples highlight minimum women's empowerment in disaster risk governance and how it affected to increase their vulnerabilities to disasters. Accordingly, they have suggested empowering women in disaster risk governance as a strategy to overcome their vulnerabilities and build resilience (Bari, 1998; Dhungel & Ojha, 2012; Ginige et al., 2015; Kimber & Steele, 2017; Moreno & Shaw, 2018; Thuraiajah et al., 2010).

Accordingly, the next sections of the literature review present the concept of women's empowerment, disaster risk governance and disaster preparedness in detail and also present the main concepts within the context of Sri Lanka.

2.4 Women's empowerment

2.4.1 Definition of empowerment and women's empowerment

The concept of empowerment has been popularly used in social work, psychology and population studies in the 20th century (McWhirter, 1991; Oxaal & Baden, 1997). Following are some key definitions for empowerment and women's empowerment.

2.4.1.1 Empowerment:

Solomon (1976, p. 6) defined the term empowerment within the societal context as:

"The process whereby persons who belong to a stigmatised social category throughout their lives can be assisted to develop and increase skills in the exercise of interpersonal influence and the performance of valued social roles."

McWhirter (1991, p. 224) defined empowerment within the context of counselling as;

"The process by which people, organizations, or groups who are powerless: (a) became aware of power dynamics at work in their life context, (b) develop the skills and capacity for gaining some reasonable control over their lives, (c) exercise their control without infringing upon the rights of others, and (d) support the empowerment of others in their community."

Handy (1993) explained empowerment as encouraging people to be involved in decision-making and initiating actions with less control and direction from their top management within organizational management.

Later in 1995, Rowlands defined empowerment in the development context since she could not find a solid and accurate definition of empowerment in the development practice. According to Rowland, all available definitions are weak since many definitions used either

some elements or aspects of empowerment rather than a complete and accurate definition. Therefore, she presented a conventional definition;

“Empowerment must be about bringing people who are outside the decision-making process into the decision-making process” (Rowlands, 1995, p. 102).

Rowlands (1995) identified empowerment as a process of knowing their interests and their relations to others and providing strong positions in decision-making and influencing the decision-making. She offered three broader dimensions of empowerment: Personal, which includes self and personal confidence and capacity; Close relationships, which provide the ability to negotiations and influence relationships and decisions made on it; and Collective, which provides the ability to cooperate and collective actions, rather than competition, at any level of decision-making. Boehm and Staples (2004) identified empowerment as a multidimensional concept and happens within multi-contextual settings, including sociological, psychological, economic, political and other dimensions.

At the global level, the Human Development Report (HDR) (1995) emphasised the importance of women's empowerment to achieve sustainable human development. The report highlighted that empowerment enables people to participate in decision-making, thus benefiting from the development process. The report further states that people must make decisions because development must be by people rather than for them. Hence, the participation of people is essential since it shapes their lives (UNDP, 1995).

2.4.1.2 Women's empowerment

The concept of women's empowerment was started in the 1970s due to the Third World feminist and women's organisations' activity (Mosedale, 2005). According to Mosedale (2005), this movement was started to demonstrate inequalities for women in economic, social and political structures at the national and international levels. Later in 1984, Hawxhurst and Morrow (1984) presented the first feminist perspective to empowerment (Hawxhurst & Morrow, 1984). McWhirter (1991) introduced the feminist perspective in defining empowerment in terms of transformative power. He refers to the term empowerment as a comprehensive process that affects individuals, other relative individuals, community and society.

Besides, Keller and Mbewe (1991) defined women's empowerment as a:

“Process whereby women become able to organise themselves to increase their own self-reliance, to assert their independent right to make choices and to control resources which will assist in challenging and eliminating their own subordination” (Keller & Mbewe, 1991).

Another definition was given by Batliwala (1993) with a transformative power to support women's rights and establish equality between women and men.

In 1995 Rowland entitled a paper as *Empowerment Examined*. She described the term empowerment as gaining power within the development context. According to Rowlands (1995), empowerment is not limited to giving access to decision-making but allowing people to perceive women with abilities and capacities in decision-making. A similar ideology was presented by Morrow and Hawxhurst (1998). According to them, women's empowerment is a three-dimensional concept as personal, interpersonal and socio-political.

Kabeer (1999, p. 437) presented another definition of women's empowerment within Development Economics as:

"The process through which women acquire the ability to make strategic life choices in a context where this ability was previously denied to them."

In the same year, Sen (1999) presented a similar ideology to Kabeer's definition of women's empowerment. Sen explained that women empowerment could address lack of commitment to improve opportunities for women, lack of income, limited access to services and opportunities for human development, lack of voice in political life and decision-making and social subordination and exclusion. In addition, a study by Mosedale (2005) explained women's empowerment as a process, which redefines and extends things that are possible for them to do but that is restricted to be done by men. Another work by Batliwala (2007) defined empowerment as a process that shifts social power in three critical ways. She presented a detailed analysis of sources of women's empowerment as ideologies that applicable to social equalities, natural and intellectual resources and institutions and structures. Her analysis helped designing many development programmes. The author's view was based on women who faced many social injustices in India.

After considering all the above definitions and explanations, the study developed a working definition for women's empowerment by considering all relevant aspects. Accordingly, the study defines women's empowerment as "The process, which assures equal opportunities for women's participation and leadership in organizational decision-making for the betterment of women and the society within the disaster context".

The following section presents the importance of women's empowerment within the disaster risk reduction context.

2.4.2 Importance of women's empowerment within the global policy context

One effective way to demonstrate the importance of women's empowerment is by highlighting the key global initiatives that happened towards assuring women's empowerment, as presented in Figure 2.2.

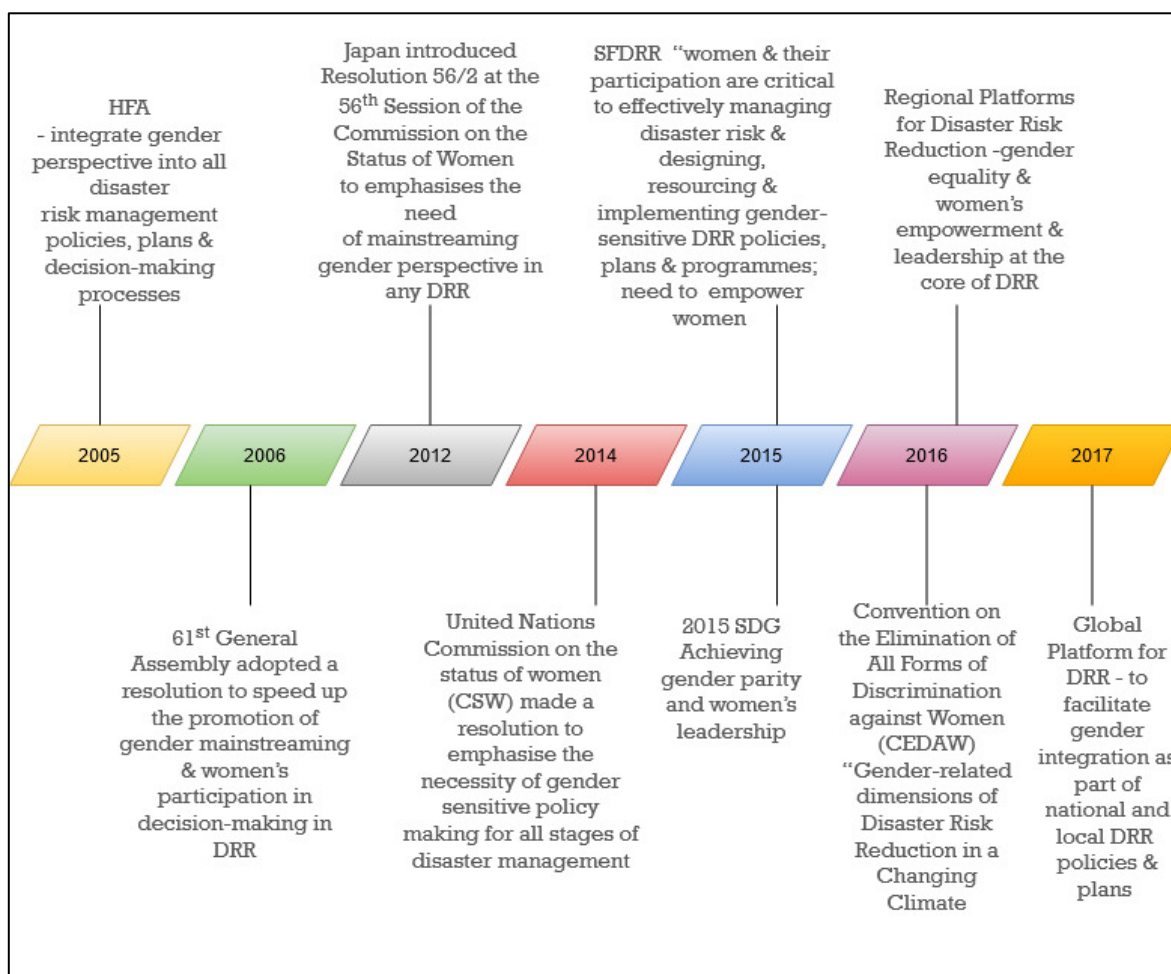


Figure 2.2 Global policy initiatives towards women's empowerment

Source: Prepared by the Author

The Hyogo Framework for Action (HFA) emphasised the necessity of incorporating a gender perspective into all disaster management policies, plans and decision-making processes (UNDP, 2005). At the 61st General Assembly, the adoption of the resolution to speed up the promotion of gender mainstreaming and women's participation in disaster risk reduction decision-making marked another significant milestone at the global level. In 2012, Resolution 56/2 was passed at the 56th Session- the Commission on the Status of

Women to mainstream gender into disaster risk reduction. The initiative was followed up at the next session in 2014. The prominent two global frameworks applicable to this decade are the Sendai Framework for Disaster Risk Reduction (SFDRR) and the Sustainable Development Goals (SDG) introduced in 2015. These two initiatives govern global affairs during 2015-2030. Hence, a more detailed analysis will be provided on two frameworks since the study will add direct contributions.

The SDGs are one of the main global frameworks that clearly emphasise the necessity of establishing equality and women's empowerment worldwide. The framework replaced the Millennium Development Goals by introducing additional goals and making 17 goals delivered within 2015-2030. Out of these 17 goals, Goal 5 is on assuring gender equality and empowering all women and girls. The goal has many aspects to ensure equality and their level of empowerment across six targets:

1. End all forms of discrimination against all women and girls everywhere.
2. Eliminate all forms of violence against all women and girls in public and private spheres, including trafficking and sexual and other types of exploitation.
3. Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation.
4. Recognize and value unpaid care and domestic work by providing public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate.
5. Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life.
6. Ensure universal access to sexual and reproductive health and reproductive rights as agreed by the International Conference on Population and Development Programme of Action and the Beijing Platform for Action and the outcome documents of their review conferences.

According to annual evaluations, most of the targets within Goal 5 have not been achieved as of 2019 (UN, 2019). The UN's report emphasised that structural issue as the root cause of gender inequality among countries. For example, unfair social norms and attitudes, decision-making powers, and low political participation were highlighted (UN, 2019). Besides, unfair payments and excessive workload are other burdens for women in 90 countries they examined. Their extra domestic activities have left them avoiding time for education, leisure and paid work for women. Most women have been underrepresented at all levels of political leadership. As of 2019, only 24 per cent of women representation was identified in national parliaments after an increase of 5 per cent since 2010. Women secure only 39 per cent of world employments, and out of those employments, only 27% represents managerial positions. Hence the agenda still encourage countries to take

necessary actions to assure equality and their empowerment in the coming years (UN, 2019).

The SFDRR is another global initiative that encourages and promotes all members of societies, highlighting the importance of women in particular. This framework was introduced in 2015 by the United Nations, replacing the Hyogo Framework for Action (HFA) in the disaster risk reduction field for 2015-2030 towards a resilient society. The framework introduced seven targets across four priorities:

1. Understanding disaster risk.
2. Strengthening disaster risk governance to manage disaster risk.
3. Investing in disaster reduction for resilience.
4. Enhancing disaster preparedness for effective response and "Build Back Better" in recovery, rehabilitation and reconstruction.

This framework is applicable for this study in many aspects. Predominantly, the framework proposes empowering women to provide resources, decision-making powers, and incentives. For example, in its fourth priority, the framework emphasised empowering women in disaster preparedness strategies and enhancing their capacities towards more resilience. In addition, Section 36 a (i) highlights the necessity of empowering women as key stakeholders in DRR. The framework emphasises their role in designing, resourcing and implementing gender-sensitive DRR strategies for effective risk management (UNISDR, 2015a).

In 2016, the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) was presented along the timeline. The convention was introduced in 1979 by the United Nations General Assembly. In 2016, the CEDAW introduced General Recommendations on "Gender-related dimensions of DRR in a Changing Climate". The recommendations guide countries to promote and protect women's human rights at all stages of disasters; prevention, preparedness, response, recovery, and adaptation. In addition, 2016 marked another milestone at the Regional Platforms for Disaster Risk Reduction, reconfirming gender equality and women's empowerment and leadership at the core of DRR efforts to achieve the Sendai Framework targets and Sustainable Development Goals by 2030. They recommended: developing gender-sensitive risk management national policies and plans, setting dedicated budgets, creating plans that provide adequate capacity building and recognising woman's existing capabilities and roles, collecting sex-disaggregated data, assuring women's access to social protection and insurance, and promoting and mobilizing women's leadership and gender equality. The Global Platform for DRR convened in 2017 further provided policy guidance to facilitate gender integration as part of national and local DRR policies and plans by 2020 (Target E

of the Sendai Framework). It specifically requested enhanced and sustained efforts in women's empowerment and leadership in DRR to be supported, reviewed and monitored. After presenting global policies that support women's empowerment in disaster risk reduction-related decision-making, the following section present the empirical evidence related to women's empowerment in decision-making.

2.4.3 Importance of women's empowerment in disaster risk governance

In addition to the global policy context, many researchers have recognised the benefit of empowering women across many disciplines (Burnet, 2008; Dhungel & Ojha, 2012; Moreno & Shaw, 2018). Rowlands (1995) emphasised women's empowerment across many disciplines: psychology, development, urban management, and education. Several researchers proved how women's empowerment had delivered positive outcomes. For example, in Bangladesh, Grameen credit programmes enhanced women's empowerment and, therefore, increased their mobility, ability to take household decisions, ownership of assets, legal and political awareness and presence in public campaigns (Hashemi et al., 1996). Mehta and Sharma (2014) demonstrated how equal participation of men and women in decision-making could deliver efficient and effective delivery of development. Equal participation helps the disadvantaged and marginalised communities to gain the power to enhance their quality of lives. Iyiola and Azuh (2014) demonstrated women's entrepreneurial and decision-making abilities in the business world. Several others demonstrated how women engaged in politics (Fleschenberg & Derichs, 2011; Kalyani & Seena, 2012). Kirby and Shepherd (2016) demonstrated women's capacities in peace governance, science, technical expertise, judicial matters.

The following sub-sections synthesise literature highlighting the importance of women's empowerment in disaster risk-related decision-making in detail.

2.4.3.1 Capacities

Women can contribute to the effective DRR decision-making process. Drolet et al. (2015) demonstrated how women contributed to rebuilding resilience in communities within post-disaster situations and achieving SDGs based on the studies conducted in the USA and Pakistan. They identified the role of women in building resilience among vulnerable communities by performing a vast amount of activities during pre-disaster, during the disaster and post-disaster periods. They further identified the factors for women's vulnerabilities to post-disasters and proposed some strategies to overcome their vulnerabilities. Another study by Baten and Khan (2010) explained their capacity in working towards climate change adaptation and mitigation strategies during and pre-

disaster situations. They found that women contribute to climate change mitigation activities to minimize future disasters.

Nevertheless, Ariyabandu (2009) claimed that women's capacities and strengths have been ignored in most DRR decision-making. Accordingly, they emphasised the necessity of incorporating women in DRR decision-making to reduce gender-specific issues that arise from disasters, highlighting women's capacities in decision-making at both national and global levels. The above-stated evidence emphasised how women's capacities contribute to empowering women in disaster risk governance.

2.4.3.2 Experience

In addition to their capacities, women bring their experiences to DRR decision-making. Their experiences could reduce women's vulnerabilities in future disasters (Ariyabandu, 2009). Women have the necessary knowledge of all family members' needs, interests, and weaknesses and have the experience of handling critical situations with preparedness strategies. Inability to incorporate women in DRR planning would ignore such important information in the decision-making process. Compared to men, women tend to prepare their families and communities for natural hazards (Mulyasari & Shaw, 2013). In addition, the General Assembly of Beijing Platform for Action in 2005 underlined the role of women at all levels of decision-making, having understood them as important stakeholders in decision-making (Reyes & Lu, 2016). In terms of preparedness measures, the assembly highlighted that women's experiences are vital for disaster risk reduction efforts. For example, considering the diverse requirements of family members are important when making available temporary shelters. Some researchers consider women's empowerment a strategy to reduce their vulnerabilities and bring their skills and experiences for effective DRR (Ariyabandu et al., 2003; Sepali Kottegoda, 2011). For example, Gurmai (2013a) further suggested incorporating their unique skills, qualities and expertise in disaster decision-making. The evidence demonstrates how important it is to empower women in disaster risk reduction due to multiple experiences they have at the household level as well as in the decision-making settings.

2.4.3.3 Better understanding of gender-specific needs

Women's representation in DRR related decision-making helps to incorporate gender-specific issues into decision-making. Many instances highlighted the issues raised were no women participated in disaster-related decision-making in developed and developing countries (Saito, 2012). Thus, women's capabilities in disaster mitigation and prevention have not been sufficiently taken into account. Therefore, it is vital to establish women's participation in every level of decision-making related to DRR. Ginige et al. (2014b)

demonstrated how crucial achieving gender equality is in DRR decision-making to establish resilience and reduce vulnerabilities specifically for women. Thapa and Pathranarakul (2019) highlighted how important it is to consider women's specific needs during disasters, and incorporating women in DRR decision-making can bring such insights into better recovery measures.

Enarson and Fordham (2001) underlined the importance of the inclusion of women in disaster-resilient communities. They further highlighted the issues women and girls face with no women participation or representation in community rebuilding efforts. They further emphasise that rebuilding safer communities cannot be achieved only with technical expertise and elites and the need of engaging in regular consultation with women who were deeply divided into classes and cultures towards an equal society in the future. A similar finding was presented by (Ariyabandu & Wickramasinghe, 2003), stating the necessity for considering the gender aspect in disaster management as a necessary condition for addressing the issues faced by women in disasters. According to Saito (2012), limited representation of women during the disaster preparedness process created many women affected by the Japanese earthquake in 2011. Women bring inclusiveness; specifically, local women's organizations are often the most knowledgeable sources of the specific needs and capacities of affected people in their communities.

From recent evidence from Covid-19, most of the decisions were made by male-dominant systems, and the exclusion of women in risk governance made further complexities during response measures. They have overlooked women's income loss, leading to gendered poverty unpaid and increased family care responsibilities. Furthermore, most response measures did not consider women's increased exposure to domestic and sexual violence or their loss of access to essential health services. Many lockdown policies do not consider maternal and reproductive health services as essential care (van Daalen et al., 2020). The evidence explained how important it is to empower women in DRG to incorporate gender-specific issues within the preparedness stage.

2.4.3.4 Equality

Another benefit of women's representation in DRR decision-making is equality. Despite their importance in DRR decision-making, the present level of women's contribution to the Asia-Pacific region does not ensure equality in DRR related functions and DRR decision-making (UNISDR, 2015b). Women's local and national representative organisations and gender advocates were absent from planning and implementing DRR interventions in Asia-Pacific. Women are still too often absent from developing DRR strategies and decision-making processes (UNISDR, 2015b). Gender equality in the context of disaster risk

reduction is an issue of rights and an issue of effectiveness (UNISDR, 2015a). Thus, some consider disasters as windows of opportunity for women to represent equality (Bradshaw, 2013). Khan and Ara (2006) highlighted how the status of equality, development and peace could be delivered through women's participation in government decision-making. According to Davies et al. (2019) and Moreno and Shaw (2018), increasing women's representation is a crucial step towards addressing inequalities. In summary, women's empowerment in decision-making assures equality in society.

2.4.3.5 Societal benefit

Women's representation helps towards ultimate societal benefit through building disaster resilience societies. Burnet (2008) explained how women's participation in DRR had increased the country's resilience and democracy after the genocide incident in Rwanda. Rwanda's Patriotic Front took several measures to increase women's representation in politics and governance in Rwanda. Even though in the short term, increasing the number of women in politics reduced women's ability to influence policy-making, their representation made the path for creating a democratic society in the long term. Thapa and Pathranarakul (2019) identified the necessity of including women and other socially excluded groups for designing and planning better DRR response and recovery measures in Nepal after the 2015 earthquake incident.

Further, most community resilience-building projects identified women's contributions as effective recovery measures (Thapa & Pathranarakul, 2019) and enhance community resilience (Ginige, 2015). They understand communities and their requirements from the family perspective, which is essential in the post and pre-disaster management process (Ronan & Johnston, 2005).

E. P. Enarson (2012), Saito (2012) and Ginige et al. (2014b) identified the societal benefit of empowering women in DRR decision-making. For example, Moreno and Shaw (2018) concluded the benefits of empowering women in the Chilean disaster management system. Women were empowered by assigning community management roles, leading to a structural transformation in the community, moving women from low to high community involvement. Hence, they considered disaster a window of opportunity to challenge patriarchal societies to achieve their rights in society. More measures are required to count women's role in societal development. Some initiatives were made in developed countries compared to developing countries (Asaju & Adagba, 2013).

A report by the UNISDR emphasises the role of women in disaster risk reduction using several case studies from developing and developed countries. Four African countries:

Lesotho, Malawi, Zambia, and Zimbabwe, demonstrated how empowered schoolgirls took initiatives in disaster risk reduction. The girls were trained as community leaders and resource persons in community DRR initiatives. The project delivered positive results and reduced overall vulnerabilities in society. Another successful story highlighted was in Australia. After the massive bushfires incident in Australia in 2009, a team of researchers initiated research activities to investigate the reasons and the status of women in recent disasters. Their findings led to taking key actions and establishing the first Gender and Disaster Taskforce to advance gender and disaster-related issues in Victoria.

Another success story was reported from Bangladesh as another women-led DRR initiative. Village Disaster Management Committees (VDMCs) were introduced to southern Bangladesh, where there is no access to the country's national disaster management system. The committees were comprised of female-headed households and poor, marginalized women. At the end of the project, these women could apply effective disaster preparedness measures they learned to protect their lives and livelihoods independently without any support from the national disaster management system. The same report explains how a community-led project enhanced marginalised women and became empowered after the programme. The project showed remarkable results in converting marginalised women into community resilient leaders in a cyclone-prone village in India. This initiative aimed to reduce poverty, improve the quality of life of poor and marginalised communities and build the capacity of the local governance system to include poor and vulnerable men and women in consultative and decision-making processes. The project managed to turn poor women into all-around leaders to lead social, economic, and public fronts. The Jaipur Mahila Mandal project demonstrated the role of empowered women for enhancing and strengthening livelihoods and helping build disaster resilience and disaster recovery capacity (UN, 2015). Significant societal benefits of empowering women in the disaster-related decision-making process were highlighted by several authors across different regions and continents.

2.4.3.6 Free from corruption

Most women do not prefer to engage in corruption. For example, Rezazadeh (2011) has demonstrated how Iranian women's contribution helped improve Iran's urban governance system reducing corruption. He revealed women's concern for environmental issues and sustainability education. DiRienzo and Das (2019) also confirmed how increasing women's representation in politics has enhanced environmental outcomes by reducing system corruption. Kabir et al. (2018) revealed women's preference for a corruption-free society and willingness to raise their voices against corruption, injustice or any wrong decisions made by the system. Hence, the public support women administrators for development

activities. The situation made issues for male officers resulting in they do not supporting women officers in the system. Hence, the evidence support women's empowerment in disaster-related decision-making due to their commitment towards reducing corruption.

2.4.3.7 Transparent and accountable

Crises management requires transparent procedures and clear communication. For this, open and transparent communication and decision-making are key. Women's participation benefits a transparent, participatory and accountable disaster management system (Kaur, 2016).

Women in leadership benefit the governance processes (van Daalen et al., 2020). For example, countries with women leaders have effectively dealt with Corona Virus Disease 2019 (COVID-19) responses and have been better at reducing COVID-19 negative impacts (van Daalen et al., 2020). This evidence demonstrates the importance of women's empowerment in DRG across multiple hazardous situations.

The above section synthesised women's role in DRR, however, mainly at the individual and micro-level. Women's empowerment in decision-making has not achieved the desired level, as explained in Section 2.2.4.2. Thus, scholars and practitioners have emerged an urgent need to empower women at the DRR decision-making level. However, there is no clear scholarly evidence on how to empower women in DRG.

Therefore, this study proposes a framework with strategies for women's empowerment in disaster-related decision-making. The process will identify and study available theories on women's empowerment, followed by fieldwork identifying the factors that affect their empowerment in DRR decision-making. Thus, Section 2.4.4 presents an account of available theories and concepts related to women's empowerment.

2.4.4 Theories/concepts related to women's empowerment

Early theories of empowerment were presented by several researchers as presented in Section 2.4.1. For example, McWhirter (1991) presented the empowerment model with four elements to assure women's empowerment in counselling. These elements are; understanding power dynamics, skill development, developing a sense of identity within similar groups and community participation and support of others (McWhirter, 1991).

Later, the work by Rowland in 1995 presented a three-dimensional approach to women's empowerment within the development context. Her model comprised personal, close

relationships, and collective measures. The personal element comprises the development of self-confidence and capacities among individuals while avoiding any internalised oppressions. The second element, close relationships, focuses on developing abilities to negotiate and influence relationships and the process of decision-making. The collective element refers to individuals' need to be worked collectively towards a more significant impact. Such collective efforts promote engagement in politics, political structures and cooperation. These collective actions are operated at local, institutional, national and international levels (Rowlands, 1995).

Some scholars have introduced more individualistic approaches to women's empowerment. According to Kabeer (1999), individuals' decisions are based on three elements such as resources, agency and achievements. Resources refer to both physical materials, human and social expectations and allocations, identifying resources as pre-conditions. Agency refers to the process, which defines individuals' goals and working towards them. Achievements are the outcomes, which help to improve their well-being and to get access to political representation.

In contrast, later, some scholars have presented other approaches to women's empowerment as collectivist approaches. According to them, women's empowerment is a collective effort within cultural norms. Dutt et al. (2016) presented another approach with three elements for empowering women in microfinancing based on the evidence from Tanzania. The elements are being a business member, agency and financial decision-making (Dutt et al., 2016).

Huis et al. (2017) presented a similar analysis to Rowlands' work in 1995 and Kabeer work in 1999. They investigated women's empowerment in micro-financing. They presented a three-dimensional approach to women's empowerment as personal, relational and societal. Personal element refers to individual-level empowerment, relational element refers to spouse, family and community and societal element refers to larger social systems. They conducted a literature review based on previous studies and assessed how each element affected women's access to microfinance and empowerment.

These theories mentioned above provide the basis for women's empowerment in diverse fields. However, since the study focuses on women's empowerment in disaster risk reduction decision-making, the study did not adopt a single theory as the basis. Instead, the study identified the concepts/factors related to women's empowerment based on the fieldwork literature review. Section 2.4.5. presented the factors identified from the literature review. These concepts would help develop the framework for enhancing

women's empowerment in DRR decision-making by adding or modifying existing theories based on the primary data collection.

2.4.5 Factors affecting women's empowerment in disaster-risk reduction related decision-making

As stated earlier, the following can be identified as the factors that affect women's empowerment in decision-making based on the literature review.

2.4.5.1 Patriarchal culture:

Several researchers have identified a patriarchal culture in organizations and societies as a barrier to women's capacities as decision-makers and leaders. For example, some societies consider wives and daughters as subordinate citizens or second class citizens to husbands and sons (Burnet, 2008; Kasomo, 2012; Liyanage, 2018a), as weaker sex category, and only as of the child bearers and caregivers (C. O. Ngara & A. Ayabam, 2013). According to Kasomo (2012) and Nilmi and Thoradeniya (2018), women's political, economic, social, and religious engagement and decision-making abilities are dominated by men. They explain how women's role as mothers and housewives prevent or limit their opportunities for engaging in political decision-making. Mungiriya (2013) identified patriarchal systems, female circumcision, beliefs, cultures, and community attitude as socio-cultural factors limiting women's decision-making freedom. According to Kassa (2014), patriarchal systems prefer sexually segregated roles. The study by Khan and Ara (2006) also highlighted how cultural norms affect women's empowerment in political and community affairs. According to them, existing cultural norms assume that women are unfit to engage in decision-making.

Another example demonstrated how social taboos and norms prevent women from negotiating with humanitarian workers during the crisis in Nepal (Dhungel & Ojha, 2012). Hora (2014a) explained how traditional patriarchal societal attitude negatively perceives women in society, affecting their leadership level and contribution in decision-making. Another study by Liyanage (2018a) explained a similar attitude towards women's empowerment in decision-making and politics among male politicians in Sri Lanka. She explained a situation where a male minister claimed that he is the most suitable candidate to be appointed as the minister in the Ministry of Women Affairs since his mother, wife, and sisters are women. The examples mentioned above show how patriarchal societies affect the level of women's empowerment in societies.

2.4.5.2 Religious beliefs:

Religious beliefs similarly influence the role of women in public engagement and decision-making. For example, Protestantism promotes and accepts women as religious leaders, compared with Catholicism and Orthodox Christianity, limiting their involvement at the leadership level (Kassa, 2014). The world's dominant religions argue that women are inferior and prevent them from participating in political or public engagement (Hora, 2014b; Kassa, 2014; Nwabunkeonye, 2014). The same finding was confirmed by Jejeebhoy and Sathar (2001), conducting a study in India. They explained that religious beliefs had restricted the autonomy of Muslim women compared to Hindu women. According to Asaju and Adagba (2013) and Kassa (2015), some religions support the patriarchal society, preventing women's decision-making roles. The situation sometimes leads to women's insecurity. For example, even though women are given equal voting rights, they are controlled by many religious beliefs prevalent in societies (Khan & Ara, 2006). It is evident from the above stated-literature how religious beliefs affect women's empowerment in decision-making.

2.4.5.3 Structure, status and support from the family:

Studies found that the size of the family and its composition affects women's decision-making power in households, specifically in developing countries (IUCN, 2012; UNISDR, 2008). The support from partners and the family is a critical factor for the advancement of women in decision-making. According to Baliyan (2014), Bangladeshi women do not have the freedom to engage in household decision-making when many senior male members are available in the family. He recommends education as the strategy to address this issue and a way of empowering women. Reyes and Lu (2016) also added how family structures affect decision-making power among women based on a study conducted in the Philippines. They found that most women, especially single parents, make decisions in the event of a disaster. The evidence explains the ways in which family structure, support and status either support or affect women's decision-making power.

2.4.5.4 Household workload:

Traditional societies expect women's engagement is in childbearing, caring and kitchen work (IUCN, 2012). As a result, they have limited time to engage with social activities related to community work, voluntary work and alike (Hora, 2014b; Islam et al., 2014; Kassa, 2014; Nilmi & Thoradeniya, 2018). Women are overburdened with household work after disasters because males leave home looking for work. This situation has significantly increased the workload for women in Bangladesh after the cyclone incident (Islam et al., 2014). Kassa (2014) provided another example from Ethiopia where men enjoy their free

time socialising while women take care of household work, which prevents or limits their political and decision-making roles. Dhungel and Ojha (2012) also highlighted how discrimination increases their heavy workload inside and outside the home based on a study conducted in Nepal. The situation has limited their opportunities to participate in communal activities and decision-making processes during and after disasters. Similar situation is again evidenced by the study by Hora (2014a), revealing how extra household workload affect women's contribution to public decision-making and leadership in Ethiopia. As stated here, the evidence emphasised how house of workload limit their decision-making power with diverse context.

2.4.5.5 Level of education:

Another factor influencing women's empowerment is education (Abubakar & Ahmad, 2014; Khan & Ara, 2006). Education is an individual characteristic (Baliyan, 2014; Kassa, 2015). According to Hora (2014a), low education level among women in Ethiopia is one of the major factors preventing them from leadership and decision-making. Education is essential since it helps develop interpersonal skills, knowledge, public speaking and organising and coordinating activities among women. Even though many scholars have emphasised the role of women's empowerment in Nigeria, due to low educational attainments, low level of enrolment in higher education and school dropout rate, women have been neglected in the development process (Asaju & Adagba, 2013). They further emphasised how important education for women's empowerment in development in Nigeria. A contrasting opinion was revealed from a study conducted in Sri Lanka. According to Nilmi and Thoradeniya (2018), access to education enhances women's decision-making capacities in Sri Lanka. However, Asaju and Adagba (2013) consider education necessary for women's empowerment, but it is not sufficient alone. Even though education is the drive for influencing women's control of their choices and lives, most communities' women's low education level control their freedom to be empowered (Asaju & Adagba, 2013; Khan & Ara, 2006). Thus, their level of interest in engaging in public affairs has been limited (Khan & Ara, 2006). The empirical evidence explains how education can play a role in women's empowerment from different countries context.

2.4.5.6 Self-interest:

The attitudes within women limit their level of engagement in politics and public decision-making (Hora, 2014a). Specifically, women in developing countries express a minimum interest in playing a role in politics and decision-making, perceiving politics as dirty and involves violence (Hora, 2014a). For example, many women in Ethiopia have shown a lack of confidence and are less interested in decision-making. Hence, their commitment and

confidence were significantly reduced facing challenges or violence against them. A counter-argument was given by Liyanage (2018a) explaining how women members in political parties actively work in elections, creating more votes for their parties.

Nevertheless, Liyanage (2018a) further highlighted that no political parties had offered the post of General Secretary to a woman in Sri Lanka. Their study revealed the reason as the minimum interest among women engaging in Sri Lanka. As a result, a handful of women held middle-level positions in Sri Lankan political parties. Therefore, it is clear that self-interest can be considered as an important variable for women's empowerment in disaster-related decision-making.

2.4.5.7 Policies and legislations:

Policies and regulations are vital for assuring and supporting women's empowerment at the decision-making level. For example, a target of 30 per cent women representation in leadership positions was endorsed by the United Nations Economic and Social Council in 1990 and reaffirmed at the Beijing Platform for Action in 1995 (Miranda, 2005). However, in reality, this target is far behind its expected level (Gidudu et al., 2014; Hora, 2014a). Most women are unaware of policies and legislation relevant to women's empowerment. Hora (2014a) identified legislative barriers as factors that affect women's empowerment in public decision-making in Ethiopia. Sweetman (1997) also identified legislative background as a substantive element in his framework developed to examine issues related to gender within development organisations.

In contrast, evidence from Rwanda showed how favourable policies had increased the participation of women in Rwanda with the pro-women policies introduced by President Kagame and relevant ministries. Hence, they could increase women representatives by 25% in 2003 (Burnet, 2008). Kabir et al. (2018) explained how women's representation in local governance was ensured through the quota system to a certain extent based on a study conducted in Bangladesh. The above evidence explain the impact on women's empowerment when there are supportive policies and legislations available.

2.4.5.8 Organizational Culture:

Organisations' culture reflects and replicates the values of the people who set them. Several researchers have revealed how such organizational values influence the roles and behaviours of women's accessing to resources and decision-making (Anderson, 1993 cited in Sweetman, 1997). More importantly, most government organizations represent patriarchal culture within their organizational setting and negatively the role of women in DRR related decision-making (UN, 2015). For example, a study conducted in Sri Lanka

revealed that most organisations do not treat men and women equally when appointing suitable candidates (Jayatilake et al., 2013).

Similarly, unfavourable working conditions, security issues and patriarchal structures in the organisations also limit women's participation in decision-making (Hora, 2014). According to Kasomo (2012), men dominate public decision-making processes; thus, male-dominated values are practised within organizations. Many male administrators believe that women officers have minimum opportunities for being in organizational decision-making. According to them, long working hours are not expected for women, especially for married women (Nilmi & Thoradeniya, 2018). Thuraiajah and Amaratunga (2009) explained the situation because, primarily, women are expected to be responsible for domestic commitments. Thus, most men assume that women are less mobile, less committed to the organisational mission and are inclined to be absent from work than men. Furthermore, when male-dominated political and institutional structures are prevalent, it is hard for women in organizations to get into power and higher positions (Khan & Ara, 2006). Kabir et al. (2018) explained a situation where male officers made efforts to reduce women's involvement in government project management decision-making where huge monetary benefits were involved. Hence, organisation culture can be considered as a key variable that can support women's empowerment in disaster-related decision-making.

2.4.5.9 Political environment:

The political environment is another factor that determines the ability of women's empowerment in decision-making. Women in political positions are important, not because of their strategic importance but also their benefits and impact (Asaju & Adagba, 2013). However, due to the minimum number of women's representation, their decision-making power at the national level has been reduced. For example, Nwabunkeonye (2014) stated that an unhealthy political environment prevented women from political positions and decision-making in Nigeria. A similar study conducted by Asaju and Adagba (2013) in Nigeria highlighted how women's opportunity to be elected as Local Government Councillors was limited within their political system. Again the study by C. O. Ngara and A. T. Ayabam (2013) revealed that women's representation in politics is a crucial element for their empowerment and society in Nigeria. However, it is still at the minimum. A similar situation was evident in many Asian countries (Khan & Ara, 2006; Kodikara, 2011). Even though women have been given the opportunities to enter politics, their limited experience and knowledge constrained their involvement in public decision-making power (Kabir et al., 2018). Liyanage gave one explanation, highlighting how male politicians dominate political structures, which made a major constraint for women to be empowered in

governance. According to Liyanage (2018a), this is mainly because present politicians enter into politics to earn money. Therefore, the study identified political environment as another variable that affects women's empowerment based on the literature review.

2.4.5.10 Economic status:

Poor socioeconomic status also affects women's engagement in decision-making, especially at the household level (Abubakar & Ahmad, 2014; Asaju & Adagba, 2013; Kassa, 2014, 2015). For example, household income is a determinant of socio-economic condition, which affects women's empowerment in decision-making (Baliyan, 2014). Women depend on economic support from a male counterpart in households, limiting their decision-making power. In contrast, women from wealthy backgrounds can influence decision-making. For example, Asaju and Adagba (2013) explained women's participation in farm management decisions in Nigeria. When women represent low social and economic statuses, their decision-making power is limited in many countries because low status restricts their equal access to other resources such as access to education and recourse interconnected (Khan & Ara, 2006). Economic factors can be considered as a player in women's empowerment.

2.4.5.11 Socio-cultural beliefs:

Many societies still believe that women are not suitable for taking political positions and decision-making levels, though some legislative measures have been placed in some systems (Abubakar & Ahmad, 2014; Khan & Ara, 2006). According to Abubakar and Ahmad (2014), women's participation in the Nigerian political setting is influenced by cultural practices prevalent in Nigeria. For example, Hausa women are considered inferior or minor in terms of economic and legal status in Nigeria. Asaju and Adagba (2013) also confirmed that socio-cultural norms dominate women's empowerment in Nigeria's employment and development process. Women are expected to perform household related duties efficiently and being good wives and mothers. These beliefs are shaped by socio-cultural norms prevalent in Nigerian culture. Again similar findings were revealed by Hora (2014a) by conducting a study in Ethiopia. According to their study, socio-cultural attitudes affect the level of women's empowerment in governance in Ethiopia. The evidence stated in this section explains how socio-cultural beliefs support and challenge women's empowerment in decision-making.

2.4.5.12 Limited role models:

Several researchers have identified role models that affect women's empowerment in leadership and decision-making positions (Latu et al., 2019). Role models influence people in many ways, such as sports, managerial and political leadership (Simon & Hoyt, 2013). Latu et al. (2019) explained how women political leadership performs as role models when addressing the challenges women face in leadership and decision-making situations. They further emphasise that role models are essential for women since there is no role model effect for men. The above authors explain the importance of role models for enhancing and supporting their empowerment in decision-making.

2.4.5.13 Security issues:

Several researchers found security issues as a challenge for women's empowerment in decision-making. For example, working in the night or harsh environment are considered as a barrier to their empowerment. Nilmi and Thoradeniya (2018) explained how women in the Sri Lanka Administrative Service (SLAS) prefer to work in offices instead of in the field due to the lack of security and other facilities in rural areas. A similar opinion was explained by Priyadharshini et al. (2016) by conducting a study in India to explore the challenges affecting Indian women's empowerment. Due to the above explained reasons, security concerns are identified as another concept that related to women's empowerment in decision-making.

Based on the detailed literature review and synthesis, the factors mentioned above were identified as determinants/challenges for women's empowerment in decision-making. The above factors were identified within the broader context of women's empowerment in decision-making at the household, organizational and political levels decision-making. The identified factors were used to develop an initial conceptual framework with other concepts relevant to the study and presented in Section 4.5. The factors identified as determinants for women's empowerment was used in developing data collection instruments as presented in Section 3.4.

The study aims to empower women in disaster risk governance within disaster preparedness. Hence, after presenting the concepts related to women's empowerment, the following section presents a detailed literature review and synthesis on disaster risk governance and disaster preparedness. Accordingly, Section 2.5 presents a detailed synthesis of disaster risk governance, and Section 2.6 presents concepts related to disaster preparedness in detail.

2.5 Disaster risk governance (DRG)

Disaster risk governance is the second key concept relevant to the study. This is because disaster risk governance has been identified as one of the key ingredients to strengthen disaster risk reduction efforts effectively. In addition, disaster risk governance promotes all stakeholder participation in decision-making. Therefore, the following sub-sections from Section 2.5.1- 2.5.3 summarise the DRG, covering its definition, components, and importance.

2.5.1 Definition of Disaster Risk Governance

The term disaster risk governance is commonly used within the disaster literature and at many global agendas in the past decade due to its ability to enhance the effectiveness and efficiency of DRR measures (Renn & Klinke, 2012; Renn et al., 2011; UNISDR, 2015a). Risk governance refers to institutional structures and the policy processes that guide and restrain collective activities of a group, society or international community from regulating, reducing or controlling risk-related problems. In this process, the involvement of experts, stakeholders, and the public is recommended as a critical feature (Aven & Renn, 2018; Renn, 2015; Renn et al., 2011). Further, DRG explains how various actors respond to risks complementing uncertainty, complexity and ambiguity (IRGC, 2019; Renn, 2015).

Ikeda and Nagasaka, defined DRG as:

“An emergent version of integrated risk management that is tailored or directed to enhance a coping capacity under high complexity and uncertain conditions of post-industrial society” (Ikeda & Nagasaka, 2011)

According to Meerpoël (2015), DRG involves multi-stakeholders while the State performs the leading role. The State has the ability and powers to deal with legal, administrative and economic reforms when dealing with multi-stakeholders in the decision-making process and assign powers to them.

According to the UNDP, disaster risk governance (DRG) refers to:

“The way in which public authorities, civil servants, media, private sector, and civil society at community, national and regional levels cooperate in order to manage and reduce disaster and climate-related risks.” (UNDP, 2013, p. 1).

It further emphasises the necessity of ensuring resource availability and capacities to prevent, prepare, manage and recover from disasters. These measures are provided through mechanisms, institutions and processes securing its citizens’ interests, legal rights and obligations (UNDP, 2013).

After considering all the above definitions, the study occupies the UNDP definition since it covers multi-stakeholders engagement at the community and national level in managing and reducing disaster and climate-related risks. This process will ensure resources and capacities through mechanisms, institutions, and processes to reduce women's vulnerabilities and enhance resilience in societies through women's empowerment.

2.5.2 Components of Disaster Risk Governance:

The International Risk Governance Council (IRGC) introduced a Risk Governance Framework (RGF), which comprises five key elements: pre-assessment, appraisal, characterization and evaluation, management and cross-cutting aspects (IRGC, 2019; Renn, 2015). Pre-assessment refers to risk framing, early warning, and preparing for risk handling with relevant stakeholders. The appraisal element involves deciding whether a risk should be taken and, if necessary, identifying and selecting suitable options for preventing, mitigating, adapting or sharing risk based on a knowledge base. Characterization and evaluation refer to comparing the outcome of risk appraisal with specific criteria, determining the significance and acceptance of the risk, and preparing decisions. The management element refers to designing and implementing the strategies required to avoid, reduce, transfer or retain the risks. Finally, the cross-cutting element comprises communication, stakeholder engagement and the context (Renn, 2015; Renn et al., 2011).

In addition, Collins et al. (2020) also presented similar elements of DRG as technical, risk perceptions, evaluation, risk management and communication. Several other researchers have emphasised the significance of open, transparent and inclusive communication and engagement of multi-stakeholders in assessing and managing risks within the relevant societal context as critical elements of DRG (Collins et al., 2020; Fu & Zhu, 2020).

The risk governance concept was developed based on good governance principles: participation, accountability, transparency, equity, and effectiveness. More than 120 countries have introduced legislation and policies to enhance governance (UNDP, 2013). One of the vital element of DRG is multi-stakeholder participation (R. Haigh & D. Amaratunga, 2010; Renn & Klinke, 2012). Multi-stakeholder participation is vital for informed decision-making to minimize the negative results of trade-offs under high risks and uncertain conditions (Aven & Renn, 2018; Ikeda & Nagasaka, 2011; Renn, 2015). These trade-offs are significant in some groups, which have been neglected or ignored in decision-making. Among these overlooked stakeholders, women have been identified as vital stakeholders (UNISDR, 2015a).

Risk governance connects horizontally with government ministries and departments and with regional, departmental and local governments and sets specific roles for related institutions. It is aligned with a broader governance concept, which deals with political interferences balancing different interests with political realities. This accommodates to represent communities and vulnerable groups in the government decision-making process (UNISDR, 2015a).

2.5.3 Importance of Disaster Risk Governance: Global policy context

The importance of DRG has increased along with the growing trend of disasters (UNDP, 2005; Van Asselt & Renn, 2011). Several international frameworks have introduced evolving strategies, including DRG, to reduce disaster risk. For example, the Hyogo Framework for Action was introduced as the first international framework for DRR during 2005-2015 for building the resilience of nations and communities. The framework emphasized the importance of governance for increasing capacities at the national and community level. It further acknowledged the importance of gender-sensitive disaster risk management policies, plans and the decision-making process at all levels (UNDP, 2005). Nevertheless, some gaps and challenges were identified within the framework. Among these challenges, minimum risk governance was highlighted as a challenge. The minimum risk governance should be addressed within organizational, legal and policy considerations (UNISDR, 2015a). Further, the framework was unable to identify any links to empower women in DRG.

Keeping another step ahead in 2015, the HFA was replaced by the Sendai Framework for Disaster Risk Reduction for 2015-2030. The SFDRR has four priorities. Strengthening risk governance is its second priority, focusing on enhancing good governance for efficient and effective disaster risk management at the national, regional and global level (UNISDR, 2015a). DRG is particularly important for poor and developing countries. Because many of their systems and institutions have been affected by weak regulatory frameworks, weak capacities, limited information and limited funding (White et al 2004 as cited in Twigg, 2015a), demonstrating weak risk governance (UNISDR, 2015a). Since good governance ensures efficient and effective economic, social and environmental decisions (Rogers & Hall, 2003), it is necessary to strengthen DRG due to increasing disaster risk (Pal & Shaw, 2018).

The framework further emphasises the leading, regulatory and coordinating role of women in designing and implementing of DRR related policies, plans and standards (UNISDR, 2015a). Several researchers highlighted how the disproportionate impact of disasters on

women could be minimized through their empowerment in DRG (Asaju & Adagba, 2013; Burnet, 2008; Gurmai, 2013b; Jayatilake, 2005; Kaur, 2016; Khan & Ara, 2006; Sepali Kottegoda, 2011; C. O. Ngara & A. Ayabam, 2013; Nwabunkeonye, 2014) as presented in Section 2.4.2.

However, neither the framework nor any empirical evidence clearly describes how to empower women in DRG. Thus, the present status of women's empowerment in DRG has not been satisfactory (Dhungel & Ojha, 2012; Kabir et al., 2018; Kimber & Steele, 2017; Moreno & Shaw, 2018).

The Section 2.3.3 and Section 2.4.3 explained how important women's empowerment in disaster risk governance. As explained in the two sections, women's empowerment is important in overall decision making systems including public sector, private sector and community level. Therefore, this study intended to propose a framework for enhancing women's empowerment in DRG, identifying the factors that affect their empowerment in DRG. The study was conducted in Sri Lanka, limiting to the disaster preparedness system, limiting its scope. The disaster preparedness system was selected due to its importance and ability to reduce future disaster risks and enhance resilience as explained in Section 1.6. Thus, the following section provides the concepts related to the disaster preparedness and preparedness system based on the literature.

2.6 Disaster preparedness

As explained above, the study was conducted in Sri Lanka, limiting it to the Sri Lankan disaster preparedness phase. The reason for limiting the study to the preparedness stage was explained in detail in Section 1.6. Mainly because of the importance of the preparedness stage over other stages as emphasised in the SFDRR. Thus, a brief synthesis of disaster preparedness is presented from Section 2.6.1 to 2.6.2, covering the disaster preparedness within the disaster management cycle and its importance.

2.6.1 Disaster preparedness phase in the disaster management cycle

The increasing trend of disasters urges policymakers to introduce effective strategies to reduce future disaster risks and prepare for their consequences (IPCC, 2014). Among such strategies, preparedness measures were highlighted over post-disaster response and recovery measures (ISDR, 2010; UNISDR, 2010). Nevertheless, most DRR strategies are limited to cost-effective short-term response and recovery measurements (UNISDR, 2004). Therefore, practitioners and researchers demand more proactive strategies (Twigg, 2015b), long-term, inclusive and coherent institutional arrangements towards effective

disaster management (Khan et al., 2008). Such proactive strategies are embedded in the disaster management cycle.

The Disaster Management Cycle comprises four stages: prevention, preparedness, response and recovery (Khan et al., 2008; Sawalha, 2020). Previously, it was considered as the Emergency Response Cycle, comprised of four stages (Susan L Cutter, 2003).

According to different authors, the activities and the agencies involved in the disaster management cycle varies (Sawalha, 2020). For example, Alexander (2018) identified mitigation, preparedness, emergency intervention, recovery and reconstruction while Khan et al. (2008) and Sawalha (2020) categorised disaster management cycle as mitigation, preparedness, response and recovery measures.

Mitigation can be explained as measures introduced before a disaster strike to reduce the probability of disaster occurrence. Similarly, mitigation activities can also be explained as activities that are aimed to reduce effects of disasters. Some examples can be highlighted as building codes, land use management practices and policies, use of building regulations, setting up health care and awareness campaigns (Khan et al., 2008; UNISDR, 2017).

Preparedness stage can be explained as the activities planned by stakeholders to save lives and minimise disasters impact and further to reduce the efforts on disaster response and reconstruction measures. Specifically, preparedness measures are aimed to increase capacities of people efficiently managing the disaster. Some of the examples are risk analysis, preparing contingency planning, providing early warning, stockpiling of necessary materials, goods and equipment and coordination of response measures. Hence, effective preparedness measures enhance emergency management capacities (Khan et al., 2008; UNISDR, 2017).

The third stage identified in the disaster management cycle is the response stage, which is also known as the emergency response stage. Response stage can be identified as a post-disaster management stage which provide assistance to assure maintenance of lives of the affected communities providing basic needs, health facilities and temporary shelters. Most of these responses are also related to emergency assistance to support the lives after a disaster strike (Khan et al., 2008; UNISDR, 2017).

The final stage of the disaster management cycle is the recovery and reconstruction stage. This stage helps to restoring lives and livelihoods of affected communities. During response and reconstruction stage, most of the medium and long term rebuilding efforts are undertaken. They restore critical infrastructure, rebuild destructed housing and businesses to bring the life after disasters (Khan et al., 2008; UNISDR, 2017).

According to them, pre-disaster activities, for example, awareness campaigns and disaster management planning, involve any activities that reduce human and property losses caused by disasters, for example, awareness campaigns and disaster management planning (Khan, 2008). They are also termed as mitigation and preparedness activities. The post-disaster stage involves emergency response activities and post-disaster recovery activities.

A disaster management cycle could influence public policies and plans, either to change the causes of future disasters or to mitigate its effects in the future (Khan, 2008). Within this disaster management cycle, Khan (2008) identifies four disaster management phases: mitigation, preparedness, response and recovery

The UNISDR defines disaster preparedness as;

“The knowledge and capacities developed by governments, professional response & recovery organizations, communities and individuals to effectively anticipate, respond to and recover from the impacts of likely, imminent or current hazard events or conditions” (UNISDR, 2009, 2017).

Several researchers also explained disaster preparedness. For example, Twigg (2004) refers to disaster preparedness as any specific measures taken before a disaster strike. These measures include forecasts, warnings, take precautions or arrange for the appropriate responses. According to Adame and Miller (2015), disaster preparedness consists of a minimum of three items: a disaster kit, a plan and being informed. A disaster kit consists of food, water, and supplies required to maintain for 72 hours. A plan refers to a safe meeting location, knowledge of the evacuation, resemble areas and contact information. Finally, informed is about the potential disasters, available resources for the community and plans.

Preparedness is also considered as planning (Gillespie and Streeter, 1987 as cited in McEntire & Myers, 2004). This includes resource identification, warning system, training simulation and other pre-disaster actions to improve the safety and effectiveness of communities’ response during disasters. According to IFRC, disaster preparedness planning involves identifying organisational resources, determining roles and responsibilities, developing policies and procedures, and planning activities (IFRC, 2014).

The overall objective of disaster preparedness is to foresee problems in advance and make plans for possible solutions (Mileti as cited in McEntire & Myers, 2004), which enhance community’s capacities for resilience (Adame & Miller, 2015; Gerber & Robinson, 2009; Perry & Lindell, 2003; Sadiq et al., 2016).

According to Piper (2011), disaster risk management planning is conducted by government authorities at different levels of the governmental structure. Some of the plans are formulated based on a community base, combining with poverty reduction initiatives. He refers to disaster risk management planning as disaster preparedness. Kadel (2011) describes disaster preparedness as to list of measures. For example, forecasting, setting up early warning systems, institutional arrangements, evacuations, emergency management, evacuation drills, public awareness, training officials and the community, training intervention teams, establishing policies, standards, and organising arrangements and recovery plans. Hence, its objective is to enhance readiness to face any emergencies, for example, the readiness of foods, equipment, water, medicine and other essentials.

After considering all the above definitions and explanations, the study occupies the definition provided by the UNISDR. The study aims to propose a framework for enhancing women's empowerment in DRG within the disaster preparedness system to reducing their vulnerabilities and enhancing societal resilience. Hence, the UNISDR definition covers all necessary measures taken by governments and relevant stakeholders to face and respond effectively to future disasters. The study's proposed framework would empower women working in such agencies, assuring disaster risk governance.

2.6.2 Importance of disaster preparedness

Several international frameworks were initiated around disaster risk reduction after the International Decade for Natural Disaster Reduction (IDNDR) was declared in 1990. The HFA played a significant role in advancing DRR efforts globally (Djalante & Thomalla, 2012). Its fifth priority is to strengthen disaster preparedness for effective response at all levels. In 2015, the SFDRR replaced the HFA as stated in Section 2.3.1. The overall SFDRR emphasises the necessity of strengthening disaster preparedness. Its fourth priority is specifically emphasised to enhance disaster preparedness for effective response and build better recovery, rehabilitation, and reconstruction. As an action-oriented framework, this can be implemented by governments and stakeholders in a complementary manner (UNISDR, 2015a). All these global frameworks emphasised the significance of preventive measures and preparedness measures for reducing the loss of lives and property damages.

Because disaster recovery and reconstructions take months and years (Fariyal Ross-Sheriff, 2007a), it is worthwhile to reduce the economic cost and human cost of disasters through disaster preparedness strategies (Col, 2007b). Further, preparedness measures are essential since the response efforts entirely depend on the success of the preparedness plans. Such preparedness measures must be designed in consultation with authorities other relevant stakeholders (IFRC, 2014).

Having understood the significance of preparedness, several countries initiated preparedness measures to reduce future disaster risks (Kadel, 2011; Fariyal Ross-Sheriff, 2007a; UNISDR, 2005, 2015a). For example, the Government of China invested US\$3 billion in flood control projects (1960-2000). As a result, they were able to reduce an economic loss of US\$12 billion from flood damages in China. The government of Indonesia similarly introduced localised policies and investments in flood prevention measures and saved an estimated loss of US\$45 million. The USA invested US\$3.5 billion on a multi-hazard risk reduction project (1993-2003) with an estimated net benefit of US\$14 billion (CDKN, 2014).

When designing disaster preparedness systems, all relevant stakeholders should be taken into consideration. For example, if the information is disseminated to communities through SMS, it must ensure that all community members are literate and have access to mobile phones. Similarly, warnings should be communicated to people who live in houses during the day, such as women, the elderly, and children. Such arrangements will enhance effective response and relief efforts since people are diverse and have different needs and requirements. For example, women may need specific requirements, such as sanitary facilities, reproductive support systems or medications, more clothes, medicine, separate toilets or bath facilities, separate places for breastfeeding and delivery of babies (Saito, 2012).

Disaster preparedness measures are also considered as traditions or customs. Every society prepares a plan to face natural hazards (Kinosita, 1991). For example, early generations knew how to take action according to the changes in the environment. Kinosita (1991) named it primitive forecasting, which is not considered by the new generations due to a lack of experience. Within a changing climatic context, such traditional primitive measures could also help prepare for disasters (CRED-UNISDR., 2016).

2.6.3 Problems associated with disaster preparedness

Although disaster preparedness is significant as an effective DRR strategy, disaster preparedness measures are challenged by several factors. Quarantelli (1994) identified economic and social costs, human and societal value priorities, poor design implementation, highly bureaucratic organizational structures and low political support as challenges for present disaster preparedness systems. In addition, disaster preparedness plans have been prepared based on false information and assumptions. For example, many people assumed that people would react in a state of panic to a disaster, although their acts are responsive in many cases, as explained by (Quarantelli, 1994). Another significant issue is the nature of apathy in preparedness and planning activities due to a lack of

interest in a particular issue (Heide, 1989 as cited in McEntire & Myers, 2004). Similarly, the importance of preparedness is unknown and difficult to measure (Kreps, 1991).

Saito (2012) identified limited stakeholder engagement as a critical challenge. For example, Saito (2012) pointed out how disaster preparedness measures were designed with a limited number of stakeholders in Japan. For example, during the 2011 tsunami incident, women suffered disproportionately high at the emergency centres in Japan. According to Saito, a significant reason was the lack of women's representation at the decision-making level during the disaster preparedness stage.

Most disaster preparedness systems have been designed by male-dominant culture (S Bradshaw & M Fordham, 2013; Dominique & Leilanie, 2016; Saito, 2012). Hence, women's needs and their requirements have been overlooked within disaster preparedness systems. Hence, the necessity of women's contribution in disaster preparedness decision-making was identified as essential (E. Enarson, 2012; Sepali Kottegoda, 2011; Parkinson, 2011). Hence, this study was conducted to propose women's empowerment in disaster risk governance within the disaster preparedness systems.

After presenting key concepts related to the study, the following section presents the key concepts in the Sri Lankan context since the study was conducted in Sri Lanka. Sri Lanka is frequently subjected to disasters, as explained in Section 1.6; for example, floods, droughts, landslides, sea erosion, and tsunami (Jayawardane, 2006a; Wickramaratne, Ruwanpura, Ranasinghe, Walawe-Durage, et al., 2012). Regarding the impact of disasters on women, there is no exception to Sri Lanka (Banford & Froude, 2015). Therefore, several researchers have proposed strategies to minimise the disproportionate impact of disasters on Sri Lankan women. For example, Thurairajah et al. (2010) also proposed some strategies to empower community women in post-disaster reconstruction within the built environment context in Sri Lanka. Ginige et al. (2014a) emphasised the importance of incorporating women's perspectives in DRR strategies to reduce their vulnerabilities within the built environment context in Sri Lanka and proposed strategies to mainstream community women in DRR within the built environment context in Sri Lanka.

However, those studies have focussed on the post-disaster stage, community women to reduce their vulnerabilities and the context of the built environment. Hence, this study will be novel to the literature and the policy and practice. It aims to empower women in DRG within the disaster preparedness system and focuses on women in administration rather than empowering community women. Therefore, the following section presents a literature review on each concept discussed earlier within the Sri Lankan context.

2.7 Sri Lankan context

This section presents a brief description of Sri Lanka regarding a geographical, social, and economic background. This section is followed by the Sri Lankan disaster profile, disaster preparedness system, and women's empowerment in DRG.

2.7.1 Sri Lanka country profile

The Democratic Socialist Republic of Sri Lanka is an island located in the Indian Ocean with a land area of 65,610km² with a 1,340km coastline. With its proximity to the equator, the country has a tropical climatic condition with two monsoon rainfalls: the Southwest monsoon (May - September) and Northeast monsoon (December -February). Sri Lankan land elevation consists of three levels; central highlands, plains and coastal belts (Central Bank of Sri Lanka, 2019).

Sri Lanka comprises nine administrative provinces across twenty-five districts. According to the Human Development Index (HDI), the country belongs to a medium level human development category. The country was ranked 72nd among 189 countries in 2019. Sri Lanka stands at a better position in the HDI when compared to India, which stands at 129th, Bangladesh at 136th, Pakistan at 154th and Maldives at 105th positions. (UNDP, 2019b). Its present population is more than twenty-one million, with a national average population density of 348 people per km². The highest population density is recorded from the western province with 1621 persons per km². Sri Lanka is an ethnically diverse country representing seventy-five per cent Sinhalese, eleven per cent Sri Lankan Tamils, four per cent Indian Tamils, and eight per cent represents Sri Lankan Moors (Central Bank of Sri Lanka, 2019).

2.7.2 Gender disparity in Sri Lanka

Sri Lanka is home to twenty-one million people, with more than fifty-three per cent of the female population (Central Bank of Sri Lanka, 2019). The average life expectancies at birth are eighty years for females and seventy-three years for males. The female literacy ratio is 91.6 per cent, whereas, for males, it is 93.4 per cent (UNDP, 2019b). These indicators demonstrate satisfactory results for women and girls in Sri Lanka compared to the region.

However, contribution to economic activities shows a significant disparity between males and females in Sri Lanka, as shown in Figure 2.3. For example, economically active males counted for more than 5.5 million, while economically active females counted for three million. Similar results were confirmed with the Labour Force Participation Rate (LFPR) between males: females, which is 74.6 per cent and 35.4 per cent, respectively (UNDP,

2019b). Unemployment rates between males and females also demonstrated a significant gender gap. The male unemployment rate is 3.3 per cent, and for females, it is 7.4 per cent (Central Bank of Sri Lanka, 2019). The results are further highlighted with the Gross National Income (GNI) per capita. GNI per capita for the female is US\$7,433, and for a male is US\$18,423 (based on 2017 PPP) (UNDP, 2019b). The above mentioned economic indicators demonstrate the economic status of women in the country.

2.7.3 Level of women's empowerment in Sri Lanka

The above gender differences in terms of economic affairs have been further elaborated in human development indicators. According to the Human Development Report (HDR) (2019), the level of women's empowerment in Sri Lanka represents mixed results. The HDR calculates several indicators to represent individual countries' human development levels across many fields. One such indicator is women's empowerment which is calculated as part of the Gender Inequality Indicator (GII) as shown in Figure 2.3. The GII measures three dimensions: health, empowerment, and labour market data.

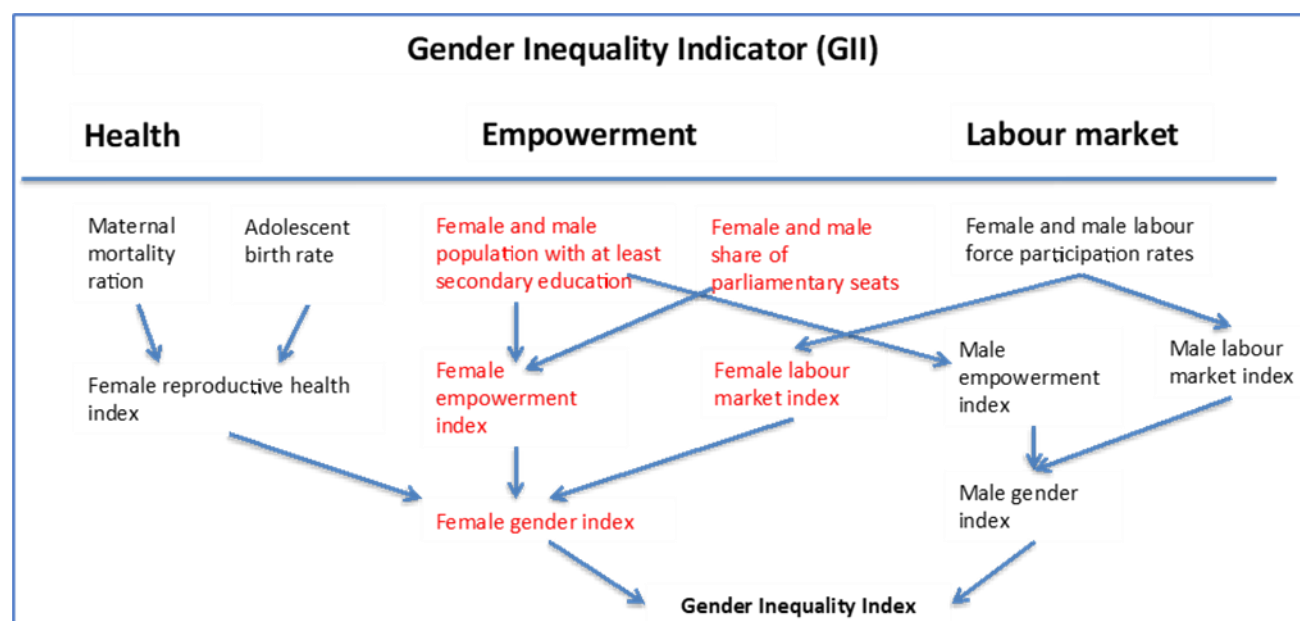


Figure 2. 1 Gender Inequality Indicator

Gender Inequality Indicator

Source: UNDP, 2019

The level of women's empowerment is presented as the female empowerment index, which considers thirteen variables under broad two areas as presented in Table 2.3. access to secondary education and the share of parliamentary seats. These two indicators are highly relevant in identifying women's empowerment since the study focuses on women in decision-making. Table 2.2 summarizes Sri Lankan GII compared to two regional countries, India and Pakistan and regional and global indicators. These data indicate the present women's empowerment in the country, highlighting the necessity of ensuring a satisfactory level of women's empowerment in Sri Lanka.

Table 2 2Gender Inequality Indicators

| Country | GII value | GII rank | Maternal mortality ratio | Adolescent birth rate | Female seats in parliament (%) | Population with at least some secondary education (%) | | Labour force participation rate (%) | |
|-------------------|-----------|----------|--------------------------|-----------------------|--------------------------------|---|------|-------------------------------------|------|
| | | | | | | Female | Male | Female | Male |
| Sri Lanka | 0.401 | 86 | 30 | 20.9 | 5.3 | 82.6 | 83.1 | 35.4 | 74.6 |
| India | 0.501 | 122 | 174 | 13.2 | 11.7 | 39 | 63.5 | 23.6 | 78.6 |
| Pakistan | 0.547 | 136 | 178 | 38.8 | 20 | 26.7 | 47.3 | 23.9 | 81.5 |
| South Asia | 0.510 | - | 176 | 26.1 | 17.1 | 39.9 | 60.8 | 25.9 | 78.8 |
| High HD1 | 0.331 | - | 56 | 33.6 | 24.4 | 68.9 | 74.5 | 53.9 | 75.6 |

Source: (UNDP, 2019b)

The GII was first introduced in 2010 to measure inequalities in gender relations. Sri Lanka's GII ranks at 86th place out of 162 countries in 2019, demonstrating mixed results. As indicated in Table 2.2, Sri Lankan women's access to secondary schools and health indicators are highly satisfied than the region. Nevertheless, women representation in parliamentary is minimum, according to data. According to Table 2.3, the socio-economic empowerment among Sri Lankan women is still at the minimum.

Table 2 3 Indicators of women's empowerment across Sri Lanka, India and Pakistan (2019)

| Country | Reproductive health and family planning (4 indicators) | | | Violence against girls and women (4 indicators) | | | Socioeconomic empowerment (5 indicators) | | | Overall (13 indicators) | | | Missing indicators |
|------------------|--|------------------------|------------------------|---|------------------------|------------------------|--|------------------------|------------------------|-------------------------|------------------------|------------------------|--------------------|
| | Top 3 rd | Middle 3 rd | Bottom 3 rd | Top 3 rd | Middle 3 rd | Bottom 3 rd | Top 3 rd | Middle 3 rd | Bottom 3 rd | Top 3 rd | Middle 3 rd | Bottom 3 rd | |
| Sri Lanka | 2 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 2 | 4 | 2 | 2 | 5 |
| India | 0 | 2 | 1 | 0 | 2 | 0 | 4 | 0 | 1 | 4 | 4 | 2 | 3 |
| Pakistan | 0 | 1 | 3 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 3 | 6 | 4 |

Source: (UNDP, 2019b)

In addition to these global and national data, several researchers have also highlighted the minimum women's empowerment in decision-making structures and political structures in Sri Lanka (Ginige, 2015; Herath, 2015; Liyanage, 2018a, 2018b; Nilmi & Thoradeniya, 2018; Vijeyarasa, 2020; Yogendrarajah, 2013). Nevertheless, some contrasting evidence is available in history. For example, the world's first women prime minister was originated from Sri Lanka. Some scholars identified the reason as the freedom for education, while others argue that this resulted from family backgrounds in political affairs (Liyanage, 2018a; Nilmi & Thoradeniya, 2018).

For the first time in 1820, Sri Lankan schools operated by missionaries opened schools for girls. This initiative generated many professional women, such as doctors, teachers, lawyers, in Sri Lanka by the 1900s (Jayewardena, 2003 as cited in Nilmi & Thoradeniya, 2018). Sri Lankan women have a high literacy rate than other countries in the region (UNDP, 2019b). The reason could be that the welfare policy of the colonial government helped towards the enhancement of the status of education and health among Sri Lankan women. As a result, the Women's Franchise Union were established. The Union provided more opportunities for women to engage in social and political movements in the country. Further to the education provided by the missionary schools, national schools, started by

the Theosophical Society, have further enhanced women's educational opportunities. This was considered a vital step towards women's emancipation (Nilmi & Thoradeniya, 2018).

Even though women were granted the opportunity for education, in the beginning, their curriculum was limited to basic skills, which were required for a housewives' role within a patriarchal society (Jayaweera, 2002 as cited in Nilmi & Thoradeniya, 2018). At the time, empowerment was mainly measured in terms of access to education. Hence, empowerment was considered a double-edged sword because education aimed to train women for social reproduction purposes (Nilmi & Thoradeniya, 2018).

Nevertheless, Sri Lankan civil service was opened to women in 1965 due to the pressure posed by the All Ceylon Women's Conference, allowing a 10 per cent quota for women administrators in the administrative system. It increased to 25 per cent in 1975, again to 32 per cent during 1980-1985, and during 2011-2015 to 65 per cent (Nilmi & Thoradeniya, 2018). It is a complete overtake of the civil service by female civil servants in Sri Lanka. Even though the number of women in the SLAS outnumbered the men, the LFPR reveals a contrasting result showing that only 35 per cent of women have been economically active during the decade (UNDP, 2019a).

Appointment to the Sri Lankan Administrative Service (SLAS) is based on a competitive exam, which takes a year. This long waiting time discourages men from applying for the SLAS. Most women candidates are ready to sacrifice this waiting period, compared to men, who are eager to find immediate appointments after graduation. The situation has easily attracted women candidates for the SLAS in recent history. Besides, most women candidates prefer government jobs because of job security and prefer working in a stationary position in an office instead of fieldwork. According to Nilmi and Thoradeniya (2018), men prefer private-sector jobs because of attractive remunerations and other benefits such as the ability to migrate. All the above reasons explain how women outnumbered men in the SLAS by filling the vacuum generated by men. This is significant because women outnumbered the SLAS, not because of the equal opportunities provided for women to be in the SLAS, but to make adjustments to replace the vacancies left by male graduates.

Even though the number is higher among female civil servants in Sri Lanka, it is still problematic to empower them to the full spectrum of their capacities (Herath, 2015; Liyanage, 2018a; Nilmi & Thoradeniya, 2018). Even though Sri Lankan women have demonstrated their competency and commitment in all fields, they have been overlooked at higher decision-making positions (Liyanage, 2018a). According to Bombuwela and Alwis (2013), women's planning, decision-making, and policymaking, either in the private or

public sector, is deficient in Sri Lanka. The issue demands substantial policy changes to empower women in governance towards overall development in Sri Lanka. In particular, women's empowerment in governance is primarily discussed in political leadership. Little has been studied of their role in the domain of disaster risk governance. Sri Lankan women have shown advancements in access to better educational opportunities when compared to many other developing countries. Even though there is an increase of women in public and private sector in terms of number, many women hold minor positions, earning low incomes (Herath, 2015). According to Herath (2015), most Sri Lankan women in the workforce, and the community, do not hold equal status and equal economic opportunities as their peers in other countries. They are subjected to many discriminations at the workplace in terms of sexual harassment and glass ceilings.

Hence, it is worthwhile to understand the existing legal and institutional provisions for women's empowerment in decision-making and specifically in disaster risk-related decision-making. Accordingly, the following section summarises Sri Lankan institutional and legislative arrangements applicable to women's empowerment in decision-making.

2.7.4 Policy and legislative background for women's empowerment in Sri Lanka

The Donoughmore Constitution introduced in 1931 granted equal opportunities to men and women for a franchise on the same terms and conditions (Bhutan, 2015). As a result, Sri Lankan women enjoyed franchise well before other Asian countries (Liyanage, 2018a). Later, the 1978 Constitution of Sri Lanka also provided the right to equality among men and women. According to the constitution, "No citizen shall be discriminated against on the ground of race, religion, language, caste, sex, political opinion, place of a birth or any one of such grounds" (Liyanage, 2018b).

In addition, Sri Lanka has ratified the International Covenant on Civil and Political Rights. Similarly, in 1981, Sri Lanka has ratified the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW). Again in 1993, the establishment of the Women's Charter was another milestone in the path towards securing equality and women's empowerment (Liyanage, 2018b). The Government also committed by endorsing the Platform for Action of the Fourth World Conference on Women in Beijing in 1995.

CEDAW and the Beijing Platform of Action, and the Millennium Development Goals were some more global policies influencing the country's efforts towards gender equality and empowerment. The National Plan of Action was introduced in 1996 under the Ministry of Child Development and Women's Affairs, updated by the National Committee on Women, with the support of relevant stakeholders in 2001. Amendment to the Citizenship Act of

1948 was another important milestone towards equality (Bhutan, 2015). For Local Governments (LGs), a mandatory quota system was introduced in 2016 to bring at least 25 per cent of women's representation in LGs (Vijeyarasa, 2020).

Mahinda Chintana framework, the National Development Programme (NDP), drives the national development process, identifies women as pioneers of development, prioritizes empowering women, and reduces inequalities between men and women (Bhutan, 2015). The Ministry for Women's Affairs, established in 1983, is the primary ministry responsible for ensuring women's rights and equality in the country. Later, the ministry was converted to the Ministry of Child Development and Women's Affairs. The new ministry is composed of the Ministry, the National Committee on Women, the Women's Bureau of Sri Lanka, and the Children's Secretariat. The Ministry is responsible for implementing relevant policies and disbursing funds and addresses issues related to women in plantations, those in war and conflict-affected areas, and women securing overseas employments and migrating on work, providing training and introducing income generation opportunities through the development officers appointed at the Divisional Secretariat offices. Despite these different measures, few laws have been introduced to remove gender discrimination in Sri Lanka (Bhutan, 2015).

Having presented the present legislative and institutional background for women's empowerment in Sri Lanka, the following section presents Sri Lanka's disaster profile and the disaster risk governance within the disaster preparedness system.

2.7.5 Disaster profile in Sri Lanka

Due to its geographical location and long-term human interventions, Sri Lanka faces many disasters, for example, floods, tsunami, landslides, droughts, cyclones complicated by coastal erosion, and deforestation (Wickramaratne, Ruwanpura, Ranasinghe, Walawe-Durage, et al., 2012). Sri Lanka was among the top three countries affected by disasters in 2017 regarding weather-related events, ranked as the second-highest on the Climate Risk Index due to extreme weather events (Eckstein et al., 2019). The recurrent events of disasters have affected the country's economy severely. For example, flooding between 1990-2018 caused over US\$ 2 billion (UNDRR, 2019).

Like other countries, Sri Lanka also demonstrates a gender disparity in disasters. Disproportionate impacts of disasters on women were repeatedly evident during the 2016 and 2017 flood disasters (UNDRR, 2019). Women have become more vulnerable to flooding due to socio-economic, socio-cultural factors and lack of gender sensitivity in policymaking (De Silva & Jayathilaka, 2014). Following are the common disasters caused by natural hazards in Sri Lanka.

2.7.5.1 Floods

Floods are the most frequent natural hazard in Sri Lanka (De Silva & Jayathilaka, 2014). Sri Lanka has 103 river basins and five major rivers (Mahaweli, Kalu, Kelani, Gin and Nilwala) across the country (Wickramaratne, Ruwanpura, Ranasinghe, Walawe-Durage, et al., 2012). A recent flooding incident in May 2016, due to the tropical storm, Roanua, caused severe damages resulting in flooding and landslides. According to the Disaster Management Centre (DMC) in Sri Lanka, more than 301,600 people were affected by floods and landslides, with a recorded death toll of 104 and 99 missing people. More than 600 houses were destroyed, and more than 4,400 houses were damaged. This flooding affected 22 districts out of 25 districts in the country (OCHA, 2016b). Similar flooding and landslides were reported again in 2017, with a death toll of 200 people, with more than a half-million people affected people in twelve districts (UNDRR, 2019). In the 2017 floods, more than 150,000 women and girls and more than 189,000 children were affected (Reliefweb, 2017).

2.7.5.2 Landslides

Twenty per cent of the total land area in Sri Lanka is subjected to the landslide threat (UNDRR, 2019; Wickramaratne, Ruwanpura, Ranasinghe, Walawe-Durage, et al., 2012). 13 districts have been identified by the National Building Research Organisation (NBRO) as landslide-prone areas in Sri Lanka: Kalutara, Galle, Hambantota, Nuwara Eliya, Matale, Kandy, Kegalle, Ratnapura, Matara, Badulla, Monaragala, Gampahga, and Kurunegala (NBRO, 2017). During the 2016 floods, severe landslide incidents were reported from Aranayake in the Kegalle district. Thirty-seven people died, and more than 150 people were reported as missing due to this landslide incident (Guardian, 2016).

2.7.5.3 Tsunami

Sri Lankan chronicles of Mahavamsa and Rajawaliya mentioned a tsunami incident in the history (Suraweera, 2000 as cited in Wickramaratne, Ruwanpura, Ranasinghe, Walawe-Durage, et al., 2012). However, the 2004 Indian Ocean Tsunami (IOT) was the first recent evidence in Sri Lanka. The IOT severely affected the Northern and Eastern provinces in the country, with a death toll of more than 31,000. More women and children died in Sri Lanka (Sepali Kottegoda, 2011). Due to the IOT, 260,967 families (1.3 million people) were affected, and around 4,100 people were reported as missing. More than 108,500 houses were damaged, with a total estimated economic loss of US\$3.6 billion (DMC, 2015).

2.7.5.4 Cyclones

Sri Lanka is vulnerable to cyclones too, due to its geographical location and proximity to the Bay of Bengal. The North and Eastern parts are frequently subjected to cyclones, for example, in 1964, 1978, 1992 and 2000 (Wickramaratne, Ruwanpura, Ranasinghe, Walawe-Durage, et al., 2012). However, in 2016, the Rounua Cyclone affected Sri Lanka and caused severe damages to more than 22 districts in Sri Lanka (OCHA, 2016b). The effects of cyclones are complicated with heavy rains, resulting in flooding and landslides across the country. The most recent cyclone incident was recorded in 2020, cyclone Burevi. Accordingly, more than 75,000 people were evacuated before the cyclone hit the country.

2.7.5.5 Droughts

Due to its proximity to the equator, Sri Lanka is frequently affected by droughts (Wickramaratne, Ruwanpura, Ranasinghe, Walawe-Durage, et al., 2012). The worst-hit droughts were reported in 1992 and 2001 (Desinventar, n.d.). After 40 years, the worst ever reported drought was reported in 2017, with severe impacts on agriculture in the Southern and Puttalam districts.

The above described are the most frequent disasters induced by natural hazards in Sri Lanka. Wickramaratne, Ruwanpura, Ranasinghe, Walawe-Durage, et al. (2012) too confirmed the most common and significant natural hazards in Sri Lanka as floods, tsunami, droughts and landslides. Therefore, this study was conducted in the Sri Lankan context, representing all significant disasters globally and representing a medium low-income country.

After the IOT incident, the Government of Sri Lanka has introduced disaster risk governance measures to strengthen the disaster management system in the country. Such measures have been introduced at the pre-disaster phases (mitigation and preparedness) and the post-disaster phases (relief, rehabilitation and reconstruction) (Jayawardane, 2006b). The following section presents a brief overview of the Sri Lankan disaster risk governance mechanism applicable to the disaster preparedness system in Sri Lanka.

The above section highlighted the present disaster profile, which emphasised the necessity of strengthening disaster preparedness. Higher the disaster risk, the possibility of women's vulnerabilities to disaster become high. Hence, for effective disaster preparedness, disaster risk governance could be strengthened through women's empowerment to address the problems faced by one of the most victimised groups in society. Within this context, the following section presents the current DRG within the disaster preparedness system in Sri Lanka.

2.7.6 Disaster risk governance within the disaster preparedness system in Sri Lanka

2.7.6.1 Policy and legislative background

After the IOT, the Government of Sri Lanka has introduced the following legislative and institutional measures for strengthening the disaster management system.

1. National Policy on Disaster Management – 2010.
2. The Disaster Management Act No.13 of 2005.
3. National Disaster Management Plan – 2013 - 2017.
4. A Comprehensive Disaster Management Program (SLCDMP) (2014-2018).
5. Sri Lanka Comprehensive DM Programme 2014 – 2018.
6. National Emergency Operational Plan.

Among the stated policy and legislative arrangements, the National Policy on Disaster Management and the Disaster Management Act are the most significant policy and legal documents that govern the disaster preparedness system in Sri Lanka, assuring disaster risk governance.

2.7.6.1.1 National Policy on Disaster Management

The Ministry of Disaster Management prepared the disaster management policy. The Ministry acts as the secretariat of the National Council for Disaster Management (NCDM), according to the Disaster Management Act No. 13 of 2005. The policy governs all matters relating to disaster management in Sri Lanka. These include the formulation of the National Disaster Management Plan (NDMP), the National Emergency Operations Plans, and the disaster management plans for every ministry and other governmental institutions. The Sri Lankan Disaster Management Policy adheres with the international disaster management frameworks, specifically with the Hyogo Framework for Action 2005-2015 (Ministry of Disaster Management, 2010).

As per the Act, the policy is expected to provide:

- a. the protection of the life of the community, property and environment from disasters and development and maintenance of disaster-resilient infrastructure and economic development activities in disaster-prone areas;
- b. the effective use of resources for preparedness, prevention, response, relief, reconstruction and rehabilitation;
- c. the enhancement of public awareness and training to help people to protect themselves from disasters;

- d. capacity building, among persons living in areas vulnerable to disaster, in relation to risk management and the application of disaster management and mitigation practices; and
- e. pre-disaster planning, preparedness and mitigation while sustaining and further improving post-disaster relief, recovery and rehabilitation capabilities. (Ministry of Disaster Management, 2010).

One salient feature of the Sri Lankan Disaster Management Policy is its multi-dimensional nature. It focuses on multi-hazards, multi-phase, multi-sectors, multi-stakeholders, multi-locality and multi-temporal aspects of all disaster management activities. The multi-phase aspect considers all the stages of a disaster, before, during and after the disaster, including the prevention, reduction, mitigation, preparedness, emergency operations, relief, recovery, rehabilitation, and the reconstruction and review phases. Further, the engagement of all relevant stakeholders, such as government agencies, the private sector, civil society, the international community, and the public, ensure the participation of multi-stakeholders in decision-making. The multi-locality emphasises the need for covering international, regional and national perspectives via provinces, districts and Grama Niladhari (GN) levels within Sri Lanka (Disaster Management Policy, Government, Sri Lanka (Ministry of Disaster Management, 2010).

The policy furthermore ensures equality, diversity and inclusion. Since Sri Lanka has multi-cultural and multi-ethnic communities, equality and diversity is a necessary factor. Hence, the Policy ensures the right to receive assistance and information for all people affected by disasters, regardless of their gender, religious beliefs, ethnicity, and abilities. The policy emphasised the necessity of giving special attention to marginalised groups, including girls and women, the most vulnerable. The policy mentions the importance of transparency and the accountability of any disaster management activity. More importantly, the decision-making should be through a participatory, transparent and accountable manner at all levels. The Ministry is responsible for developing awareness programmes on hazards. Further, the policy underlines the necessity of community participation in disaster-prone areas in the planning, decision-making, implementation, and monitoring activities (Ministry of Disaster Management, 2010).

The special provision available for preparedness is that a single agency should disseminate clear early warnings at the national, sub-national and community level. Further, it is necessary to have a disaster management plan for all government and private sector organisations. Moreover, the Government is responsible for establishing emergency call centres and other emergency mechanisms, at national and sub-national levels, with access being on a 24/7 basis (Ministry of Disaster Management, 2010).

National Policy on Disaster Management is a key for Sri Lanka's national regime for disaster management. It articulates overarching principles and preferred outcomes for disaster management in Sri Lanka. The policy further provides policy directives to address the issues such as inadequate coordination among stakeholders agencies, duplication of efforts, and insufficient policy directives to reduce disasters' human and economic impacts. The above-explained arrangement clearly explains how the disaster risk governance within the disaster preparedness and overall disaster management system is assured through the policy.

2.7.6.1.2 Disaster Management Act of No.13 of 2005

The Disaster Management Act was introduced in 2005, after the IOT incident. (Ministry of Disaster Management 2014). The Act established the NCDM as the highest level political institution, headed by the President and the Prime minister as the Chairman and Vice-Chairman to the council. The Act also set up the DMC, which performs its duties under the Council. DMC is responsible for implementing the disaster management system in the country (Wickramasinghe, 2007).

2.7.6.1.3 National Disaster Management Plan (NDMP) 2013-2017

The National Disaster Management Plan was introduced as the guiding document for undertaking all disaster management related activities during all its stage. The plan aims to reduce disaster impact on communities, infrastructure, lifeline facilities, shelter, agricultural property, economic and development activities in Sri Lanka. The plan targets all relevant stakeholders, including government officials from the national to the district level, non-government organizations, community leaders, the private sector, civil society, and professional organisations. The NDMP is implemented with other related national plans or policies. Thus, line Ministries, Departments and agencies consider the NDMP when they prepare their plans. Accordingly, all sub-national level authorities have their plans on par with the NDMP.

The NDMP provides the overall disaster management planning process at the national level. It also recommends actions at multiple levels to follow similar planning processes across horizontal and vertical layers. This plan covers management arrangements, relationships, mechanisms, strategies and corresponding timeframes for action to establish the Disaster Risk Management Framework (DRMF). The DMC is responsible for updating the plan every five years (Disaster Management Centre, 2014).

2.7.6.1.4 Sri Lanka Comprehensive Disaster Management Programmes (SLCDMP) 2014-2018

Another relevant legal document for assuring disaster risk governance within the disaster preparedness system in Sri Lanka is the SLCDMP. The Ministry of Disaster Management introduced this programme to ensure Sri Lanka's safety by reducing potential disaster risks and impacts on people, property, and the economy.

SLCDMP was developed with the contribution of multi-stakeholder consultations through a collective understanding of the present disaster management context. Accordingly, a futuristic approach was proposed to secure safety in Sri Lanka. The SLCDMP was based on key principles, alignment with national priorities, risk-based decision-making, focus on local and intermediate levels, Engage key development sectors and maximize co-benefits of investments in DRR, DRR benefits linked to the Key Performance Indicators (KPIs) of the stakeholder Ministries, Linking disaster risk reduction (DRR) and climate change adaptation, Aligning with the global frameworks on disaster risk management and Target Beneficiaries/Stakeholders. The target beneficiaries principle is directly relevant to the study since it focuses on women who represent 51.48% of the total population in Sri Lanka. Targeting these communities or group will directly benefit from the programme proposing applicable mitigation and rehabilitation facilities. The SLCDMP would facilitate the agencies to support mainstream long-felt gender needs and needs of persons with disabilities. In terms of governance within the disaster management systems, the programme also promotes collecting data, monitoring the implementation's effectiveness, and taking corrective action (Ministry of Disaster Management, 2014).

2.7.6.1.5 National Emergency Operational Plan NEOP (2015-2019).

As explained above, Disaster Management Policy and the Disaster Management Act provide the legal frameworks that govern the disaster preparedness system in Sri Lanka. Sri Lanka NEOP was introduced in 2015 by the DMC. The document was developed based on the Disaster Management Policy, Disaster Management Act and the National Disaster Management Plan. The document aims to prepare the country for a readiness state. Thus, it has documented all necessary actions by respective stakeholders (DMC, 2015). Thus the document also ensures the key aspect of risk governance. The document assigns the responsibilities of organisations and individual who engage in emergency operations. In addition, it draws the line of authority, organizational relationships to facilitate emergency operations.

The legislations mentioned above are implemented through state organisations. Therefore, the following section provides a brief introduction to the institutional mechanism of the Sri Lankan disaster preparedness system and an account of how the disaster risk governance is assured.

2.7.6.2 Institutional arrangement of the disaster preparedness system in Sri Lanka

Sri Lankan disaster preparedness and management system are operated through the national governance system. Thus, the central government play as the primary stakeholder in disaster management, assuring the country's resilience (Amaratunga et al., 2020; Ministry of Disaster Management, 2010; Siriwardana et al., 2018). Figure 2.4 demonstrates the institutional structure in the Sri Lankan disaster management system.

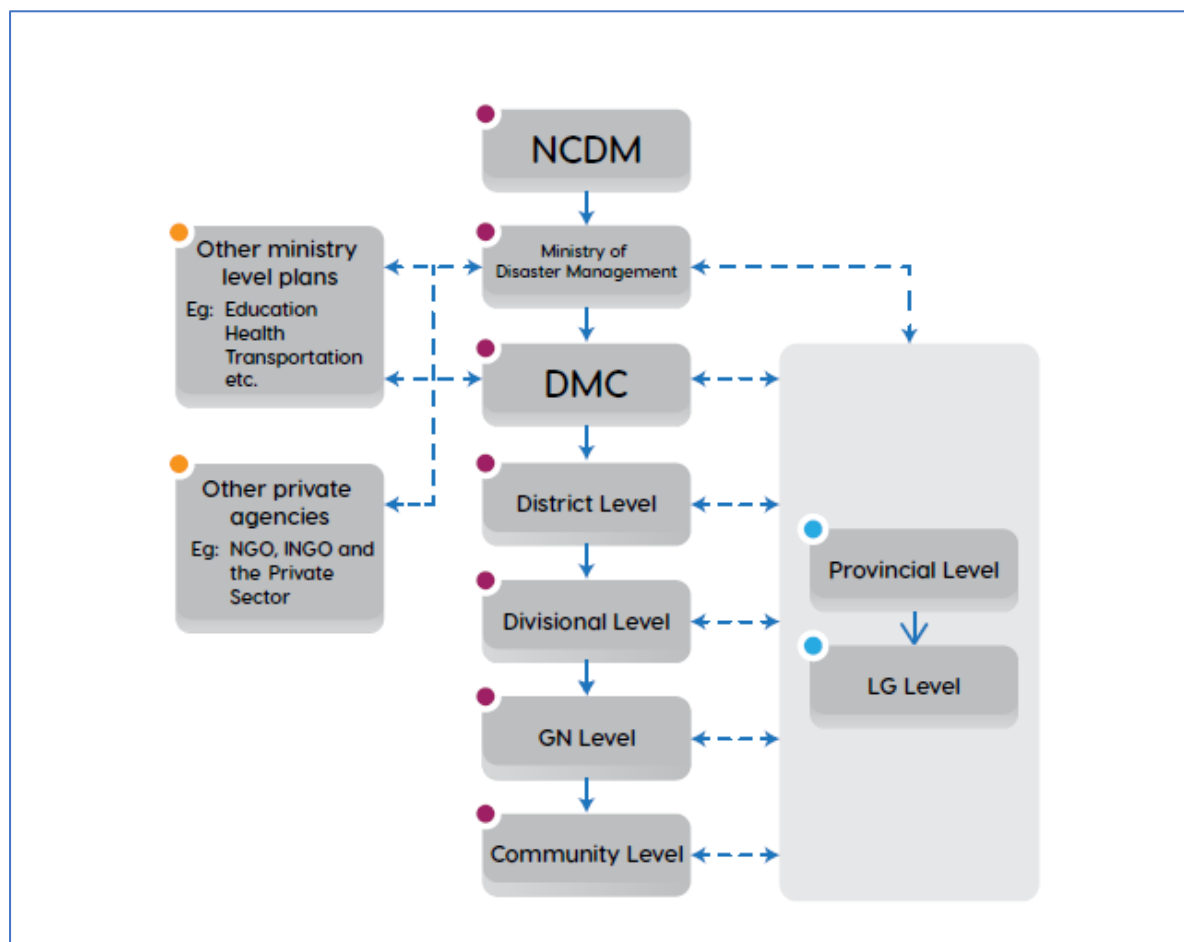


Figure 2. 2 Institutional Structure of the disaster preparedness system in Sri Lanka
Source: Disaster Management Centre

The NCDM, the Ministry of Disaster Management, DMC, NDRSC and some technical agencies are operated at the national level. The technical agencies represent the

Meteorological Department (MET) and the National Building Research Organization (NBRO).

The NCDM is the apex body that provides directions to implement all disaster management activities in Sri Lanka. The council is chaired by the President and is represented by the ministries of Defence, Finance, Health, Land and Agriculture, Forest and Environment, Housing, Water Resources, Science and Technology, Highways, and Fisheries. In addition, Chief Ministers of the Provincial Councils are also members of the council. The Speaker appoints five members of the Parliament to the council. The Council appoints the secretary to the council (Disaster Management Center, 2014; Hettiarachchi, n.d.). The governance is assured by taking all disaster management decisions by the Ministry of Disaster Management with the consultation of the NCDM. The Act provided the background to establish the NCDM clearly stating its roles, responsibilities and composition, demonstrating the level of effort made to secure governance.

Until 2020, the Ministry of Disaster Management functioned as a separate ministry with a vision of "Towards a Safer Sri Lanka", facilitating the harmony, prosperity and dignity of human life through effective prevention and mitigation of natural and man-made disasters in Sri Lanka. The Ministry engaged in formulating policies, frameworks and guidelines for disaster management with the Council's approval. The Ministry is also responsible for consulting relevant stakeholders and coordinating with other relevant ministries and institutions (Amaratunga et al., 2020; Ministry of Disaster Management, 2010). Nevertheless, with the recent changes in the political structures, the Ministry has been restructured under the Ministry of Defense and functions as the Disaster Management Unit.

DMC was established according to the provisions made by the Act. The DMC is directly responsible for the NCDM. Before the DMC, the National Disaster Management Centre (NDMC) was established in 1996 as the first national-level agency to deal with disaster management activities in Sri Lanka (Hettiarachchi, n.d.; Ministry of Disaster Management 2014). The NDMC was operated under the Ministry of Social Welfare in 1996 (Wickramasinghe, 2007). Some of its initiatives were the Sri Lanka Disaster Management Bill, the National Disaster Management Plan, and disaster preparedness and response plans at district, divisional and village levels. Accordingly, before the IOT incident, plans were available for five districts: Ratnapura, Hambantota, Galle, Matara and Kalutara (Wickramasinghe, 2007). Nevertheless, the Act did not mention the continuation of the NDMC. Hence, NDMC's responsibilities have been entrusted to the Disaster Management Centre, under the Ministry of Disaster Management (DMC Ministry of Disaster Management, 2005) while the NDMC was transferred to the Ministry of Disaster Relief Services in 2005 to coordinate relief, rehabilitation and reconstruction activities. Later, it

was renamed as the National Disaster Relief Services Centre (NDRSC) in 2007 (Siriwardana et al., 2018). Therefore, both DMC and the NDRSC operated under the Ministry of Disaster Management until the recent structural change. The situation has created confusions about the functions of these national-level institutions. These unclear functions made difficulties maintain accountability and lead to waste of resources, the misunderstanding of duties ending with a loss of lives (Wickramasinghe, 2007).

At the district level, the District Disaster Management Coordination Unit (DDMCU) and the District Secretary (DS) office perform their designated disaster management duties with the support of the District Disaster Management Committee. Both DS and DDMCU are directly responsible to the DMC. As part of the disaster preparedness system, DS collects data from the DivS offices and Divisional Disaster Management Committees (DivDMC) and feed it to the DDMCU. The District Secretary chairs the DDMC. DDMCU is headed by an Assistant Director representing either the civil service or from the forces. There are 25 DDMCU operated in Sri Lanka. The DDMCU is physically located in a separate building and resourced with officers representing the administrative service and from the forces. The Unit prepares a district-level disaster preparedness plan based on the input from the DivS through their GN officers. Accordingly, the DDMCU implements response and recovery measures.

Each district is divided into divisions. Accordingly, DivS offices perform their duties under the Ministry of Public Administration. In terms of disaster management, the DivS offices coordinate with the DS office, the DDMCU and the Divisional Disaster Management Committees. The Divisional Secretaries chair the Committees. The committee prepares divisional disaster preparedness plans with the support of the GN level officers and feeds their data to the district level disaster management committee. The Divisional Secretariat take actions for implementing disaster preparedness measures during a disaster. Under each DivS, an officer called Sahana officer is appointed from the Disaster Relief Service Centre. The person's responsibility is to coordinate the relief services with the DMRSC. The officer also engages with all other stages of disaster management at the DivS office.

Grama Niladhari divisions are the smallest administrative unit in Sri Lanka. At the GN level, the disaster management functions are operated by the GN officers with the GN Disaster Management Committees (GNDMC) and the community disaster management committees (Ministry of Disaster Management, 2010). They engage with preparing disaster preparedness plans at the GN level. The GN officers communicate their risk information to the DivS office.

The above-explained policy and legislative background and institutional structures demonstrate how the Sri Lankan disaster preparedness and management systems are operated. The above explanations help to understand some strengths and weaknesses within the disaster risk governance within the system. For example, Sri Lanka has a well documented legal and policy background supporting the disaster management system for securing resilience. Further, the systematic institutional structure also reveals how the coordination between key stakeholders is maintained, assigning clear duties and responsibilities. Nevertheless, the study examines how women's empowerment is assured in disaster risk governance within the above stated administrative structure in Sri Lanka with primary data, as presented in the fifth and sixth chapters.

2.8 Summary and the link

This chapter presented a synthesis of the concepts related to the study under main categories. First, the chapter synthesises the literature on natural hazards and their disproportionate impact on women. After emphasising the disproportionate impact of disasters on women, the relationship between women and disasters was presented, examining the reasons for high vulnerability and the untapped role of women in disasters. Next, the justification for women's empowerment was presented. The available theories on women's empowerment were described in the chapter. In addition to the theories, factors that affect women's empowerment in decision-making were presented as a guide for developing data collection instruments described in Section 3.6. According to the study scope, the study was conducted to support women's empowerment in disaster risk governance within the disaster preparedness system in Sri Lanka. The chapter investigated the definition of disaster risk governance, its importance and its key components. Similarly, the chapter also synthesised the literature related to disaster preparedness systems highlighting their importance and issues.

After conducting the initial literature review, a Sri Lankan context related to the concepts mentioned above was presented at the end of the chapter. Accordingly, the following chapter presents the study's methodology for achieving its aim stated in the first chapter.

Chapter 3 Research Methodology

3.1 Introduction

This chapter provides a detailed overview of the study's methodology in achieving the study's aim, as stated in Section 1.7. The chapter comprises sixteen sections. First, Section 3.2 describes the motivations behind identifying the research gap in the study, followed by Section 3.3 presenting the research aim, objectives and research questions. Next, Section 3.4 introduces the study methodology, while Section 3.5. presents the study design using the Research Onion model. Accordingly, all six layers in the Research Onion model applicable to this study are presented from Section 3.6 to Section 3.11. in detail. Section 3.12 presents the validity and reliability checks carried out in this study. After presenting the validity and reliability checks, Section 3.13 presents the research process used in the study by referring to chapters and research objectives. Nest, Section 3.14 describes the validation process conducted to validate the framework developed. Then, Section 3.15 provides the process involved in the thesis write-up process. Finally, Section 3.16 summarises the contents covered in the chapter with the link to the next chapter.

3.2 Motivation to identify the research gap

Individual's research motivation depends on many factors. According to Ahmed et al. (2016), researcher's knowledge about an existing problem and their intention to propose solutions are the motivations to conduct a study. A similar idea was presented by Kothari (2004), demonstrating the motives for conducting a study; to solve an unsolved problem, get intellectual respect and benefits, serve society, understand relationships, or contribute to the social thinking process. He further explained that researchers' interest in finding new technology, a discovery, or a new product affects their motivation.

Accordingly, the research motive of this study was influenced by the author's interest. The author is interested in solving an unsolved problem that serves society within the disaster risk context. The author aims to find solutions to reduce women's vulnerabilities and enhance their resilience and societal resilience to disasters.

Further, a literature review can influence a research interest (Saunders et al., 2019). As presented in Figure 3.1, the author conducted a detailed literature review, which helped identify the research gap within the disaster literature.

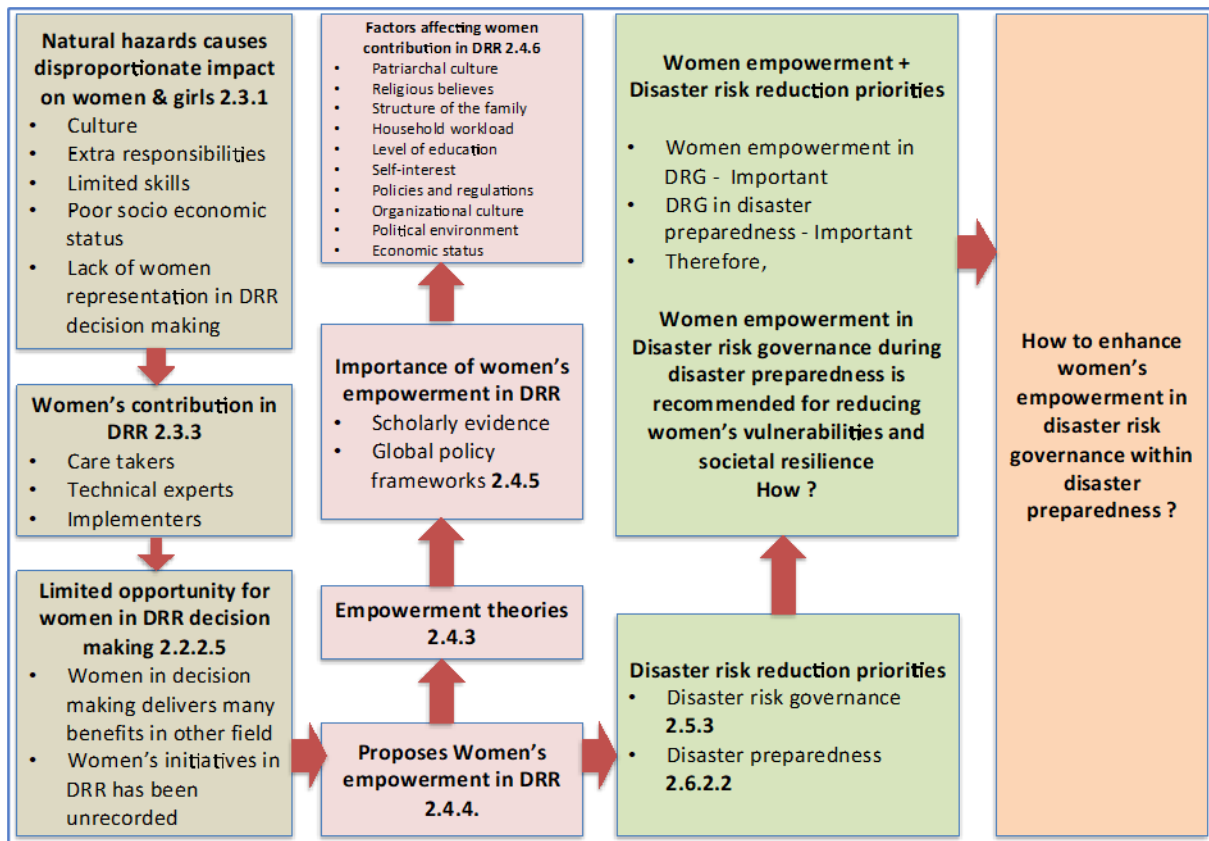


Figure 3.1 Identification of research problem based on the literature review

Source: Prepared by the author

Several scholars have identified the disproportionate impact of disasters on women and their vulnerabilities to disaster literature, as presented in Section 2.3.1. While recognising their vulnerabilities, another set of literature highlights their role in disaster risk reduction measures presented in Section 2.4.3. Thus, several researchers have proposed empowering women in DRR related decision-making, as explained in Section 2.4.2. and Section 2.4.3. Multi-stakeholder participation has been identified as a critical element in DRG, as presented in Section 2.5.2. Among different stages in the disaster management cycle, researchers and policymakers identified disaster preparedness as another priority due to its ability to reduce disaster impact on lives and properties, as presented in Section 2.6.2. Even though literature suggests empowering women in decision-making, there is no evidence or studies that systematically proposed how to empower women, specifically in DRG. The gap was identified as the research gap or motivation for conducting this study.

Hence, this study intends to fill this novel research gap as presented in Figure 3.2, initiating with the big picture of women's vulnerabilities and the need to empower them in DRG as the research gap while limiting its scope within the disaster preparedness system as the

research intention. Figure 3.2 presents this research thought process presented by Ahmed et al. (2016).

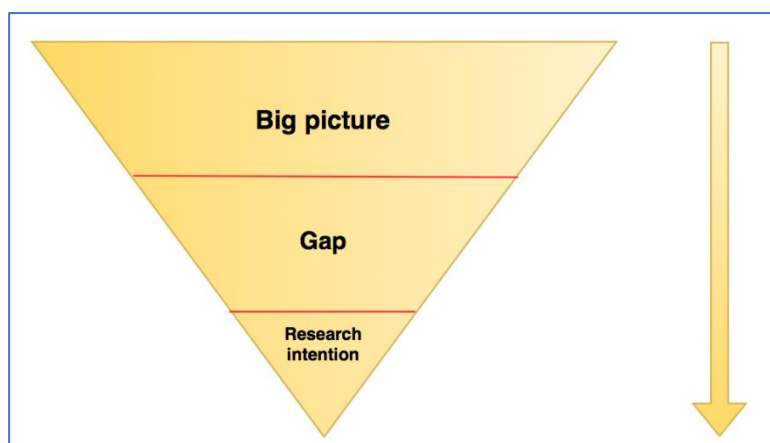


Figure 3.2 Research thought process

Source: Adapted from (Ahmed et al., 2016)

3.3 Research aim, objectives and research questions

After identifying the research motivation based on the literature review and researchers' interest, the authors aimed to provide a valid and reliable strategy as its expected outcome. According to Ahmed et al. (2016), the research aim is about the research's desired outcome. Saunders et al. (2019) identify the research aim as the brief statement of the study. Accordingly, the study framed its research aim:

“To develop a framework for women’s empowerment in disaster risk governance within the disaster preparedness system in Sri Lanka”.

In achieving this aim, research objectives provide their directions. However, during the study, research objectives could be revised or refined (Ahmed et al., 2016). Accordingly, in achieving this study's stated research aim, five research objectives have been framed and presented in Section 1.5.2.

In achieving those mentioned study objectives, the following research questions were set in this study.

1. Why women’s empowerment in disaster risk governance is important within the disaster preparedness system to reduce women’s vulnerabilities?
2. How women’s empowerment in DRG is operated within the disaster preparedness system in Sri Lanka?
3. Why women’s empowerment in disaster risk governance has not been delivered to the expected level within the disaster preparedness system in Sri Lanka?

4. How to achieve empower women in disaster risk governance within the disaster preparedness system in Sri Lanka?

In addressing the questions mentioned above, a methodical process was adopted in the study and presented in Section 3.4.

3.4 Study methodology

Research aim should be achieved methodologically, providing valid and valuable solutions (Ahmed et al., 2016; Creswell & Creswell, 2018). Some agree that research methods are similar to methodology (Broom & Willis, 2007), while others disagree with the assumption (Ahmed et al., 2016; Collis & Hussey, 2009).

According to Ahmed et al. (2016), the research method is the investigation or data collection tools/technique, while methodology is the research process's methods and philosophical background. A similar idea was presented by Hussey and Hussey (1997), explaining research methodology as the research process's overall approach, starting from theoretical knowledge to data collection and data analysis. However, according to Kothari (2004), research methods are only tools and techniques used to achieve objectives, while research methodology is a systematic way of solving research problems.

After considering the above definitions, this study refers to research methodology as data collection methods and analysis and applicable philosophical stances. Developing a framework to achieve women's empowerment in DRG within the disaster preparedness system in Sri Lanka needs a methodological process to propose a valid and sound framework. Therefore, the research methodology adopted in the study is presented using the research design in Section 3.5.1.

3.5 Research design

Research design is the graphical representation of a research plan that helps to achieve research objectives methodologically, efficiently and effectively (Ahmed et al., 2016; Kothari, 2004; Saunders et al., 2019). Different ways are available for presenting a research design in a study. For example, several researchers have used the Research Onion and Nested models when presenting their research designs.

3.5.1 The research design for the study- Research Onion model

A commonly used research design in management and organisational research studies is the Research Onion model introduced by Saunders, Lewis and Thornhill in 2007. Research onion is a graphical presentation of a research design with six layers representing key elements for conducting a study methodologically (Saunders et al., 2019). Its latest version is presented in Figure 3.3 of the study. This model consists of six layers: research philosophy, research approach, methodological choice, research strategy, time horizons and methods & techniques for data collection and analysis. Alternatively, the Nested model was presented by M Kagioglou et al. (1998). The model comprises research techniques, research approach and research philosophy.

The study's research design is presented using the Research Onion model. This model is preferred to the Nested model because it has many layers, giving more details about the study's methodology. Many researchers who examined disasters within organisational or institutional contexts have used the Research Onion model as the research design due to its comprehensiveness and clarity (Adeniyi, 2017; Malalgoda et al., 2016).

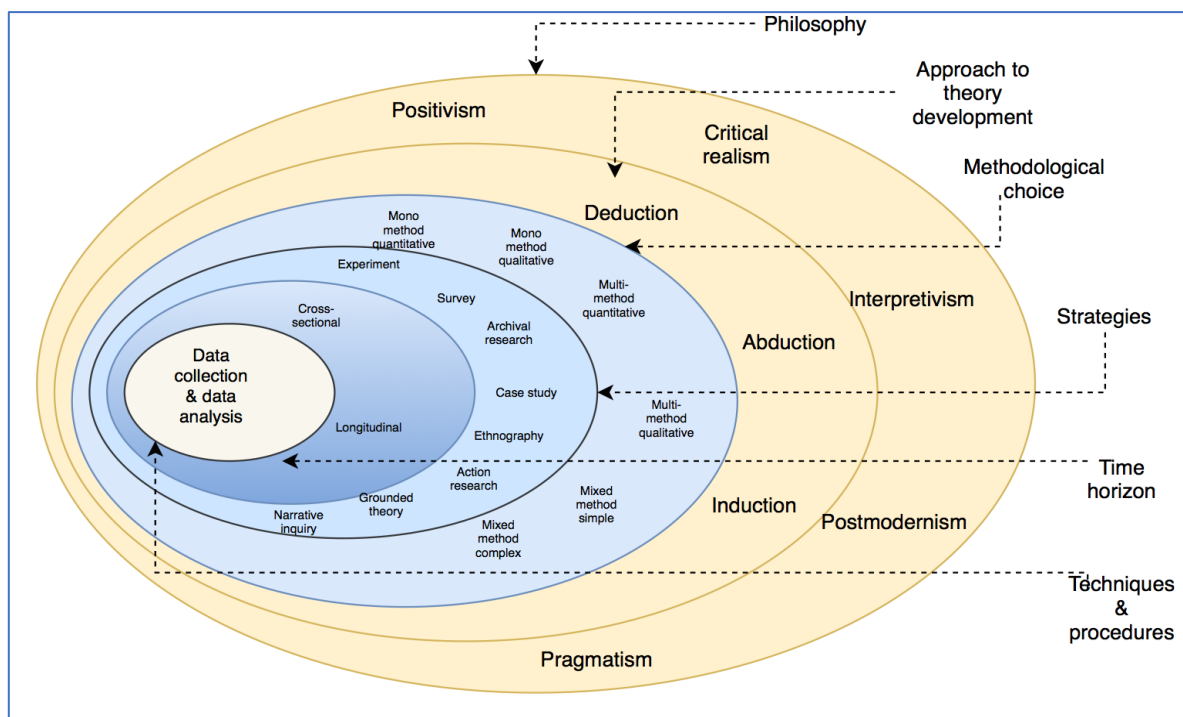


Figure 3.3 Research onion model

Source: Adapted from (Saunders et al., 2019).

3.5.2 Research assumptions

As presented in Figure 3.3, the first layer of the Research Onion is the research philosophy. Some researchers interchangeably use the term research philosophy with research paradigm (Ahmed et al., 2016). According to Mertens (2007), the research paradigm provides tools to identify their worldview. He defines paradigm as: "A metaphysical construct associated with specific philosophical assumptions that describe one's worldview" (Mertens, 2007, p.215).

The research paradigm is further explained as the research practice among researchers (Harrits, 2011) and provides assumptions to create social sciences knowledge (Tashakkori & Teddlie, 2010). Given all the above definitions and explanations, a research paradigm can be explained as assumptions or frameworks that must be followed to acquire new knowledge.

Saunders et al. (2019) presented three basic assumptions to distinguish different philosophies: ontological, epistemological and axiological. These assumptions are explained in detail in Section 3.4.2.1 to 3.4.2.3.

3.5.2.1 Ontological assumptions

Ontological assumptions deal with what knowledge is about and the nature of reality (Guba & Lincoln, 1994; Mertens, 2007; Saunders et al., 2019). In other words, it influences the way the researcher sees the world and how he/she studies research objectives. Crotty (1998) explained ontology as the nature of reality's existence and structure, while Al-Saadi (2014) explained ontology as beliefs about the kind and nature of the world's reality. SAGE online dictionary of Social Research Methods described ontology as a concept concerned with the existence of and the relationship between different aspects of society.

However, some argue that studies are scattered around a multidimensional set of criteria (Niglas, 2010). For example, ontological assumptions spread around two continua: objectivism and subjectivism (Mc Manus et al., 2017; Saunders et al., 2019). Objectivism considers phenomenon under investigation as tangible and measurable, and free from socially constructed. In contrast, subjectivism refers to the perceptions and actions that are socially constructed (Saunders et al., 2019).

The study intends to develop a framework for women's empowerment in DRG within the disaster preparedness system. Thus, ontological assumptions are essential since they influence how the author sees women's empowerment within the preparedness system towards its desired objectives. The study used ontological assumptions between

objectivism and subjectivism continua to investigate women's empowerment in an organisational setting that represents a process and considers both orders and chaos. As the reality in this research, women's vulnerability results from practical consequences of ideas, as Saunders et al. (2019) explained. Therefore, the study fits within two continua instead of being into one end. These assumptions lead to deciding the study's philosophical position as pragmatism explained in Section 3.4.2.4.

3.5.2.2 Epistemological assumptions

In contrast, epistemological assumptions deal with how we know the knowledge and beliefs about acquiring that knowledge (Burrell & Morgan, 2017; Guba & Lincoln, 1994; Scotland, 2012). Burrell and Morgan (2017) explain epistemology as the assumptions that a researcher makes on knowledge, what makes acceptable, valid and legitimate knowledge, and how can we communicate that knowledge to others. Saunders et al. (2019) consider epistemology as evident compared to ontology. Due to business and management studies' multi-disciplinary nature, many forms can be accepted as valid and legitimate about that knowledge.

Since the study aims to develop a framework for women's empowerment in DRG within the disaster preparedness system, it is crucial to understand what assumptions are utilised, how to understand the problem, how to make legitimate knowledge and how to communicate with others. In doing so, the study used documents as the sources of legitimate knowledge and as facts. Besides, the study collects opinion as acceptable knowledge. Both facts and opinions represent objectivism and subjectivism, as presented in Table 3.1. Again the study falls between the two continua of objectivism and subjectivism in terms of epistemological assumptions. Accordingly, the epistemological assumptions also supported selecting pragmatism as the philosophical strand for the study.

3.5.2.3 Axiological assumptions

Axiology is the third category of philosophical assumptions. It deals with whether the researcher's values are incorporated into the value system's knowledge and assumptions (Creswell, 2009; Saunders et al., 2019). According to qualitative researchers, researchers' values, theories, and frameworks influence the study's philosophy (Tashakkori et al., 1998).

In this study, Axiological assumptions are important since the study deals with a specific group in society. Therefore, we need to understand how our values affect understanding

their behaviour and beliefs on which we deal with the research participants. Accordingly, the study belongs to value-bound continua.

Saunders et al. (2019) presented how these ontological, epistemological and axiological assumptions are spread between two extreme ends of continua as objectivism and subjectivism, as shown in Table 3.1.

Table 3. 1 Philosophical assumption with multidimensional continua

| Assumption | Questions | Objectivism | Subjectivism |
|---------------------|---|---|---|
| Ontology | <ul style="list-style-type: none"> What is the nature of the reality | <ul style="list-style-type: none"> Real | <ul style="list-style-type: none"> Nominal and decided by conventions |
| | <ul style="list-style-type: none"> What is the world like | <ul style="list-style-type: none"> External | <ul style="list-style-type: none"> Socially constructed |
| Epistemology | <ul style="list-style-type: none"> How can we know what we know | <ul style="list-style-type: none"> Use assumptions of natural scientists | <ul style="list-style-type: none"> Use assumptions of arts /humanities |
| | <ul style="list-style-type: none"> What is acceptable knowledge | <ul style="list-style-type: none"> Facts | <ul style="list-style-type: none"> Opinion |
| | <ul style="list-style-type: none"> What makes quality data | <ul style="list-style-type: none"> Numbers | <ul style="list-style-type: none"> Written, spoken and visual accounts |
| | <ul style="list-style-type: none"> What kind of contribution to knowledge | <ul style="list-style-type: none"> Law generations | <ul style="list-style-type: none"> Individual and context-specific |
| Axiology | <ul style="list-style-type: none"> What is the role of values in research | <ul style="list-style-type: none"> Value-free | <ul style="list-style-type: none"> Value-bound |
| | <ul style="list-style-type: none"> How do we deal with the values of research participants | <ul style="list-style-type: none"> Detachment | <ul style="list-style-type: none"> Integral and reflexive |

Source: Adapted from (Saunders et al., 2019)

3.5.3 Research philosophies

Research philosophy is referred to the development of knowledge and the nature of that knowledge. The research philosophy depends on the researchers' assumptions to see the world and the reality (Saunders et al., 2019). Saunders et al. (2019) present five types of philosophical positions within the Research Onion: positivism, critical realism, interpretivism, postmodernism and pragmatism.

3.5.3.1 Positivism

Positivist researchers believe that knowledge acquisition depends on objective assumptions, and most studies are conducted as value-free studies (Saunders et al., 2019; Žukauskas et al., 2018). From the ontological standpoint, they consider the nature of the reality as naïve and external reality as understandable (Teddlie & Tashakkori, 2009).

Positivism studies are purely based on empirical scientific methods yielding uninfluential data findings the laws (Žukauskas et al., 2018). From an epistemological perspective, they limit their experiments only to things that can be measured and observed (Crotty, 1998). Thus, positivist studies can generalise their study findings (Saunders et al., 2019; Scotland, 2012). Positivist philosophy also aims at explaining relationships between causes and effects (Creswell, 2009). Therefore, this study does not fit within positivist philosophy. This is because the study cannot be conducted as value-free study and the knowledge acquisition is not purely based on objective assumptions. Similarly, the study's research approach does not match with this philosophical strands.

3.5.3.2 Critical realism

Another philosophy presented by Saunders et al. (2019) is critical realism philosophy. Even though they allow value-bound studies from axiological assumptions, they consider objective structures and causal mechanisms as the nature of reality from ontological assumptions (Saunders et al., 2019). They consider facts and social constructions as the way of creating knowledge. Most of their studies provide historical causal relationships as their research contribution (Saunders et al., 2019; Scotland, 2012). Therefore, critical realism philosophy was not selected for this study since it aims to solve an existing problem and change future practices.

3.5.3.3 Interpretivism

Interpretivism considers the nature of reality as socially constructed through different cultures (Žukauskas et al., 2018), indicating subjective continua on ontological assumptions. Interpretivism understands phenomena from an individual's perspective (Creswell, 2009). Knowledge is created through stories, narratives, and interpretations (Scotland, 2012). They represent value-bound research categories based on axiological assumptions, and researchers' interpretations significantly affect findings (Žukauskas et al., 2018) (Saunders et al., 2019). They use inductive approaches to find theories based on in-depth studies with small samples (Saunders et al., 2019; Scotland, 2012). Nevertheless, this philosophy has not been used in policy studies due to its inability to make generalisations. This philosophy understands phenomena from an individual perspective (Scotland, 2012), providing solutions to a societal problem and instead focusing on theories or worldviews; this approach has not been selected for this study.

3.5.3.4 Postmodernism

Postmodernism philosophy considers the nature of reality as nominal, which is highly influenced by the dominant ideologies. Their contribution is mainly towards challenging prevailing theories (Saunders et al., 2019). Therefore, this philosophy was not chosen in this study since it is not the study's objective.

3.5.3.5 Pragmatism

Pragmatism is another philosophical stance presented by several researchers. According to pragmatism philosophy, there are several ways of interpreting the world. This philosophy's unique feature considers both objective and subjective continua from the epistemological perspective (Saunders et al., 2019). Therefore, pragmatism philosophy is recommended for studies, which address existing problems (Creswell, 2009; Saunders et al., 2019; Žukauskas et al., 2018). In terms of ontological assumptions, pragmatism philosophy considers reality as the practical consequences of ideas (Saunders et al., 2019). The nature of reality is generated from multiple viewpoints (Teddle & Tashakkori, 2009). This philosophy belongs value-bound in terms of axiological assumptions since it begins with the researcher's value on a particular issue.

3.5.4 Research philosophy for the study - Pragmatism

Out of those mentioned above five philosophical positions, pragmatism philosophy was chosen because of its main features and applicability to the research problem. (Saunders et al., 2019; Teddle & Tashakkori, 2009). According to pragmatists, the research problem is the most critical determinant in selecting the philosophy (Creswell & Creswell, 2018; Saunders et al., 2019; Teddle & Tashakkori, 2009). Accordingly, this study begins with a problem of high women's vulnerability caused by disasters and aims to find solutions through their empowerment in DRG. Therefore, based on the research problem and research questions, the study adopted pragmatism philosophy.

Besides, pragmatism philosophy allows the researcher to use several methods in arriving at its objectives (Creswell & Creswell, 2018; Teddle & Tashakkori, 2009). This feature attracts the researcher to adopt pragmatism developing a framework to enhance women's empowerment in DRG. Further, this philosophical standpoint provides the researcher with the freedom to select methods and techniques that meet their research objectives, and hence it derives the knowledge using a pluralistic approach (Morgan, 2007). Since they allow the use of many different methodological choices, it ensures the best possibility to understand the research problem.

Pragmatism philosophy also provides the context of researching within social, historical and political contexts. Hence, pragmatism is compatible with many methodological choices, such as mixed-method, multi-method, qualitative and quantitative, and other types of studies, with different worldviews and assumptions with multiple data collection and analysis methods (Saunders et al., 2019). Furthermore, pragmatism avoids the epistemic continua of subjective and objective instead; it is a naturalistic and process-oriented activity (Saunders et al., 2019; Teddlie & Tashakkori, 2009). This feature is suitable within the study's ontological and epistemological assumptions. The above justifications explain the reasons for selecting pragmatism as the research philosophy and not choosing other philosophies.

3.6 Research Approach

A research approach refers to how theories are built or tested in a study (Saunders et al., 2019). Many scholars have presented two research approaches: inductive and deductive for testing or building theories (Andreewsky & Bourcier, 2000; Collis & Hussey, 2013). Saunders et al. (2019) have presented a third approach to theory building as, abductive approach within their research onion. The following section explains the approaches and the selected approach with justification.

3.6.1 Deductive approach

According to Saunders et al. (2019), the deductive approach derives conclusions based on pre-identified premises. This approach tests the expected outcome against observations (Babbie, 2010). In other words, the deductive approach follows from general laws to particular cases or theory to facts (Collis & Hussey, 2013).

This method is commonly used in natural sciences to test an existing theory through hypothesis testing, primarily quantitative data (Arlbjørn & Halldorsson, 2002). As a result, it requires a structured methodology to ensure the reliability of study findings. Furthermore, the approach can establish causal relationships and generalizability too. Most researchers have adopted a deductive approach with a conceptual framework built on the literature review (Teddlie & Tashakkori, 2009). However, some criticise the approach regarding its inability to understand phenomena (Saunders et al., 2019). Due to its characteristics and limitations, the study did not adopt the deductive approach.

3.6.2 Inductive approach

The second approach to theory development is the inductive approach. The inductive approach starts with observations to find a pattern among data building theories (Ahmed et al., 2016; Saunders et al., 2019). In other words, the inductive approach generates theories from facts or observations (Collis & Hussey, 2013).

Its ability to understand human behaviour and work with small samples was highlighted as a strength of the inductive approach (Saunders et al., 2019). Nevertheless, the approach has also been criticised because there is no guarantee of correct conclusions every time and is subject to change (Saunders et al., 2019). Further, the approach is regarded as weak because of a preliminary evaluation of arguments and uncertainty in theory building (Ketokivi & Mantere, 2010).

Since the study intends to develop a framework to empower women in DRG, the study began with some available literature. Since the literature provides some concepts related to women's empowerment, the study does not necessarily begin with observations or field data. Therefore, the study did not adopt the inductive approach.

3.6.3 Abductive approach

The third approach to theory development is the abductive approach. The modern version of the abductive approach was introduced by Charles Peirce (Olsen & Gjerding, 2019). Some consider that the abduction approach was originated from the work of Aristotle (Peirce 1931 as cited in van Hoek et al., 2005). According to Ketokivi and Mantere (2010), it started with a surprising incident. Others consider this approach a mix of deductive and inductive approaches (Saunders et al., 2019; Suddaby, 2006). Therefore, it is considered suitable for studies that develop theories (Saunders et al., 2019). Thus, the abduction approach has been used in a broader range of disciplines. For example, computer scientists and social scientists widely used the abductive approach in their research in the 20th century (van Hoek et al., 2005).

3.6.4 The research approach for the study

After considering all available research approaches, the abductive research approach was selected for this study. The abductive philosophy was chosen due to its suitability with research philosophy, methodological choices, research strategies, and data collection and data analysis methods in the study.

In addition, the abduction approach was adopted in the study due to its unique advantages compared to other approaches. For example, the abductive approach generates new

knowledge about existing phenomena after examining them from a novel perspective (Teddlie & Tashakkori, 2009; van Hoek et al., 2005). According to Kirkeby (1990), the abductive approach helps the researcher identify initial theories or laws that can be tested in the study following the deductive measures. Later, the researcher can use his observations to develop some new laws or insights based on their observations. Thus, the abductive approach provides more robust results than limiting either to inductive or deductive approaches. It also allows the researcher to elaborate any existing theories rather than either theory testing or theory building (Meyer & Lunnay, 2013).

The mix of deductive and inductive approaches helps the study present new theories after testing existing theories. This approach is preferred to either inductive or deductive approaches since the study aims to develop a framework for women's empowerment in DRG. Since the study aims to address a practical problem in society, a robust mechanism would be much relevant than other approaches. According to Svennevig (2001), abductive approaches are suitable for any study that does not depend purely on inductive or deductive approaches. The abductive approach begins with some initial puzzling facts to existing theories. Accordingly, the abductive approach helps develop new theories or modify or elaborate existing theories based on observations. This claim again justifies why the study adopted the abductive approach to generate this new knowledge.

Another reason for choosing the abductive approach for this study is that it provides known facts to generate testable conclusions. The abductive approach further offers the opportunity to examine and presents special situations which deviate from basic structures of similar situations (Danermark et al., 2019). Many studies in disasters literature have used the abductive approach (Schulz, 2009; van Hoek et al., 2005). This is another justification for choosing the abductive approach for this research.

3.7 Methodological choice

The third layer of the Research Onion is the methodological choice that guides the research design. Many researchers suggest that the research method should be compatible with the philosophy and approaches (Bryman, 2004; Saunders et al., 2019) research strategies, time horizon, and data collection and analysis techniques (Saunders et al., 2019). Therefore, research methods are categorised into quantitative, qualitative and mixed-method (Creswell & Creswell, 2017; Saunders et al., 2019; Teddlie & Tashakkori, 2009). The following sub-sections present available methodological choices and the reasons for selecting a multi-method qualitative method as the study's methodological choice.

3.7.1 Quantitative methods

Quantitative research primarily collects numerical data in a structured manner, and hence the analysis will be numerical (Saunders et al., 2019). This type of data and methods are commonly used in natural sciences within positivism philosophy. Surveys and experiments have been most frequently used as research strategies in quantitative research (Creswell & Creswell, 2018; Saunders et al., 2019). Quantitative methods have been used in psychology since the end of the 19th century as experimental and quasi-experimental research (Creswell & Creswell, 2018), assuming quantitative methods as the only scientific research paradigm since they examine rigorous experiments (Ochieng, 2009). Despite their use in pure sciences, Saunders et al. (2019) demonstrate how social scientists can use quantitative research design in studies.

3.7.2 Qualitative methods

In contrast, qualitative research collect and analyse qualitative data (Creswell & Creswell, 2018; Saunders et al., 2019). During the 19th and 20th centuries, qualitative methods' importance has gained significant attention (Creswell & Creswell, 2018). Qualitative studies belong to social constructivism and interpretivism philosophy from an epistemological perspective (Saunders et al., 2019). Hence, narrative research, grounded theory, ethnography and case studies are commonly used in qualitative research designs (Creswell & Creswell, 2018; Saunders et al., 2019). Qualitative methods focus more on validity than studying in detail and observing the whole situation than elements. In addition, qualitative methods examine the problem's complexity to draw conclusions based on specific and general factors (Ochieng, 2009).

3.7.3 Mixed-method

The third methodological choice is the mixed-method, which uses qualitative and quantitative data collection and analysis (Creswell & Creswell, 2018; Saunders et al., 2019; Teddlie & Tashakkori, 2009). Mixed-method was introduced by Campbell and Fisk's work in 1959 while using multiple methods to study psychological traits (Creswell & Creswell, 2018). It can integrate both types of data at any stage in the research cycle, which will be advantageous to a study. This method has been used in diverse fields such as education, management, sociology, and health science (Creswell & Creswell, 2018). Many designs exist in the mixed-method: convergent mixed methods, explanatory sequential mixed methods and exploratory sequential mixed methods (Creswell & Creswell, 2018; Saunders et al., 2019).

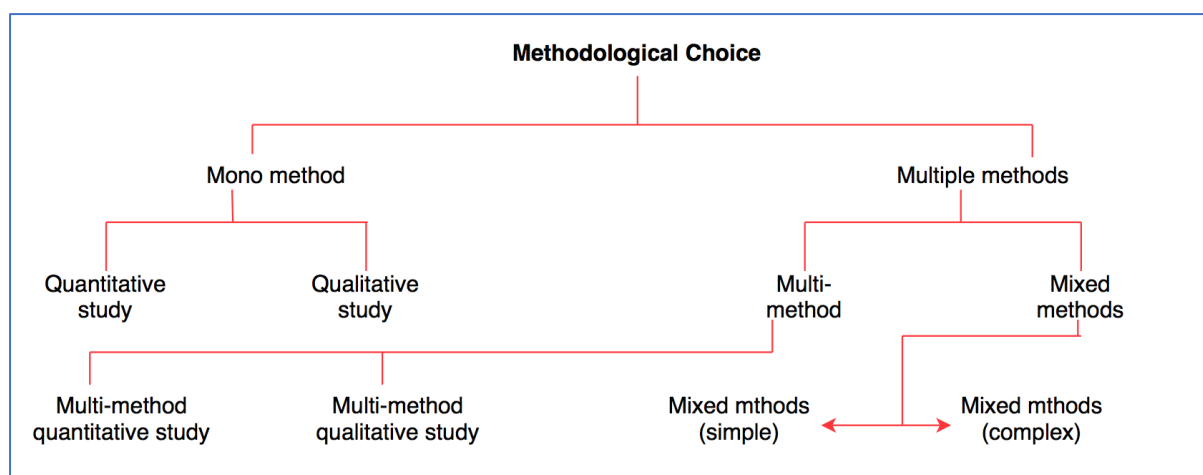


Figure 3.4 Methodological Choice

Source: Adopted from Saunders et al., 2019

3.7.4 Methodological choice for the study

As presented in Figure 3.4, the study employs a multi-method qualitative research method. Multi-method qualitative studies occupy several qualitative data collections and analyses methods. Thus, qualitative studies become compatible with pragmatism, realism and interpretivism research philosophies (Saunders et al., 2019) and the study employed pragmatism philosophy. In terms of research approaches, qualitative methods are used in inductive, deductive and abductive approaches. According to Saunders et al. (2019), most qualitative studies have been conducted using abductive approaches. The abductive approach provides opportunities to generate new knowledge based on an existing phenomenon in a new context (van Hoek et al., 2005). Another critical feature of qualitative methods is the use of non-probability sampling methods and the researcher's ability to alter data collection instruments and techniques. This facility is advantageous for the researcher to collect data from a sample chosen by the research based on a non-probability sampling method.

This has many advantages over using a mono-method qualitative study which uses a single qualitative data collection and analysis. The study used semi-structured expert interviews along with semi-structured case study interviews. Besides, the study also conducted a documentary review and a focus group discussion. These qualitative multi-method helps the researcher to draw sound and valid recommendations or solutions to the research problem. Multi-methods becomes vital because it aims to develop a framework for women's empowerment in DRG. The framework development requires a sound understanding of the issue and a rigorous method to draw recommendations. Multi-

method provides rigorous data and analysis towards valid solutions. Similarly, it enhances the study findings' robustness and will generalise the study findings. Section 3.4.8 presents qualitative multi-methods used in the study in detail.

In addition to methodological choice, researchers need to understand the purpose of the research design. The research purpose depends on the research questions and research objectives (Saunders et al., 2019). Accordingly, the research could be either exploratory, descriptive, explanatory, or evaluative research.

Exploratory research is conducted to examine what is happening in detail and to get insights into a topic. In other words, an exploratory study helps to understand a problem or phenomenon (Van Dun et al., 2017). One advantage of exploratory studies is their ability to change. Thus, the study begins with a broader area and become narrow while the research continues. In exploratory studies, literature reviews, expert interviews or personal in-depth interviews, or focus group discussions can be conducted (Saunders et al., 2019). Some researchers use inductive methods to understand unknown reasons (Van Dun et al., 2017). Exploratory studies are essential when limited studies are available in culture, construct or context related literature (North & Norris, 2006).

In contrast, descriptive studies are carried out to get an understanding of an event or a person. Their research questions begin with either who, what, where, and how. Such studies help understand the reasons for some event or a situation (Saunders et al., 2019). Since descriptive studies intend to reveal the phenomenon of a population or a particular incident, or a specific community's experience, they are conducted as qualitative studies (North & Norris, 2006). In descriptive studies, a limited sample size can be used. However, due to the limited sample size, generalisability would be an issue for descriptive studies (North & Norris, 2006). Some others criticise descriptive studies due to their inability to describe the reasons for some phenomenon and somewhat limiting to describe the phenomenon itself (North & Norris, 2006).

Explanatory studies are conducted to identify causal relationships between independent and dependent variables (Saunders et al., 2019). These studies help to build up relations between variables as mediating or with intervening variables. Such studies use regression models in quantitative methods to test previous theories (North & Norris, 2006). One criticises these studies because they repeatedly test the same theory, which is a waste of effort. North and Norris (2006) suggest asking new or innovative questions. It should only be tested the same theory if there is a certainty that new studies will only falsify or reject the previous theories.

Evaluative studies are the studies conducted to evaluate some process or strategy or practice, or programme. Hence, their research questions begin with either how or to what extent type of questions. These studies aim to evaluate existing processes or programmes through comparison between groups and events. Some of these studies also contribute to theory generation by asking additional questions on why something happened (Saunders et al., 2019).

After considering all the above research purposes, the study was conducted as exploratory research because of its applicability to the research problem and objectives. As stated in Section 1.4, the study intends to examine what is happening in detail and women's empowerment in DRG within the disaster preparedness system. In other words, the study helps to understand the problem or the phenomenon in detail. Another reason for selecting the exploratory purpose is its ability to change while the study continues. In addition, the study conducted a literature review, in-depth interview and documentary evidence as data collection methods; the study fits well suited as an exploratory study. The literature provides evidence on studies related to women's vulnerabilities in disasters as exploratory research to understand the phenomenon or the issue within a real-life context (Fothergill, 1999). For example, Fothergill (1999) conducted an exploratory study to understand the women experience in flood disasters using case studies as a qualitative exploratory study. The study made women understandable the violence against them by their intimate partners during natural disasters. Another evidence where exploratory studies have been conducted in disaster literature is Gruman et al. (2011). They conducted a study to understand disaster preparedness among the Canadian hospitality industry.

3.8 Research strategy

After determining the study's research methodological choice, the next step is to set the study's research strategy. Research strategy is the overall plan of answering research questions (Ahmed et al., 2016; Saunders et al., 2019). Some researchers identify research strategy as the research design (Creswell & Creswell, 2018). According to Saunders et al. (2019), the research strategy's selection depends on the research questions, objectives, time availability, resource availability, and research philosophy.

Several researchers have recommended applying multiple research strategies in a single study. Surveys and experiments have been commonly used in quantitative research, while ethnography, action research, grounded theory, and narrative inquiries have been widely used in qualitative research. Case studies and archival research strategies have been used in either quantitative or qualitative or mixed-method studies (Creswell & Creswell, 2018;

Saunders et al., 2019). Following are the most common research strategies used in studies.

3.8.1 Experiments

The experiments are commonly used in natural sciences, which use experimental groups against a control group. Similarly, experimental strategy is widely used in exploratory and explanatory research to test or identify relationships or factors (Saunders et al., 2019). Croson et al. (2007) introduced experiments into business management research to complement existing methods replacing traditional methods in business research.

3.8.2 Surveys

The survey strategy is commonly used in qualitative but explorative and descriptive research since it can answer different research questions. For example, what, where, who, how much or how many. This strategy is compatible with the deductive approach. One of the advantages of this strategy is the economical way of collecting a large number of data within a shorter period, saving time and resources, especially using a questionnaire instrument (Saunders et al., 2019).

3.8.3 Archival and documentary research

This research strategy uses archival and documentary evidence to support research objectives. Due to the rapid increase of technology and computer systems, the opportunity to use archival and documentary evidence has gained high demand (Saunders et al., 2019). However, selecting such archival documents and evidence must be carefully completed since dozens of forged information is freely available in the digital databases. Hence, Lee (2012) explains what document can be used in documentary research. Accordingly, any durable repository of textual, visual, and audio representations is considered documentary evidence. This strategy has been criticised for using data collected by someone else with different purposes (Saunders et al., 2019).

3.8.4 Case study

Another commonly used research strategy in qualitative and quantitative studies is the case study strategy (Saunders et al., 2019). A case study strategy is adopted to examine a phenomenon in detail within a real-life context, which is unique compared to other research strategies (Yin, 2018). For example: In experimental studies, the phenomenon is studied within a controlled setting. Thus, case studies can generate rich data for theory development (Yin, 2018).

3.8.5 Ethnography

The ethnography research strategy had been used in early ethnography studies as a qualitative research method. This strategy is most suitable for studying particular social groups' cultures (Saunders et al., 2019). A unique feature of the ethnography strategy is that the researcher lives within the culture they investigate (Cunliffe, 2018). Hence, some researchers highlight the possibility of the researcher's influence in writing and communicating ethnography studies. Cunliffe (2018) proposed some mechanisms to avoid possible weaknesses.

3.8.6 Action research

The first evidence of action-based research was found in 1946 by Lewin. This strategy allows researchers to find a solution to an existing problem in an organisational setting in a participative and collaborative way (Saunders et al., 2019). According to Coghlan and Brannick (2014), action research is about research in action rather than research about an action (Coghlan and Brannick (2014) as cited in Saunders et al., 2019). This is because the researcher is directly involved in the research with other organisational members to solve organisational problems.

3.8.7 Grounded theory

The grounded theory approach is used to build theories based on its data following an inductive approach. This strategy can explain social interactions and processes within a broader context (Saunders et al., 2019). The Grounded theory originated against positivism and aimed to generate theories based on social actors' behaviours. This approach collects and analyses qualitative data (Saunders et al., 2019). Some researchers have adopted the Grounded theory in abductive approaches (Charmaz, 2011).

3.8.8 Narrative enquiry

This strategy helps to interpret an event as a story. The narrative enquiry explains events in chronological order to identify events' sequences (Saunders et al., 2019). It is a qualitative method that collects and interprets qualitative data from in-depth interviews with participants.

3.8.9 Choice of the research strategy for the study

After considering available strategies and their applicability with study objectives, research problem, study philosophy and research approach, the study adopted the case study as the research strategy. Because the study aims to develop a framework for women's

empowerment in DRG, the research needs to understand the research problem within its real-life context.

In doing so, the case study provides an ideal strategy for examining the research problem within the real-life context (Meyer, 2001; Yin, 2018). Furthermore, a case study strategy allows the researcher to study the holistic view of processes covering many different aspects, their relation to each other, and understanding the macro-environment process. The strategy also enables the researchers to understand the phenomenon or human behaviour empathetically (Gummesson, 2000). The study needs to explore the present status of women's empowerment in DRG within the disaster preparedness system, to understand the phenomena when developing a framework for women's empowerment in DRG. Thus, understanding the phenomenon in a real-life context is critical for formulating solutions. Non-other methods provide this facility to the researcher, other than the case study approach as explained earlier. For example, the experimental strategy requires controlling the outside world when conducting the study (Saunders et al., 2019). Although narrative research can understand the individual's behaviour (Saunders et al., 2019), the strategy was not adopted in the study since it aims to understand some phenomena and develop a framework. The action research was not selected for this study since it did not try to solve an existing problem through participation and collaboration.

The case study approach is also compatible with the study's purpose as an exploratory study (Saunders et al., 2019). However, Allison's (1971) work on the Cuban Missile Crisis has shown the ability of case study in explanatory studies as cited in (Yin, 2018). The study develops a framework for women's empowerment in DRG, identifying the challenges and the strategies for their empowerment in DRG. Thus, the research needs to identify the variables that affect women's empowerment in DRG.

The case study approach allows using a conceptual framework or theories compared to grounded theory and narrative theory (Gioia & Chittipeddi, 1991; Gummesson, 2000). This is an additional benefit of selecting the case study approach, which guides the study and analysis over other approaches (Gummesson, 2000). According to Hartley (1994) and Gummesson (2000), this preunderstanding is beneficial for researchers without wasting time and overcoming the challenge of providing descriptions without meaning. Ridder (2017) highlighted case studies as an effective theory-building method, though case studies have only been used as a strategy. Similarly, understanding theories or concepts related to the study helped effectively organise its data collection and analysis without wasting time and meaningfully.

The case study strategy has been used in political science, anthropology, psychology, sociology, accounting, business, education, health care, marketing, public administration, social work, and even software engineering due to its ability to study complex social phenomena of individuals', small groups', organisational and societal behaviours in-depth (Grünbaum, 2007; Hartley, 1994; Yin, 2018).

Among such diverse fields, disaster-related research has commonly used case studies. For example, Rufat et al. (2015) conducted a meta-analysis about flood disasters by considering 67 case studies in the disaster literature. The example highlights the strengths of case studies in disaster literature to understand the drivers of the social vulnerability of flood disasters.

Yin presented the most significant work in case studies in 1989. Later he explained further improved case study designs in his book's later editions. He presented three determinants when considering a case study as a research strategy: the first is the type of the research question/s. "How" and "Why" questions can be addressed in case studies. The study's research problem is "How to empower women in DRG?" fulfils the first condition. Second, the researcher's control over behavioural phenomena. Case studies are suitable when the researcher has no or little control over phenomena. Accordingly, the researcher did not have any level of control over the present phenomena. Third, case studies are suitable when the study examines an existing/contemporary phenomenon. Since this study examines a current phenomenon, the third condition was satisfied (Yin, 2018). After considering all the above factors, the case study strategy was decided for this study.

3.9 Case study strategy applicable in this research

3.9.1 Case study designs

As explained in Section 3.8.9, the study's case study strategy was selected due to its specific benefits and applicability. However, some researchers criticised the case study strategy for not having a particular design and considered it weak (Meyer, 2001). Thus, several researchers have provided solutions presenting some case study designs (Ridder, 2017; Yin, 2018).

Ridder (2017) presented four types of case study designs for theory building. The types are no theory first, gaps and holes, the social construction of reality and anomalies. He provided the case selection, the data, and the analysis category for each method. This study belongs to gaps and holes design; nevertheless, the study was mainly influenced by the work of Yin.

According to Yin (2018), the study's case study strategy is guided by the research question, existing theories, propositions, or frameworks. Yin presented several case study designs as single-holistic, single-embedded, multiple-holistic or multiple-embedded case studies. He refers a single-holistic case study to a single case with a single unit of analysis, while a single-embedded case study to a single case study with two or more units of analysis. A multiple-holistic case study refers to a study with more than two cases with a single unit of analysis. In comparison, multiple-embedded case studies refer to a study with more than two cases with two or more units of analysis (Yin, 2018). These four types of case study designs are presented in Figure 3.5.

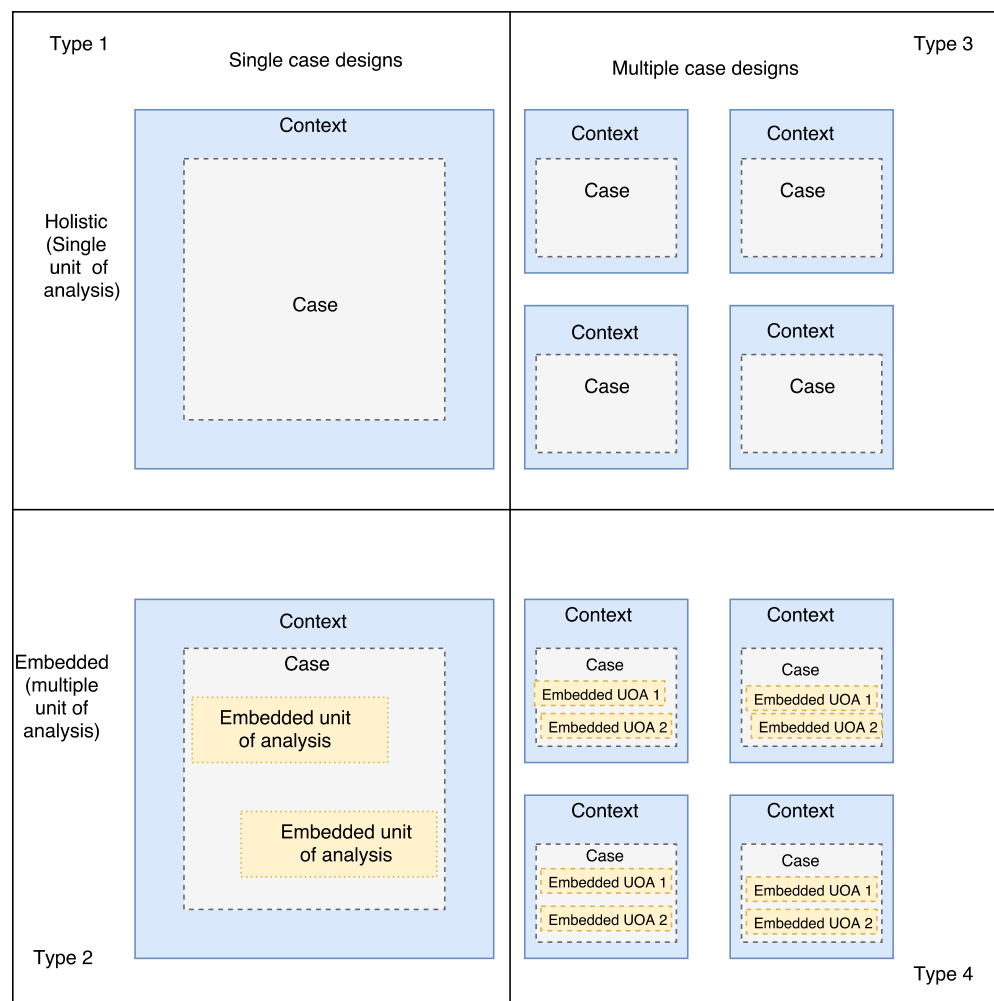


Figure 3.5 Case study designs

Source: COSMOS Corporation, Adopted from (Yin, 2018)

3.9.2 Multiple-holistic case study design for the study

3.9.2.1 Multiple case studies over single case study

Determining the appropriate case study design is critical since it affects the case study's quality (Meyer, 2001). Accordingly, this study selected a multiple-case design. The reason for not choosing a single case design is that the research cannot apply an extreme case, critical case, and revelatory case in this study.

Besides, multiple case study design has many advantages. Multiple case studies deliver more compelling and robust study results due to their pluralistic nature (Grünbaum, 2007; Yin, 2018). It enhances evidence, comparability, and generalisability (Meyer, 2001). Second, multiple case studies improve external validity (Miles et al., 2014). Third, multiple case studies minimise possible bias case studies being selected (Miles & Huberman, 1994). Nevertheless, they need more resources and time (Yin, 2018).

Grünbaum (2007) presented a table explaining the selection of case studies and their rationale, as presented in Table 3.2.

Table 3. 2 Case study designs

| Characteristics | | Rationale |
|-----------------|--|--|
| Type 1 | One case Holistic One unit of analysis, Case and unite of analysis is indistinguishable | Critical case, Unique case, Typical case, Revelatory case, Longitudinal case |
| Type 2 | One case Embedded unit of analysis Not holistic but still context-dependent Case and unite of analysis is distinguishable | Extensive analysis More focussed analysis |
| Type 3 | More cases Holistic case Case and unite of analysis is indistinguishable | More robust findings Replication logic (literal / theoretical) External validity |
| Type 4 | More case Embedded unit of analysis, Not holistic, yet context depend Case and unite of analysis is distinguishable | More robust findings Replication logic (literal / theoretical) External validity Extensive analysis More focussed analysis |

Source: Adopted from Yin (2003) as cited in Grunbaum 2007

3.9.2.2 Case boundary and the unit of analysis

The selection of holistic or embedded cases depends on the number of units of analysis is used in the study. According to Yin (2018), case boundary is essential to define a unit of analysis for a study (Yin, 2018).

Case boundary consists of all elements that fall within a selected case (Yin, 2014). For example, groups, organisations and geographical areas. The case boundary for this study was decided as the district. This is because the Sri Lankan disaster preparedness system operates through district-level government institutions. Hence, all institutions engage in disaster preparedness systems within the district are grouped within the case boundary. The institutions are District Secretariat (DS) office, Divisional Secretariat (DivS) office, District Disaster Management Coordination Unit (DDMCU), and Grama Niladharis (GN). The target women to be empowered are the women officers working in these institutions. By selecting the district as the case boundary, all these institutions are covered. Therefore, women's empowerment in DRG within the disaster preparedness system will be assured at these institutions within the district boundary.

After identifying the case boundary, the unit of analysis was determined. According to Miles et al. (2014), a unit of analysis is a phenomenon that occurs within a specific defined context. Some researchers refer to the unit of analysis as the case, while others not (Grünbaum, 2007; Meyer, 2001). At the beginning of case studies, an individual was considered a case (Yin, 2013). Individual's behaviour was studied, considering the individual as the unit of analysis (Platt, 1992). Nevertheless, the unit of analysis could be an event or an entity. Later, the unit of analysis was referred to programmes, process and organisational change. According to Grünbaum (2007) and Yin (2013), the unit of analysis should be based on fundamental research questions (Grünbaum, 2007; Yin, 2013).

Since this study's research problem is how to empower women in DRG, the study selected a single unit of analysis as empowerment of women in DRG. Empowerment of women in DRG could be considered a process. Thus, the study explores challenges for women's empowerment in DRG and the suggestions for overcoming the challenges for women's empowerment in DRG within the disaster preparedness system as presented in Figure 3.6.

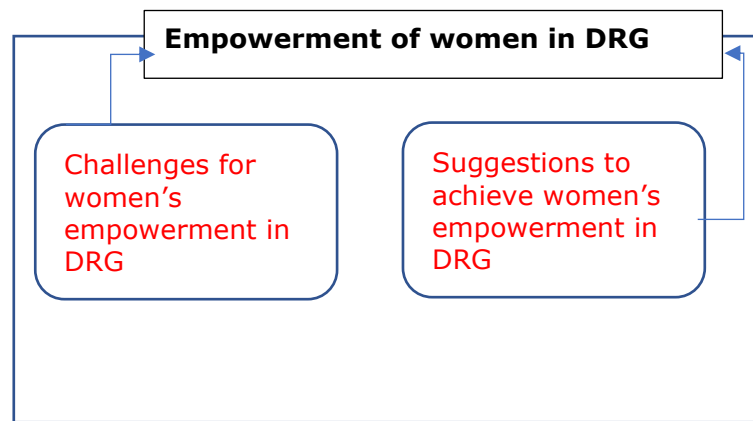


Figure 3.6 Unit of analysis of the study

Author generated

3.9.2.3 Holistic case studies over embedded case studies

After deciding the single unit of analysis for the study, a holistic case study design was preferred to an embedded case design. Yin (2018) explained holistic cases with a single unit of analysis, whereas embedded cases with two or more analysis units. According to (Meyer, 2001), holistic cases examine global phenomena while embedded cases examine its elements. Accordingly, three holistic cases were selected in Sri Lanka, considering districts as the case boundary.

3.9.2.4 Multiple holistic case studies- the case study design for the study

Different approaches are available for selecting the cases and the number of cases chosen for multiple case studies (Meyer, 2001; Stake, 2013). Decision on how many cases to be studied is critical for both quantitative and qualitative studies. The selection of cases in case studies is different from statistical sampling, which mainly uses random sampling methods (Gummesson, 2017; Meyer, 2001).

For example, Stake (2013) presented three general rules for selecting cases: is the case relevant, do the cases provide diversity across contexts and do the cases offer good opportunities to learn complexities and contexts. He further explained that the researcher could present the case study selection process without a third party's interference. In case studies, theoretical sampling is applied over statistical sampling. Theoretical sampling ensures the selection of cases that repeat or extend the emergent theories or fill theoretical

gaps. Contribution to theories needs quality information, and hence cases are selected purposively than randomly (Crabtree & Miller, 1992; Ridder, 2017).

There is no specific rules or procedures for determining the number of cases (Gummesson, 2017; Meyer, 2001). Meyer (2001) selected two cases, though he planned for three, in his study. His study did not aim to support generalising but compare and contrast the two cases with a deeper understanding. Yin (2018) highlighted that conducting two cases is preferred to a single case study since it provides robust findings.

In multiple case studies, the replication logic is applied for robust results. Replication logic is similar to multiple experiments in quantitative studies (Herson and Barlow (1976) as cited in Yin, 2018). The replication logic could be either literal replication or theoretical replication logic. Literal replication logic applies to cases that predicts similar results, whereas theoretical replication applies to cases where contrasting but with anticipated results (Yin, 2018). According to Gummesson (2017) and Eisenhardt (1989), the number of cases depends on theoretical sampling and saturation. Yin (2018) considered this mechanism as theoretical replication. According to Meyer (2001), theoretical sampling continues until no new data emerges: data saturation. However, the number of cases is also limited by time and resource constraints. In this study, theoretical saturation was considered using a purposive sampling method. Information richness is the main objective in purposive sampling compared to random sampling, focusing on representativeness (Crabtree et al., 1993). Stake (2013) explains that most of the multi-cases comprise less than four or more than 15 cases. Thus, the study began with two cases and continued for three, which reached theoretical saturation.

Accordingly, three cases were chosen based on the district as the case boundary. The cases are considered as multiple-holistic case studies. The three chosen cases fulfil several criteria. As presented in Figure 3.7, the selected three cases are relevant for the study due to the recent disaster profile. The chosen districts represent the most common and frequent natural hazard-prone districts in Sri Lanka. Three cases have reported a high number of deaths and affected people. Besides, the selected cases provided diversity across contexts regarding disaster types, geographical features, socio-economic and socio-cultural diversity. The chosen districts also represent rural and urban diversity. The selected cases also provide good opportunities to learn complexities and context. In all three cases, no women representation is available at the district disaster preparedness system's highest positions. Therefore, the case studies chosen represent the overall Sri Lankan disaster profile, emphasising that empowering women in DRG within the preparedness system is essential. Sections 3.9.3 provides detailed descriptions of the case studies selected for the study.

3.9.3 Three case study sites

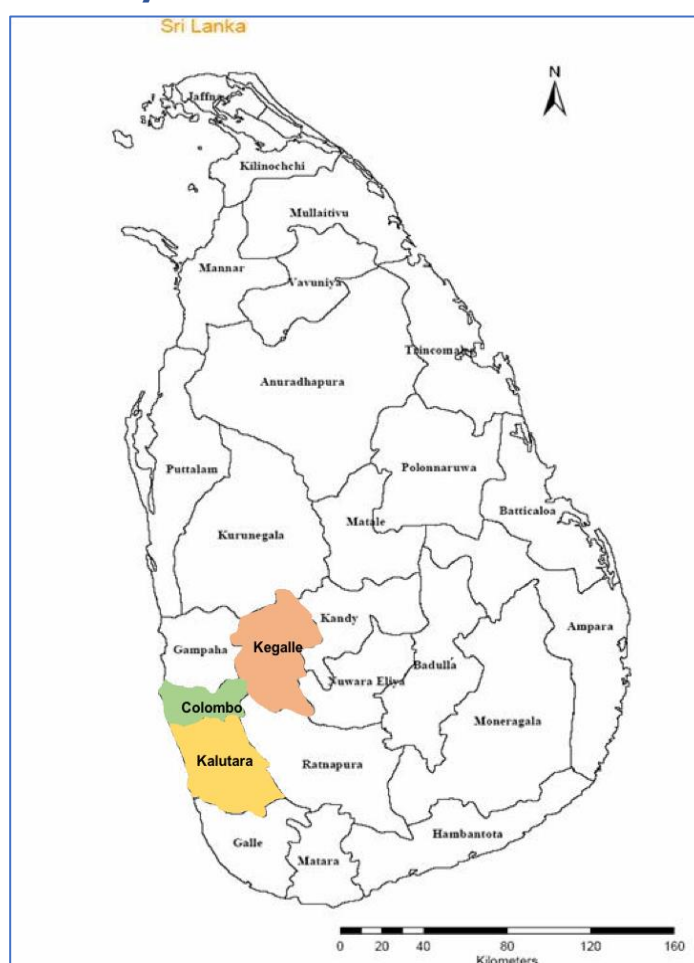


Figure 3.7 Case study districts in Sri Lanka

Source: Prepared by the Author

3.9.3.1 Colombo district- Case study 1

Colombo district is one of the 25 districts and located in the southwest part of Sri Lanka. It is the commercial capital, which represents both urban and rural. Colombo district is the highest dense district with 3,502 people/ km². The district's poverty headcount ratio is 1-3 representing low poverty status in the country (UNDRR, 2019). 51% of the population represent female (Department of Census and Statictics, 2021). The district has been continuously and significantly affected by different disasters annually (UNISDR, 2019). Floods, cyclones, landslides and sea erosion are the most common disasters in the district. The 2016 Cyclone Roanu, the heaviest recorded rainfall in 18 years, flooded 24 of the 25 districts, including the Colombo district (UNISDR, 2019).

The district is surrounded by the Kelani River, one of five main rivers in Sri Lanka (Friedrich, 2017). The river basin caused annual flooding in the district and the reason for the most deaths and economic losses. Due to its relatively small geographical area, the district is subjected to frequent flooding and landslides (Dissanayake et al., 2018). Future disaster risk will be much higher in the district since the population with unsuitable housing has migrated to search for employment (Friedrich, 2017). Furthermore, the situation would be complicated by epidemics and pandemics and diseases caused by continuous rainfall. For example, an increase in vector bone diseases like dengue is a common epidemic in the district where the population has been overcrowded with poor living conditions (Ministry of Disaster Management, 2014).

Colombo District comprises 13 Divisional Secretariat (DivS) divisions, and their activities are coordinated and supervised by the Colombo District Secretariat (DS) Office. The case study interviewees were conducted with the most disaster-prone divisional secretariat offices: Kaduwela, Kollonnawa and Colombo DivSs. The DDMCU comes under direct coordination with the DS.

3.9.3.2 Kegalle district- Case study 2

Kegalle district is located in the central part of Sri Lanka in Sabaragamuwa province. Its present population is more than 887,000, with a population density of 503 per km² (Central Bank of Sri Lanka, 2019). 52% of its total population represent the female population (Department of Census and Statistics, 2021). The district's poverty headcount ratio is 7-9 representing medium poverty in the district (UNDRR, 2019). It is located between the central highlands, which is around 50 meters high from the sea level and western, southern plains. The district is mainly agriculture-based, and rubber plantation is dominant among other agricultural activities such as cocoa, banana, pepper clove, coconut, rice and tea. The best graphite mine is located in Bogala in the district. Its population is 4% of the total population in Sri Lanka.

Kegalle District has faced several catastrophic disasters. The 2016 and 2017 floods and landslides made the district recorded the highest number of deaths and economic losses (UNDRR, 2019). Kegalle is one of the landslide-prone districts (NBRO, 2020). Unplanned cultivation and unauthorised land clearance for an extended period have caused a rapid increase of landslides in this district (Perera et al., 2019). The highest recorded landslides were reported from the Kegalle district in Sri Lanka. This district heavily depends on agriculture, and hence disasters damage the rural economy and its people significantly due to increasing climatic and physical conditions (Perera et al., 2019). The district has been identified as highly vulnerable to landslide hazards by the National Building Research

Organization (NBRO) (Guillard-Gonçalves & Zêzere, 2018). Kegalle District comprises 11 DivSs, and their activities are coordinated and supervised by the Kegalle DS Office. The case study interviewees were conducted with the most disaster-prone DivSs: Kegalle and Aranayaka.

3.9.3.3 Kalutara district- Case study 3

Kalutara district is located in the southwest part of Sri Lanka in the Western province. Another disaster hotspot district in Sri Lanka, reporting floods, landslides, tsunami, drought and water salinity (Disaster Management Centre, 2014). Kalutara district has a population of 1.3 million with a population density of 803 per km² and the area represents 2.4% of the total land area in Sri Lanka (Central Bank of Sri Lanka, 2019). More than 52% of the female population represent the district (Department of Census and Statistics, 2021). Similar to the Comolmo district situation, the Kalutara district flooding and landslides are related to the river Kukuleganga. The river provides water to the Kukuleganga reservoir and generates electricity. The 2017 floods caused massive landslides and floods in Kalutara by releasing the extra water level to the Kukuleganga reservoir.

In the 2016 and 2017 floods, the Kalutara district was severely affected (OCHA, 2016a). In 2018, 20 districts were affected by severe monsoon rainfalls, and Kalutara and Galle were the two most affected districts (Eckstein et al., 2019). Kalutara District comprises 14 DivS, and their activities are coordinated and supervised by the Kalutara DS office. The case study interviewees were conducted with the most disaster-prone DivSs: Panadura, Bulathsinghala and Kalutara.

Accordingly, the three districts were selected as the three case study districts in the study. According to Yin (2018), the next component of case study design is the data collection and analysis for building the theories. Among these methods, pattern matching, time-series analysis, logic models, explanation building, and cross-case synthesis are dominant. Accordingly, the study adopted a cross-case synthesis as its analysis to get a deep understanding of each case and to compare among cases. The analysis techniques are explained in detail in Section 3.4.9. The fifth element to be considered in deciding a case study design is interpreting case study findings in a meaningful manner (Yin, 2018). The case study findings were presented in Chapter 6, while the cross-case synthesis was introduced in Chapter 7.

3.10 Time Horizon

The fifth layer of the Research Onion is the time horizon. Saunders et al. (2019) present two types of time horizons: cross-sectional and longitudinal. According to Saunders et al. (2019), a study's time horizon depends on its research questions.

3.10.1 Cross-sectional studies

In a cross-sectional study, the researcher investigates a phenomenon at a particular time. Most researchers use cross-sectional studies due to time and resource limitations. Both survey studies and qualitative studies are conducted as cross-sectional studies. Accordingly, case studies can be performed as cross-sectional studies (Saunders et al., 2019; Yin, 2018).

3.10.2 Longitudinal studies

In contrast, longitudinal studies involve gathering data over a period (Collis & Hussey, 2013). Longitudinal studies are critical to identifying a change or a development of a phenomenon over a period. Hence, longitudinal studies benefit social scientists to test and develop theories on human behaviour (Saunders et al., 2019). However, longitudinal studies are criticised for applying in research where limited resources and time is available. Furthermore, longitudinal studies have additional risks such as non-response bias and contaminated impact over time (Klomek et al., 2010).

3.10.3 Time horizon for the study

This study was conducted as a cross-sectional study because of the research problem. The research problem was how to achieve women's empowerment in DRG within the disaster preparedness system. Hence, cross-sectional data would be sufficient to understand the present status of women's empowerment, the challenges they face and their proposed suggestions. Similarly, due to practical issues with limited time and resources, the study adopted cross-sectional data.

3.11 Data Collection and Data Analysis procedures

3.11.1 Data Collection

There are several data collection methods available for conducting research. According to Yin (2018), data collection for case studies depends on the research question and the research design. He presented six data collection techniques; documentation, archival records, interviews, direct observations, participant observations and physical artefacts. Every method has its strengths and weaknesses, as presented in Table 3.3.

Table 3. 3 Six sources of evidence: strengths and weaknesses

| Source of evidence | Strengths | Weaknesses |
|--------------------------------|--|--|
| Documentation | <ul style="list-style-type: none"> • Stable because it could be repeatedly reviewed • Unobtrusive – not created as a result of the case study • Specific – contains the exact names, references and details of an event • Broad- covers an extended period, many events, many settings | <ul style="list-style-type: none"> • Retrievability- can be challenging to find • Biased selectivity, if the collection is incomplete • Reporting bias • Access may be limited |
| Archival records | <ul style="list-style-type: none"> • Stable • Unobtrusive • Specific • Broad • Precise and quantitative | <ul style="list-style-type: none"> • Retrievability • Biased • Access limitations |
| Interviews | <ul style="list-style-type: none"> • Targeted (directly to the case study topics) • Insightful (provides explanations and personal views) | <ul style="list-style-type: none"> • Bias could be due to poor articulation • Response bias • Inaccuracies • Reflexivity (interviewee says what interviewer wants to hear) |
| Direct observations | <ul style="list-style-type: none"> • Immediacy • Contextual (can cover cases context) | <ul style="list-style-type: none"> • Time-consuming • Selectivity • Reflexivity • Costly |
| Participant observation | <ul style="list-style-type: none"> • Immediacy • Contextual (can cover cases context) • Insightful into interpersonal behaviour | <ul style="list-style-type: none"> • Time-consuming • Selectivity • Reflexivity • Costly • Bias |

| | | |
|---------------------------|---|--|
| Physical artefacts | <ul style="list-style-type: none"> • Insightful into cultural and technical features | <ul style="list-style-type: none"> • Selectivity • Accessibility |
|---------------------------|---|--|

Source: Adopted from Yin 2018

Many researchers prefer and suggest multi-methods over mono-method (Meyer, 2001; Saunders et al., 2019; Yin, 2018). According to Meyer (2001), multiple data collection techniques provide more robust findings through triangulation. According to Yin (2018), multiple data collection supports validity and reliability during the data collection. He presented four principles during data collection: use of multiple sources of evidence, creation of case study database, maintenance of chain of evidence, and careful use of electronic data sources. After considering all available methods interviews were chosen as the data collection method.

3.11.1.1 Interviews

Interviews are considered a rich data collection method for case studies (Saunders et al., 2019; Yin, 2018) because interviews generate a large amount of data (Yin, 2018). Therefore, the study conducted interviews as the primary source of data collection. The study aims to develop a framework to achieve women's empowerment in DRG within the disaster preparedness system in Sri Lanka. The study needs to examine the problem within a real-life context and understand the complexities of interviewees' experiences (Weiss, 1995). Three types of case study interview methods were introduced by Yin (2018) as prolonged interviews, shorter interviews and survey interviews. Similar categorisations were introduced by Weiss (1995), presenting as intensive, in-depth and unstructured interviews, while Collis and Hussey (2013) introduced unstructured or semi-structured interviews. Interviews can be conducted with individuals or groups of individuals face-to-face, email, telephones, and video conferencing methods (Collis & Hussey, 2013).

3.11.1.1.1 Pro-long case study interviews

According to Yin (2018), pro-long case study interviews lasts for more than two hours, either as a single sitting or multiple sittings. In these interviews, the interviewer asks for initial interpretations or opinions about specific events. Accordingly, further inquiries are raised on these propositions. Possible disadvantages of this interview could be heavily dependent. Nevertheless, this can be avoided or minimised by supporting other sources of evidence.

3.11.1.1.2 Short case study interviews

Shorter case study interviews, which last about an hour, are commonly conducted in case studies. The interview could be open-ended, and hence the interviewee can develop a conversation during the interview. A case study protocol can be used for effective interviews (Yin, 2018). Due to less time involved in short interviews, possible relationships between the interviewee and interviewer can be minimised (Yin, 2018).

3.11.1.1.3 Survey interviews in a case study

According to Yin (2018), this is more appropriate where embedded case study design is planned to collect quantitative data. Using a survey questionnaire, the interviewer gathers a large amount of data.

3.11.1.1.4 Unstructured interviews

No pre-designed questions are used in this interview technique. Questions are raised while the interview moves. During the interview, the interviewer asks either opened or closed-ended questions (Collis & Hussey, 2013).

3.11.1.1.5 Semi- structured interviews

The interviewer prepares some questions before the interview. These questions are based on the areas the researcher intends to collect data. However, there is no strict pattern or sequence of asking questions and not necessary to ask all the guide questions (Collis & Hussey, 2013).

Both shorter and semi-structured case study interviews share commonalities. In both interviews, initial planned or semi-structured questions are asked at the interview (Yin, 2018). Therefore, the term semi-structured interview was consistently used throughout the study.

After considering all available interview methods, a semi-structured interview technique was selected. The reasons for choosing a semi-structured interview technique were time limitations, the study's scope, consistency among interviewees, and avoiding any possible relationship between the researcher and the interviewees.

Ethical approval has been considered an essential element for conducting research. It helps to ensure the security of the research participants. Hence, it is advised to obtain ethical approval prior to conducting any studies with human intervention elements (Saunders et al., 2019; Smajdor et al., 2009). Accordingly, the researcher obtained ethical

approval from the university's ethical approval committee. The author completed the Ethics form with the prior permission of the supervisor and processed it to the review committee. At the end of the first year, the university approved the study's ethical approval.

Similar to ethical approval, another important aspect of research is pilot studies. Several researchers highlighted the importance of conducting pilot studies. For example, pilot studies can test data collection instruments and guide the researcher in conducting the study effectively and efficiently (Hassan et al., 2006; Malmqvist et al., 2019; Van Teijlingen & Hundley, 2001). Specifically, pilot studies are significant for qualitative studies where semi-structured interviews are conducted (Malmqvist et al., 2019).

Having understood the benefits and suitability of conducting a pilot study, the researcher conducted a pilot study with two key informant interviews. The key informants were selected based on their expertise in disaster risk governance and the overall disaster management system in Sri Lanka. The key informants are also experts for conducting qualitative studies in the disaster risk reduction field. The pilot study helped make some changes to the interview guidelines for experts and case studies. Accordingly, some of the questions in the interview guidelines were changed and combined to improve the quality and efficacy of data collection. Furthermore, the researcher understood any possible questions that could be expected during data collection. Therefore, the pilot study conducted helped the researcher to organise and manage data collection more efficiently and effectively.

Semi-structured interviews were conducted with two groups of interviewees: case study interviewees and expert interviewees. According to Weiss (1995), the sample size for case study interviews could be comparatively small compared to surveys. The study conducted semi-structured case study interviews within three selected case study districts, as explained in Section 3.9.3. Case study interviews were undertaken to understand the importance of women's empowerment in DRG, understand the present contribution of women's empowerment in DRG within the disaster preparedness system and explore the challenges that affect women's empowerment in DRG with the strategies.

The district structure operates as the main national institution dealing with disaster preparedness and its fellow institutional structures. Twenty-six semi-structured case study interviews were conducted within three districts: Colombo district -11, Kegalle district -9 and Kalutara district- 6, as presented in Table 3.4. Case study interviews were performed using a case study protocol/guideline, as documented in Appendix 4. All case study interviews were conducted until data saturation was reached in each district. Hence, the

number of interviews conducted in the Kalutara and Kegalle districts was restricted compared to the number of case study interviews conducted in the Colombo district. Interviews were conducted as face to face interviews which lasted between 45 to 90 minutes.

The case study interviewees were conducted with men and women officers working in the disaster preparedness system in Sri Lanka. In most gender-related studies, both men and women were interviewed to capture their expressions and evaluate their emotions while conducting interviews (Cotterill, 1992; Hellum & Oláh, 2019; Lee, 1997). For example, Danermark et al. (2019) conducted a study to capture their emotional expressions during interviews, believing that the expressions matter to their analysis. Nevertheless, this study does not intend to capture their emotions, and hence the purpose of interviewing both men and women officers is different. The first reason for interviewing both types of officers in the study is to understand their opinion about the problem from two different points of view. The second reason is that the disaster preparedness system is operated mostly by men, specifically at the higher levels.

Table 3. 4 List of case study interviews conducted

| Case study Interviewee profile reference | | | |
|--|--|---------------------------------|--------|
| Colombo district | | | |
| Case study reference | Case study interviewee profile | Divisional Secretariat division | Gender |
| C1 | Divisional Secretary | Kaduvela | Female |
| C2 | SAHANA Officer | Kaduvela | Female |
| C3 | Grama Niladhari | Kolonnawawa | Female |
| C4 | Grama Niladhari | Kolonnawawa | Female |
| C5 | Grama Niladhari | Kolonnawawa | Female |
| C6 | Assistant Divisional Secretary | Colombo | Female |
| C7 | Assistant Divisional Secretary | Colombo | Female |
| C8 | SAHANA Officer | Colombo | Female |
| C9 | SAHANA Officer | Kolonnawawa | Male |
| C10 | District Secretary | Colombo | Male |
| C11 | Assistant Director -District Disaster Management Coordination Unit | Colombo | Male |
| Kegalle district | | | |

| | | | |
|--------------------------|--|-----------|--------|
| KE1 | Divisional Secretary | Kegalle | Female |
| KE2 | Director- Planning | Kegalle | Female |
| KE3 | Divisional Secretary | Aranayake | Male |
| KE4 | SAHANA Officer | Kegalle | Female |
| KE5 | Ministry of Women Affairs-Divisional Secretariat Office | Aranayaka | Female |
| KE6 | SAHANA Officer | Aranayaka | Male |
| KE7 | Grama Niladhari | Aranayaka | Female |
| KE8 | Grama Niladhari | Kegalle | Female |
| KE9 | Grama Niladhari | Aranayaka | Female |
| Kalutara district | | | |
| KA1 | Divisional secretary | Kalutara | Female |
| KA2 | Ministry of Women Affairs – Divisional Secretariat Office | Kalutara | Female |
| KA3 | Assistant Director- District Disaster Management Coordination Unit | Kalutara | Male |
| KA4 | Grama Niladhari | Kalutara | Male |
| KA5 | Grama Niladhari | Kalutara | Female |
| KA6 | Grama Niladhari | Kalutara | Female |

Source: Author created

In addition to semi-structured case study interviews, semi-structured expert interviews were conducted. Semi-structured expert interviews were conducted using an interview guideline presented in Appendix 2. Expert interviews also provide high insight into the problem in an aggregated manner in a specific field. Any other methods cannot replace experts interview data. Another benefit of conducting experts interviews was the networked benefit. Most experts are motivated to provide their insights into studies. Thus, high motivation supports the researcher working the study (Bogner & Menz, 2009; Meuser & Nagel, 2009). According to Bogner and Menz (2009), expert interviews provide a more efficient data collection method for exploratory studies. Further, expert interviews allow access to areas where access is restricted or limited.

In this study, semi-structured expert interviews were conducted to get expert opinions on the research problem covering many aspects within a limited time. The expert interviews also supported the triangulation of multiple data and improved the study findings' validity and reliability. Another reason for conducting expert interviews in this study was their ability to provide a comprehensive opinion about the problem through their expertise. In addition, expert interviews also provide a national perspective of the research problem.

The selected experts for the study engage in the national disaster preparedness system in Sri Lanka. Therefore, the study will understand women's empowerment within the national and district disaster preparedness system. Thereby, the study covers women's empowerment within the overall disaster preparedness system in Sri Lanka. The expert interviews were conducted in parallel to case study interviews. This was possible to conduct parallel since several pilot interviews were conducted. The expert interviews were used to triangulate the study findings.

Fourteen semi-structured expert interviews were conducted with the fields relevant to the study scope. The number of interviews was decided to cover experts from the relevant areas for the study. The selection of experts was based on the purposive sampling method to find answers to research questions. According to Table 3.5, the panel of experts represents academics, disaster management experts and agents who deal with women's empowerment in Sri Lanka. All interviews lasted about 45 minutes 90 minutes. At the beginning of the interview, an introduction to the study was explained. Even though an interview guideline was used, questions were limited to their expertise.

Table 3 4 Profile of expert interviewees

| Expert reference | Position and the organization | Organizational type |
|-------------------------|--|--|
| EX1 | Director DMC, Ministry of Disaster Management | Government/Policy level |
| EX2 | Assistant Director DMC, Ministry of Disaster Management | Government/policy level |
| EX3 | Assistant Director DMC, Ministry of Disaster Management | Government-Policy level |
| EX4 | Programme Manager Asian Disaster Preparedness Centre (ADPC) | Non-Governmental Organization-Advisory/ practise |
| EX5 | Programme Manager Asian Disaster Preparedness Centre (ADPC) | Non-Governmental Organization-Advisory/ practise |
| EX6 | Programme Manager Asian Disaster Preparedness Centre (ADPC) | Non-Governmental Organization-Advisory/ practise |
| EX7 | Senior Lecturer Higher education institutions | Academic- research/ advisory |

| | | |
|-------------|--|---------------------------------|
| EX8 | Engineer/ Senior Scientist Geologist, National Building Research Organization (NBRO) | Government-practise |
| EX9 | Engineer Irrigation Department | Government-practise |
| EX10 | Senior Lecturer Higher education institutions | Academic- research/ advisory |
| EX11 | Assistant Director DMC, Ministry of Disaster Management | Government -policy level |
| EX12 | Additional Director Meteorology Department | Government- practise |
| EX13 | Director Federation of Sri Lankan Local Government Authorities | Government- policy |
| EX14 | Senior Lecturer Higher education institutions | Academic- research/ advisory |

Source: Author created

Both case study and expert interviews were recorded using a voice recorder with their prior permission and manually transcribed into word documents. All voice records and interview transcriptions were maintained as expert and case study databases. Then, transcribed data were transferred to the NVivo version 12 software for the data analysis process. Before transferring data, transcribed interviews were checked for initial corrections. Table 3.6 presents the summary of the data collection techniques used for achieving research objectives in the study.

Table 3 5 Summary of the data collection methods used against research objectives

| Objective | Literature review | Semi-structured expert interviews | Semi-structured case study interviews | Validation- Focus Group Discussion |
|--|-------------------|-----------------------------------|---------------------------------------|------------------------------------|
| To explore the impact and the role of women in the context of disasters | X | | | |
| To explore the importance of women's empowerment in disaster risk governance within the disaster preparedness system to reduce women's vulnerabilities | X | X | X | |
| To examine and analyse the current contribution of women in disaster risk governance within the disaster preparedness system in Sri Lanka | | X | X | |
| To investigate the factors affecting women's empowerment in disaster risk governance within the disaster preparedness system in Sri Lanka | X | X | X | |
| To propose strategies for empowering women in disaster risk governance within the disaster preparedness system in Sri Lanka | X | X | X | X |

Source: Author created

3.11.2 Data Analysis

Multiple data analysis methods are preferable to single data analysis since multiple analysis provides more insights about the study (Saunders et al., 2019). Most common qualitative analyses are based on interpretations, summary and integration (Weiss, 1995). According to Miles and Huberman (1994), qualitative data analysis comprises data reduction, data display, and conclusion drawing. Data reduction involves the process of selecting or abstracting data based on field notes or transcriptions. Data display consists of organizing, compressing and assembling data towards conclusions. The third element is drawing conclusions and verification based on the data gathered. The findings must be

verified in addition to presenting. For data fragmentation and reduction, Thematic Analysis, Template Analysis, Grounded Theory Model and Data Display and Analysis are applied. Nevertheless, there are no right and wrong qualitative data analysis techniques (Saunders et al., 2019).

According to Saunders et al. (2019), qualitative data analysis techniques depend on the methodological and philosophical basis, theory development approach, and analytical approach. Except for Grounded Theory, other research strategies can choose appropriate data analysis methods depending on the data collected. The deductive approach prefers quantitative techniques in theory building, whereas inductive approaches prefer qualitative data analysis techniques. The abductive approaches use qualitative data analysis techniques collecting additional data to either modify or revise existing theories.

This study collected data through interviews, as explained in Section 3.11.1. The manually transcribed data were stored as databases. During transcribing, measures were taken to capture the interviewee's tone and incorporate it into contextual information. During data transcription, initial data transcription errors were corrected as measures of data cleaning. Each interview transcription was saved as a separate word document with a specific name that is easy to identify with the file name and easily incorporated into the thesis.

Expert interviews were named EX with a numerical number; for example, expert interview one is called EX1. Similarly, case study interviews were named as C for Colombo, KE for Kegalle and KA for Kalutara districts with a numerical number. These data were stored as databases. This facilitates organizing and documenting data collected. Interviews were separately held as expert and case study interviews to analyse case studies individually and cross-case analysis.

According to Saunders et al. (2019) suggestions, the interviewer's questions were typed bold and red in colour while answers were regular in black. Questions were fully transcribed to document to avoid any misunderstanding or misinterpretation. While transcribing, a self-memo were maintained to capture all contextual information about the interview. During data analysis, principal themes were identified based on the transcriptions. During data categorising, themes were identified and merged categories into meaningful information. During categorisation, data were coded, and the coding was based on research objectives. The study used two main qualitative analysis techniques: Thematic Analysis and Cognitive Mapping, explained in detail in the following Section.

3.11.2.1 Thematic Analysis

Saunders et al. (2019) explained that Thematic Analysis helps identify themes or patterns emerging from data collected from interviews, observations, diary accounts, or documents. Thus, the study used a coding method to identify themes or patterns from interview data. Braun and Clarke (2006) identified Thematic Analysis as a general approach for qualitative data analysis. This technique is suitable for studies that use the abductive approach, starting with the themes identified based on theories available and later modified along with the data analysis. According to Saunders et al. (2019), familiarising with data is essential for identifying themes and sub-themes. Thus, transcribed data were read again and again to identify themes early. The analysis process was initiated by familiarising with data. Therefore, the study conducted Thematic analysis for identifying new concepts or altering existing theories or concepts. Research questions and objectives mainly guided the coding in addition to theoretical concepts. Some of the identified themes were combined to make new themes, while some themes were further divided to identify different themes. After identifying themes, relationships between themes were identified, and they were compared with initial theoretical propositions.

3.11.2.2 Cognitive Mapping

Cognitive Mapping is another qualitative data analysis technique used in qualitative studies (Collis & Hussey, 2013). According to them, the Cognitive Mapping technique is more suitable for studies aiming to develop strategies. Because it helps to identify and reflect on a problem and direct to possible solutions, specifically, concepts or factors that can be determined based on interview transcriptions and can be used to develop a strategy. Hence, this study used a cognitive mapping technique to identify concepts based on literature and data and then identify their relations to solve identified research problems. One limitation of cognitive mapping is time-consuming. Nevertheless, it generates rich analysis leading to strategy or solutions development. Since this study proposes a framework to enhance women's empowerment in DRG within the disaster preparedness system, the study used a cognitive mapping technique as a data analysis technique.

3.11.2.3 Computer software used in data analysis.

Data analysis takes time and great effort. Thus, many researchers employ some data analysis software. NVivo software is commonly used in qualitative data analysis. This software was used to code data and identify themes and categories. Hence, the study used

NVivo version 12 software to store its data, code its interview transcriptions, conduct different types of analysis, and produce outcomes in graphical forms. The analysis was started identifying themes and labelling them in the software as Nodes. The whole interview transcriptions were coded and linked to identified nodes. These nodes were identified in relation to research questions and objectives. Separate Nvivo files were created for three case studies and expert interviews. The coding process was started with the objectives of the study. Before beginning the coding process, data were cleaned for grammar and spelling mistakes. Key nodes were generated for each case study based on the study objectives. Under each node, child nodes were generated based on their features. For example, highlighting the importance of women's empowerment in disaster risk governance was a key node, and the reasons were presented as child nodes under the main node. At the beginning of each thematic analysis, a Nvivo screenshot was presented to demonstrate how the nodes were generated. Finally, thematic analysis and cognitive mapping were conducted based on the identified themes (nodes).

3.12 Quality of the study findings: Validity and reliability

Research findings should be reliable and valid (Creswell & Creswell, 2018; Saunders et al., 2019; Yin, 2018). The research design quality could be tested through construct validity, internal validity, external validity, and reliability. Yin (2018) presented these tests in relation to case studies.

3.12.1 Construct validity

Construct validity ensures the selection of correct concepts and their operationalization. Yin (2018) has presented two main tactics for ensuring construct validity, specifically for case studies. The use of multiple sources of evidence and a review by key informants on draft case study reports are tactics. Multiple evidences were collected during the data collection stage, as presented in Section 3.11, while key informants' reviews were conducted during the composition stage.

Maintaining a chain of evidence also enhances the construct validity (Yin, 2018). The chain of evidence presents a clear overview of evidence collected to support its research questions. This ensures no data will be lost during data collection. Also, a chain of evidence helps to connect evidence to its analysis and findings. In terms of this study, all collected data via interviews were recorded and saved for any study reliability check. Furthermore, documentary evidence is maintained, highlighting its relevant areas.

3.12.2 Internal validity

Internal validity is assured during the data analysis stage (Yin, 2018). There are five techniques presented by Yin (2018) to assess internal validity; pattern matching, explanation building, time-series analysis, logic models and cross-case synthesis. Internal validity is mainly targeted in experimental or quasi-experimental studies (Campbell and Stanley, 1966). In terms of case studies, internal validity matters for explanatory case studies since they intend to test causal relationships between variables (Yin, 2018).

Even though this study is exploratory in nature, the study used cross-case synthesis to assure both internal and external validity of research findings. Furthermore, the study maintained its internal validity by identifying the research problem and objectives and developing the conceptual framework while ensuring appropriate research methodology.

3.12.3 External validity

External validity deals with the ability of generalizability of case study findings to its scope, replication logic or theory when designing case study research design (Yin, 2018). External validity in case studies are assured using theory in single case studies while the use of replication logic in multiple case studies. The external validity should be decided in the research design stage. As stated in Section 3.9.2.4, the study adopted replication logic to assure its external validity, which finally helped generalise.

Yin (2018) suggest conducting analytic generalisations to case studies to enhance its external validity. In multiple case studies, it is vital to highlight the analytic generalisation, which is formed based on case studies (Yin, 2018). The study selected a multiple-case study design. Thus, a replication logic has been adopted to assure its generalizability. The study selected the district as the case boundary which the national government governs. Further, these selected districts are the most vulnerable to frequent disasters in Sri Lanka and further represent diverse disasters. Besides, the districts chosen also represent women's empowerment in DRG within the district settings. Therefore, case study findings would be able to generalize across other districts in Sri Lanka. Besides, case study findings were further supported through expert interview findings and, in the end, with the focus group discussions.

3.12.4 Reliability

In addition, reliability tests enhance the robustness of study findings. Reliability assures accuracy of study findings or reduces errors or biases of study findings during data collection (Yin, 2018). This ensures that the same results will be delivered by other researchers who conduct the same study. The reliability helps in reducing the suspicion on case study findings. Case study protocol or interview guidelines, case study database or maintaining a chain of evidence were used to assure the reliability of study findings as explained in Section 3.11.1.2.5. That protocol helped to maintain consistency across cases and thus reliability. Table 3.7 summarises the tests adopted to secure the validity and reliability of the study findings.

Table 3 6 The summary of the validity and reliability tests carried out in the study

| Test | Case study tactic used in the study | The phase of the study |
|---------------------------|--|--|
| Construct validity | <ul style="list-style-type: none"> Used multiple sources of evidence | <ul style="list-style-type: none"> Data collection |
| Internal validity | <ul style="list-style-type: none"> Research questions were formulated A conceptual framework had been developed | <ul style="list-style-type: none"> Research problem defining phase |
| External validity | <ul style="list-style-type: none"> Used replication logic since multiple case studies had been conducted | <ul style="list-style-type: none"> Research design |
| Reliability | <ul style="list-style-type: none"> Used a case study protocol Maintained a case study database Check case study transcriptions for errors | <ul style="list-style-type: none"> Data collection Data analysis |

Source: Author developed based on the Case study tactics for four design tactics presented by (Yin, 2018).

3.13 Research process

Figure 3.8 presents the research process adopted in the study. Accordingly, the research problem, aim and objectives were presented in Chapter 1 and conducted a literature review in Chapter 2. Then, Chapter 3 introduced the research methodology for the study. Based on Chapter 2 and 3, a conceptual framework for the study was presented in Chapter 4, following a deductive reasoning approach. Chapter 5 and 6 collected and analysed

documentary evidence expert and case study interviews, respectively. Based on case study interviews, a cross-case analysis was conducted as part of inductive reasoning in Chapter 7. Based on expert and case study interviews, the study developed a framework for enhancing women's empowerment in DRG within the disaster preparedness system, as presented in Chapter 8, using an abductive reasoning approach. The initial framework was validated with FGD and presented in chapter 8 as the final framework. Finally, the summary and conclusions for the study were presented in Chapter 9.

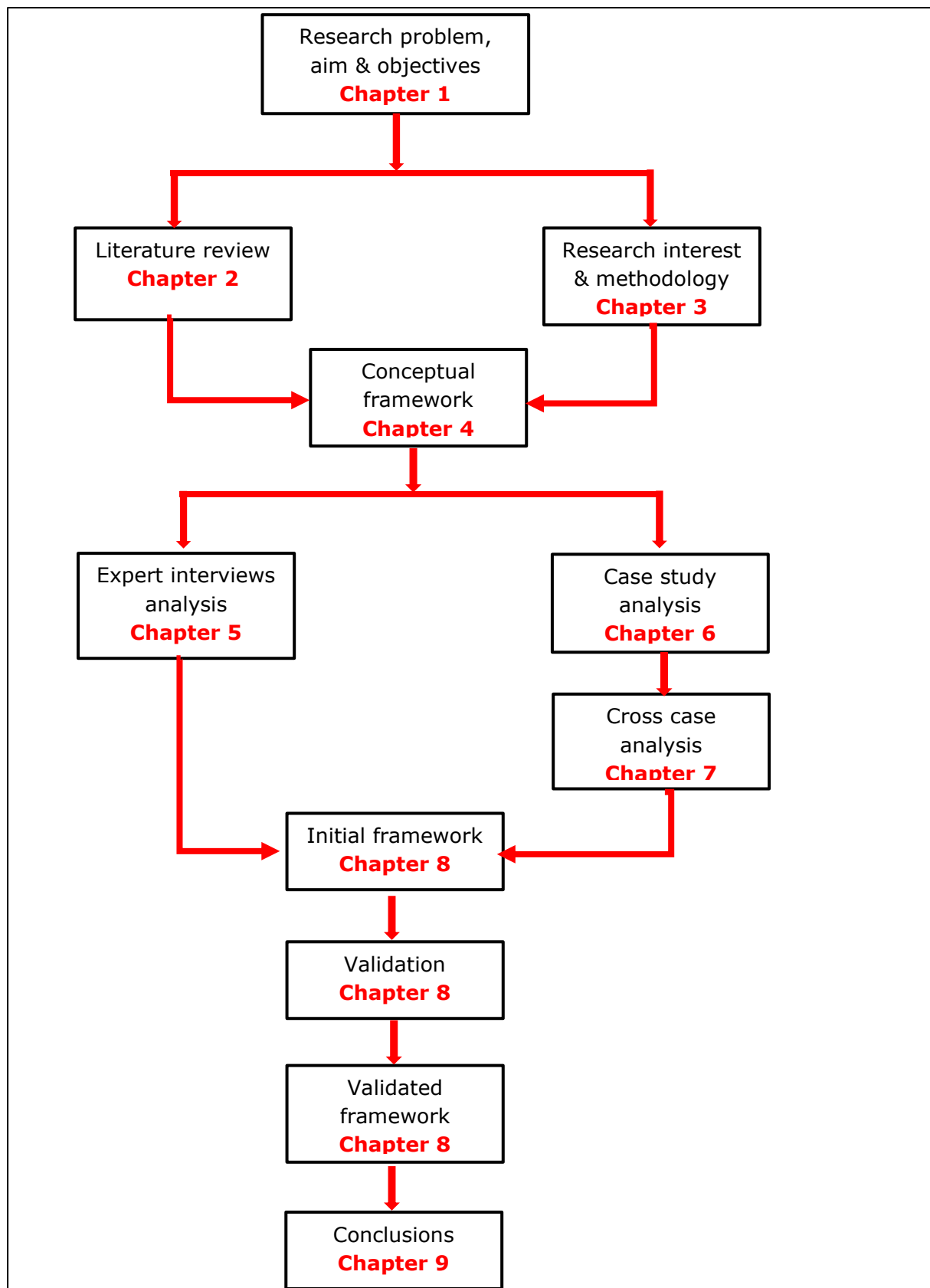


Figure 3.8 Summary of the research process

Source: Author developed

3.14 Validation process- Focus group discussion (FGD)

FGDs are adopted in qualitative studies gaining in-depth knowledge on social phenomena using purposively selected individuals (O. Nyumba et al., 2018). Accordingly, the study conducted FGD, with a purposively selected group of experts validating the initial framework developed based on the expert and case study interviews. At the beginning of the study, the focus group discussion was planned to be a face to face round table event. However, due to the present COVID-19 pandemic, the focus group discussion was conducted online.

At the online FGD, the initial framework was presented to the FGD panel along with study objectives to get their opinions. The participants were selected based on their expertise with the supervisor's guidance. Table 3.8 presents the profile of the FGD panellists who validated the initial framework.

Table 3 7 Validation expert's profile

| Expert reference | Interviewee profile | Level of their representation |
|------------------|---|-------------------------------|
| VI 1 | Senior Lecturer, University of Moratuwa | Academic |
| VI 2 | Director- Disaster Management Centre | Government/policy level |
| VI 3 | Lecturer, University of Colombo | Academic |
| VI 4 | Director- Department of Meteorology | Government / Practitioner |

Source: Author developed

3.15 Thesis writeup

The thesis write-up was a gradual development throughout the period. The initial write-up was begun at the beginning of the study by conducting the literature review. Following the university requirement, at the end of 1st year, the study methodology was finalised and refined during the second year before data collection began. The developed methods were further refined and re-written after data collection and analysis. After completion of data analysis, a whole thesis write-up was started chapter wise.

3.16 Summary and the link

This chapter presents the research methodology used in the study in detail. The chapter begins with an introduction to the research motivation in the study. After explaining the research motivation, the process of identifying the research problem, aim, objectives and

research questions were presented. The research design for the study was demonstrated using the Research Onion model. Of the available philosophical stances, pragmatism was identified as the most suitable research philosophy for the study. According to the Research Onion, the abductive approach was chosen for building theory in this study. Qualitative multi-method was selected due to its ability to generate strong evidence to research objectives. Of the number of available research strategies, a case study strategy was chosen. Accordingly, a multiple holistic case study design was adopted, selecting three districts from Sri Lanka. The three districts were selected based on their disaster profile, diverse socio-economic and socio-cultural factors and present engagement of women in DRG. Due to a single unit of analysis, holistic case studies were conducted in selected three districts. Data were collected at a specific time as a cross-sectional study. Data were collected using multiple data collection techniques: semi-structured interviews and documentary evidence. Semi-structured case study interviews were conducted using a case study protocol/interview guideline, and the sample was selected based on purposive sampling. The number of interviews was determined based on the replication logic. In addition to semi-structured case study interviews, expert interviews were conducted to enhance study findings' triangularity and enhance reliability and validity. The quality of study findings was assured through several validity and reliability tests. Data were analysed qualitatively using thematic analysis and cognitive mapping techniques using NVivo version 12 software. Besides, FGD was conducted as a validation process and validated the initial framework. After presenting the research methodology adopted in the study, the next chapter presents the conceptual framework developed based on the literature review.

Chapter 4 Conceptual Framework

4.1 Introduction

After presenting the detailed research methodology in Chapter 3, the study's conceptual framework is presented in this chapter. Accordingly, Section 4.2. presents an introduction to frameworks covering the difference between theoretical and conceptual frameworks. The introduction section is followed by the justification for selecting a conceptual framework for the study. Next, Section 4.3. explains key concepts identified through the literature review and followed by Section 4.4. presenting the inter-relationships between key concepts. Section 4.5. provides the conceptual framework for the study. Finally, Section 4.6. presents a summary and the link to the next chapter.

4.2 Introduction to frameworks

Frameworks demonstrate the research plan structure for a study (Mills et al., 2010). Researchers commonly adopt two types of frameworks for conducting research. They are theoretical framework (TF) and conceptual framework (CF). Some scholars use either a TF or CF to guide their studies, while others use these two terms interchangeably (Tamene, 2016). Researchers have highlighted both frameworks' significance, applicability, and differences (Fain, 2020; Green, 2014; Imenda, 2014).

4.2.1 A theoretical framework

According to Adom, Yeboah, et al. (2016), a TF shows the path to follow when conducting a study. Grant and Osanloo (2014) and Fain (2020) explain a TF, which was based on existing theories in the field, and the researcher borrows from existing theories in the field of study. Imenda (2014) explains the TF as the theory the researcher chose to guide his research or to apply in a study. According to Adom, Yeboah, et al. (2016), a TF further helps throughout a study by defining the research problem, conducting a literature survey, developing the methodology, presenting and discussing the findings and conclusions.

4.2.2 A conceptual framework

In contrast, a CF is explained as a graphical or narration of the main items or concepts or variables or factors or constructs to be studied within a study (Grant & Osanloo, 2014; Miles et al., 2014). According to Sharon and Matthew (2016), CFs have presented in three ways: a visual presentation of the study's structure, similar to TF, or connecting all elements in the research process. They defined a CF as;

“ An argument about why the topic one wishes to study matters and why the means proposed to study it are appropriate and rigorous” (Sharon & Matthew, 2016, p. 5).

Hence, they considered a CF a sequenced and logical proposition, which supports the study. However, Miles et al. (2014) consider a CF as the key factors, variables, or constructs to be studied and presented either graphically or in a narrative form showing relationships among them and it evolves with the study progression (Miles et al., 2014). A similar explanation was given by Fain (2020), explaining CF as developed based on concepts.

Imenda (2014) presented the difference between a TF and CF, as presented in Figure 4.1.

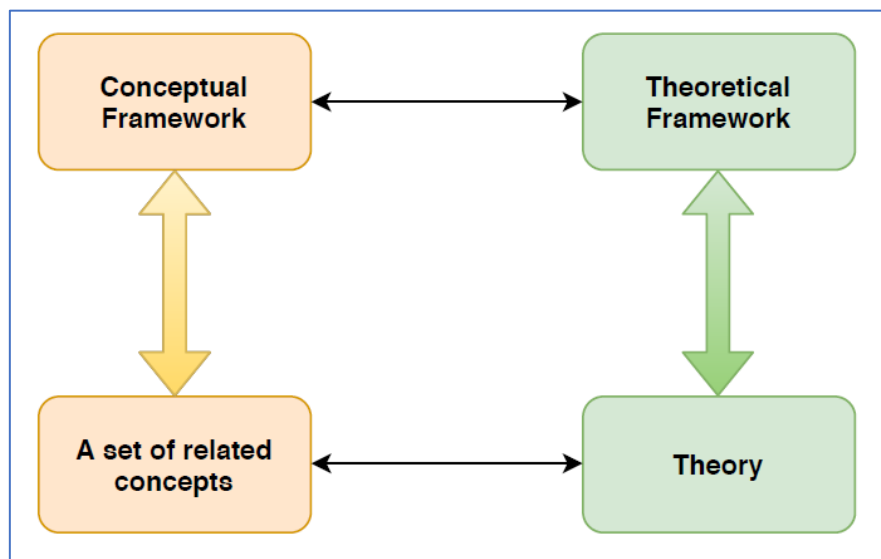


Figure 4.1 Derivation of a conceptual framework and a theoretical framework adapted from Imen-da (2014)

Source: Prepared by the author

Several researchers have identified the benefits of a CF over a TF, as presented in Table 4.1.

Table 4. 1 Comparison of a theoretical and conceptual framework

| Theoretical framework | Conceptual framework |
|---|---|
| 1. Provides a general / broader set of ideas in which the study belongs | 1. Refers to specific/narrower ideas the researcher uses in his study |
| 2. Based on existing theory/theories tested and validated by others | 2. Based on the concepts/ variables in the study |
| 3. Already in the form of a model with its exponents and results | 3. The researcher's articulated model and he uses to explain relationships between variables or an adaptation of a model from existing theory, and the researcher adapts to match his research objectives |
| 4. Already developed, designed and accepted | 4. A proposal, but not accepted, of the researcher's answers to his research problem |
| 5. Provides a focal point starting unknown area in a specific field of study | 5. Provides a logical framework of how the research is to be conducted |
| 6. Consists of theories interrelated with their propositions deduced | 6. Consists of concepts interconnected to explain relationships between these concepts and how to answer the research problem |
| 7. Test theories to predict and control conditions in the context of the research | 7. Aims to develop theories that would be useful to practitioners in the field. |

Source: Adapted from (Adom, Adu-Gyamfi, et al., 2016)

According to Miles et al. (2014), a CF presents relationships between variables, factors, or constructs and identifies the most significant and relevant areas to study to achieve objectives. It helps to improve research findings more meaningfully, acceptability and, more importantly, generalizability. It also helps to strengthen the empiricism and thoroughness of the research. In other words, without a proper conceptual framework, the reader will misunderstand the study's academic position and relevant hypothesis (Adom, Adu-Gyamfi, et al., 2016). CF also presents an analytic display of the study in a visual representation (Miles et al., 2014). In other words, a weak conceptual framework will lead to a flawed methodology and lose the link to previous studies as a continuum (Sharon & Matthew, 2016).

A conceptual framework helps identify themes for qualitative data and analysis (Creswell & Creswell, 2017) and performs as an argument that guides the empirical research by posing specific questions (Ravitch & Riggan, 2012).

Camp (2001) considers CF as the researcher's belief that explains the phenomenon to be studied. Jabareen (2009) describes its ability to perform as a network, providing a comprehensive idea about a phenomenon or a model that the study is interested in exploring. The framework helps design the research design for the research and further refine goals, research questions, suitable methods, and selecting relevant validity measures for the study (Kaplan & Maxwell, 2005). Thus, a CF provides opportunities to identify and construct his worldview or ideology of the phenomenon to be studied (Grant & Osanloo, 2014). A complementary argument presented by Akintoye (2015) states that a CF is suitable where the existing theories are insufficient or applicable to support the study.

Imenda (2014) explained where a CF is more appropriate to a TF when the researcher cannot fit his study into one theory or concept. CF provides the freedom to the researcher to synthesise available concepts based on theoretical and empirical studies. In other words, a CF can combine several concepts to understand a phenomenon or a research problem.

4.2.3 Selection of the framework for the study- A conceptual framework

Accordingly, this study employs a CF to achieve the study's aim and its objectives. This study aims to develop a framework to enhance women's empowerment in DRG within the disaster preparedness system in Sri Lanka. Therefore, a CF was preferred to a TF due to the benefits mentioned above and the study's aim.

The reason is that a CF can use the researcher's ideology or worldview when identifying and constructing the problem to be investigated (Grant & Osanloo, 2014). More importantly, there is no single theory relevant to this study's scope, and hence several concepts were selected and combined based on theoretical and empirical evidence, as Imenda (2014) highlighted. Further, it can highlight or underline why this area is worth studying in detail (Evans, 2007). Therefore, the researcher used her ideology and worldview on women's status in disasters when identifying the research problem. The study highlights the importance of studying the necessity of women's empowerment in DRG within the CF. The study also based on the concepts identified through literature

rather limiting to an existing theory. In this respect, a CF was determined as appropriate than a TF for this study.

The study's conceptual model presented in Section 4.6 is based on the researcher's articulated model rather than an existing model. The study intends to explain concepts and their relationships when answering the research problem. Furthermore, the study could develop a theory that can help practitioners or policymakers take necessary actions to enhance women's empowerment in DRG. This study investigates a narrow or specific research area within women's empowerment. Therefore, the study justified the suitability of a CF.

According to the study's research methodology described in section 3.4, the study adopts an abductive research approach for theory building. A CF is suitable for abductive studies since they generate new theories or ideas in addition to existing knowledge or theories (Saunders et al., 2019). Furthermore, CF allows the researcher to find new data outside of the existing theoretical premises (Meyer & Lunnay, 2013). Accordingly, this study identifies or generates theories or new knowledge on women's empowerment in DRG based on identified or existing theories or concepts. Furthermore, the abductive approach helps to improve existing theories instead of accepting or rejecting existing knowledge. After considering all the above reasons, the study adopted a CF in answering research questions and delivering its aim.

Based on the literature review and empirical evidence confirmed by expert opinions, a CF for the study was developed to guide the research. Figure 4.2 presents the CF for the study, showing its key concepts, relationships, and reference to study objectives.

4.3 Key concepts

Following are the key concepts or areas identified through the literature review and supported with expert opinions.

4.3.1 The increasing trend of natural hazards induced disasters

As presented in Section 2.2, natural hazards caused disasters making significant impacts on lives, social well-being and economies (R. Haigh & D. Amaratunga, 2010). During the last century, the frequency and magnitude of natural hazards have increased (EMDAT, 2020). Among such natural hazards, Cyclone Nargis in Myanmar, the 2004 Indian Ocean tsunami, the 2015 Nepal earthquake were some of the high impact natural hazards

reported in the 21st century. Evidence has shown a significant level of deaths and economic losses reported in low- and middle-income countries compared to high-income countries (CRED-UNISDR., 2016). Similarly, disasters disproportionately affect some communities in society (Bradshaw, 2004; Sarah Bradshaw & Maureen Fordham, 2013; Enarson & Morrow, 1998a; Neumayer & Plümper, 2007). Hence, natural hazards induced disasters were identified as a key concept in the study.

4.3.2 Empowerment of women

The concept of empowerment has been widely used in many areas since the 20th century, as presented in Section 2.4 (McWhirter, 1991). A feminine approach was introduced to the concept of empowerment by McWhirter (1991). Many researchers argue that women's empowerment must be assured when addressing their vulnerabilities (Garikipati, 2008; Ginige et al., 2015; S. Kottegoda, 2011; Reyes & Lu, 2016; Rowlands, 1995). However, empowerment is not limited to giving access to decision-making but to provide opportunities to show their capacities and abilities in decision-making (Rowlands, 1995). Several global and regional initiatives have recognised the importance of women's empowerment across many disciplines. Women's empowerment has delivered many positive results in different fields (Bari, 1998; Dhungel & Ojha, 2012; Dutt et al., 2016; Hashemi et al., 1996; Kabir et al., 2018; McWhirter, 1991; Rezazadeh, 2011). Hence, women's empowerment was identified as another key concept in the study.

4.3.3 Disaster risk governance

The importance of DRG has been emphasised on many global agendas, as described in Section 2.5. For example, the Sendai Framework for Disaster Risk Reduction highlighted the necessity of ensuring DRG at the international, national and local level in its second priority for DRR strategies (UNISDR, 2015a). Assuring governance is vital for decision-making to minimise adverse effects for uncertain events (Meerpoël, 2015; Renn, 2015; Renn & Klinke, 2012; Renn & Schweizer, 2009; Rogers & Hall, 2003). Hence, the importance of DRG was identified as a critical concept applicable to the study.

4.3.4 Disaster preparedness

Compared to early periods, the general public expects active involvement and better leadership from the public sector during all three disaster cycles (Kapucu & Van Wart, 2006). The disaster cycle consists of pre-disaster, during disaster and post-disaster phases. Accordingly, disaster management systems have been introduced as preparedness, mitigation, response and recovery measures. Disaster preparedness

measures are introduced during the pre-disaster stage considering their importance (UNISDR, 2015a). Effective preparedness measures minimise post-disaster response and recovery measures, reduce disaster risks and enhance resilience among communities and systems (Collins & Kapucu, 2008; Kapucu, 2008; Myers, 1994; Sadiq et al., 2016; Thomalla & Larsen, 2010; UNISDR, 2015a). Hence, disaster preparedness has gained more attention than ever before due to increasing disaster trend. Therefore, the concept of disaster preparedness was identified as a key concept in the study.

4.4 Inter-relationships between key concepts

A better conceptual framework could express relationships between concepts identified within a conceptual framework. Thus, a CF helps understand relationships between concepts and help answer research questions and research problems (Adom, Adu-Gyamfi, et al., 2016; Akintoye, 2015; Green, 2014; Imenda, 2014; Tamene, 2016). Accordingly, the following relationships were identified within the study concepts.

4.4.1 Increasing disasters makes women extra vulnerable

The increasing disaster occurrence and its magnitude have been recognised by many scholars, practitioners and policymakers as described in Section 2.2 (CRED-UNISDR., 2016; Huppert & Sparks, 2006; UNISDR, 2015a). This increase in disasters has made diverse impacts on communities and countries. Increasing women's vulnerabilities in disasters was evidenced by many scholars (Alam & Rahman, 2014; Bradshaw & Fordham, 2015; Enarson & Morrow, 1998a; E. P. Enarson, 2012; Ginige et al., 2014b; S. Kottegoda, 2011; Neumayer & Plümper, 2007; Reyes & Lu, 2016; Thurairajah & Amaratunga, 2009) as presented in Section 2.2.3. This evidence demonstrates that disaster impacts are gendered. Women suffer from natural hazards induced disasters in all three stages of the disaster cycle (Alam & Rahman, 2014; Islam, 2010; S. Kottegoda, 2011). Women have become more vulnerable due to socio-economic, socio-cultural and lower representation in the DRR decision-making process (Alam & Rahman, 2014; Ariyabandu, 2009; Azad et al., 2013; Bradshaw, 2013; Dhungel & Ojha, 2012; Hamidazada et al., 2019; Horton, 2012; Nguyen, 2019) as presented in Section 2.3. Evidence suggests that women in both high incomes and low and middle-income countries face similar challenges alike (Azad et al., 2013; Laska & Morrow, 2006).

4.4.2 Need to empower women in disaster risk reduction decision-making to reduce women's vulnerabilities (Disaster risk governance)

As mentioned in Section 2.3.2, women's vulnerabilities grow with increasing disasters worldwide (Arora-Jonsson, 2011). Nevertheless, women contribute in many ways to reduce disaster impact and reduce future disaster risk and enhance resilience (E. Enarson, 2012; Ginige et al., 2015; Sepali Kottegoda, 2011; Reyes & Lu, 2016; Saito, 2012; UNISDR, 2015a) as presented in Section 2.3.3. Hence their empowerment in disaster decision-making has been recognised as necessary by many researchers (S. Kottegoda, 2011; Moreno & Shaw, 2018; Thurairajah & Baldry, 2010) as presented in Section 2.4.3. Evidence suggests that women's empowerment has delivered multiple benefits in disaster management systems (Alam & Rahman, 2014; Moreno & Shaw, 2018; Reyes & Lu, 2016; Saito, 2012; Thebe Limbu, 2016) and addressing their vulnerability as stated in Section 2.4.2. Thus, women's empowerment in DRG was recommended by scholars and policymakers (Baten & Khan, 2010; Burnet, 2008; Dhungel & Ojha, 2012; Drolet et al., 2015; Moreno & Shaw, 2018) as presented in Section 2.4.3. However, the challenges for their empowerment in disaster risk governance have not been recognised adequately within the literature and policy-making (Burnet, 2008; Kasomo, 2012; Liyanage, 2018a; Nilmi & Thoradeniya, 2018) as stated in Section 2.4.5. Thus, the study identified the relationship between women vulnerabilities and the need for empowering them in disaster risk governance.

4.4.3 Need to empower women in DRG within the disaster preparedness system

Global platforms, research and practitioners have introduced several initiatives to reduce disasters' impact. Disaster preparedness measures were identified as effective strategies to reduce disaster risk and enhance resilience, as explained in Section 2.6. Women's empowerment in DRG was presented in the previous section to minimise the disproportionate disasters' impact on women and society. In this effort, the disaster preparedness stage was chosen as suitable for ensuring women's empowerment in DRG (Dhungel & Ojha, 2012; Story et al., 2018). Thus, another relationship between key concepts was identified in the study.

4.5 Development of the conceptual framework

After identifying main concepts and their links based on the literature review, the following conceptual framework was developed for the study.

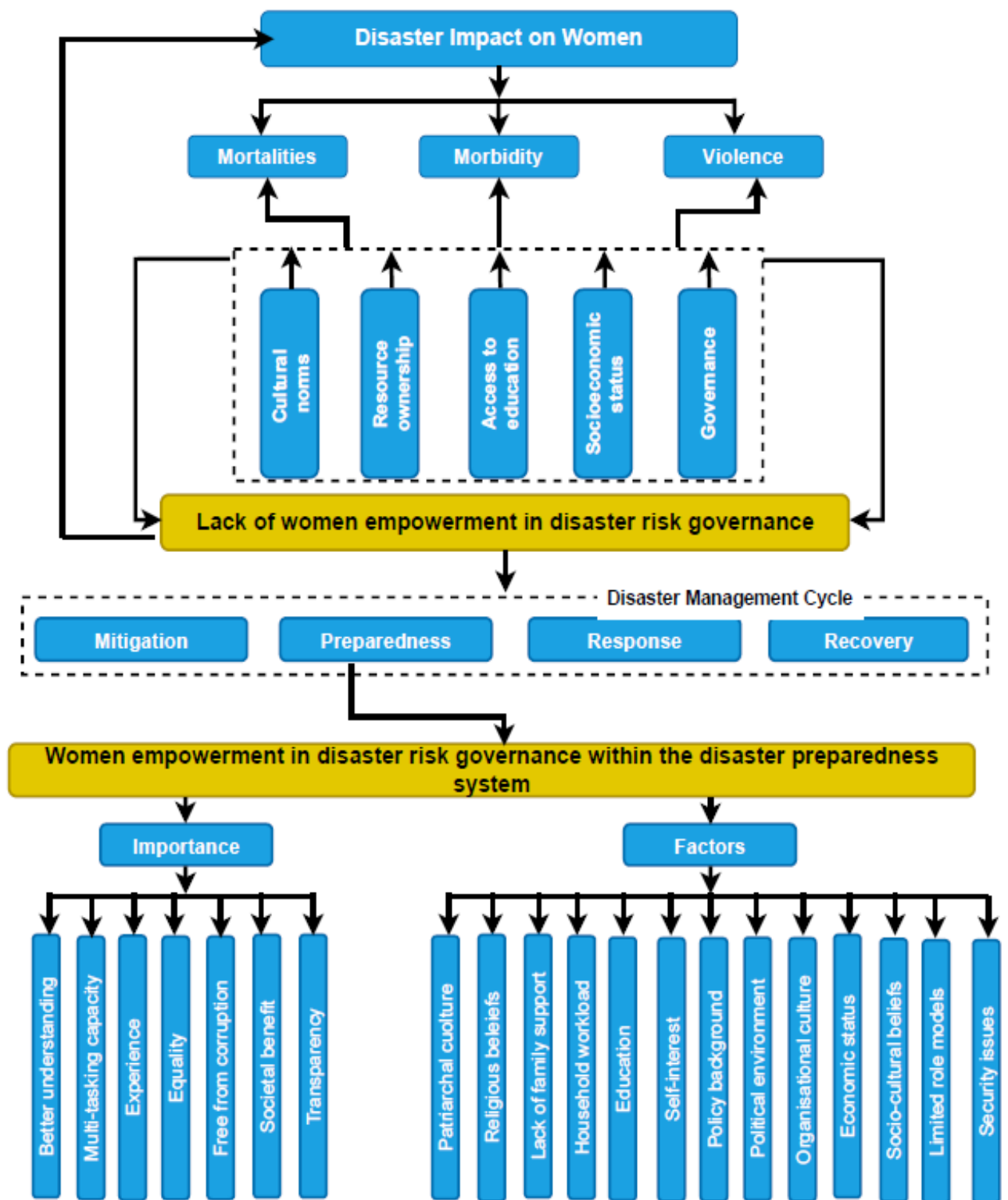


Figure 4.2 Conceptual framework of the study

Source: Prepared by the author

4.6 Summary and the link

This chapter presents available frameworks and the reasons for selecting a conceptual framework than a theoretical framework for the study. It begins with the definition and importance of each framework separately. Besides, the chapter presents the process of developing the conceptual framework for the study. The chapter provides key concepts identified through the literature review and links the key concepts to achieving study objectives. A conceptual framework for the study was diagrammatically presented at the end of the chapter. Accordingly, the following two chapters present data analysis results based on the expert interviews and case study interviews.

Chapter 5 Expert Interviews Analysis

5.1 Introduction

The previous chapter presented the process of developing the conceptual framework and the initial conceptual framework developed for the study. Accordingly, Chapter five presents the expert interview analysis with the following sub-sections. At first, Section 5.2. Outlines the methods used in expert interview analysis in achieving research objectives. Section 5.3. presents the analysis of the semi-structured expert interviews including four sections: the importance of WE in DRG within the disaster preparedness system, status of women's empowerment in DRG within the disaster preparedness system in Sri Lanka, challenges for Women's empowerment in DRG within the disaster preparedness system in Sri Lanka and the suggestions to overcome the identified challenges for women's empowerment in disaster risk governance within the disaster preparedness system. Section 5.3.5 provides the direction to the disaster preparedness system in Sri Lanka as an additional outcome of the expert interview analysis as a summary and the detailed analysis. The outcome is presented in Appendix 6. Section 5.4. concludes the chapter and provides a summary and link to the next chapter.

5.2 Methods used in analysing semi-structured expert interviews

The study conducted 14 semi-structured expert interviews as explained in Section 3.11.1 and presented the expert profile in Table 3.5. Section 3.11.2 presented the analysis method used for analysing semi-structured interviews. Accordingly, recorded data were transcribed into word documents and transferred to NVivo version 12 Software for data analysis. The study used the Thematic Analysis method to identify main themes as explained in Section 3.11.2.

Further, a cognitive mapping technique suggests possible solutions to identified problems, as explained in Section 3.11.2.2. The semi-structured expert interview analysis is presented in the next section under four sub-sections.

5.3 Semi-structured expert interviews analysis

5.3.1 Importance of women's empowerment (WE) in disaster risk governance (DRG) within the disaster preparedness system in Sri Lanka to reduce women's vulnerabilities in the context of disasters

As explained earlier, expert interviews were analysed to answer the research question of why WE in DRG within the disaster preparedness system is essential to reduce women's vulnerabilities caused by disasters. The analysis of the expert interview using NVivo software identified eight different reasons and presented in Figure 5.1 showing the NVivo analysis, and these reasons are graphically presented in Figure 5.2.

| | | |
|--|----|----|
| Role of women in disaster risk governance within preparedness system | 10 | 46 |
| Importance of women's empowerment in DRG | 10 | 46 |
| Accountability | 3 | 3 |
| Capacity | 6 | 13 |
| Commitment | 5 | 10 |
| Equality | 3 | 3 |
| Experience | 4 | 5 |
| For overall social benefit | 1 | 1 |
| To represent gender specific issues and needs | 3 | 5 |
| Transparency | 3 | 3 |

Figure 5. 1 Analysis identified based on NVivo analysis

Source: Developed by author

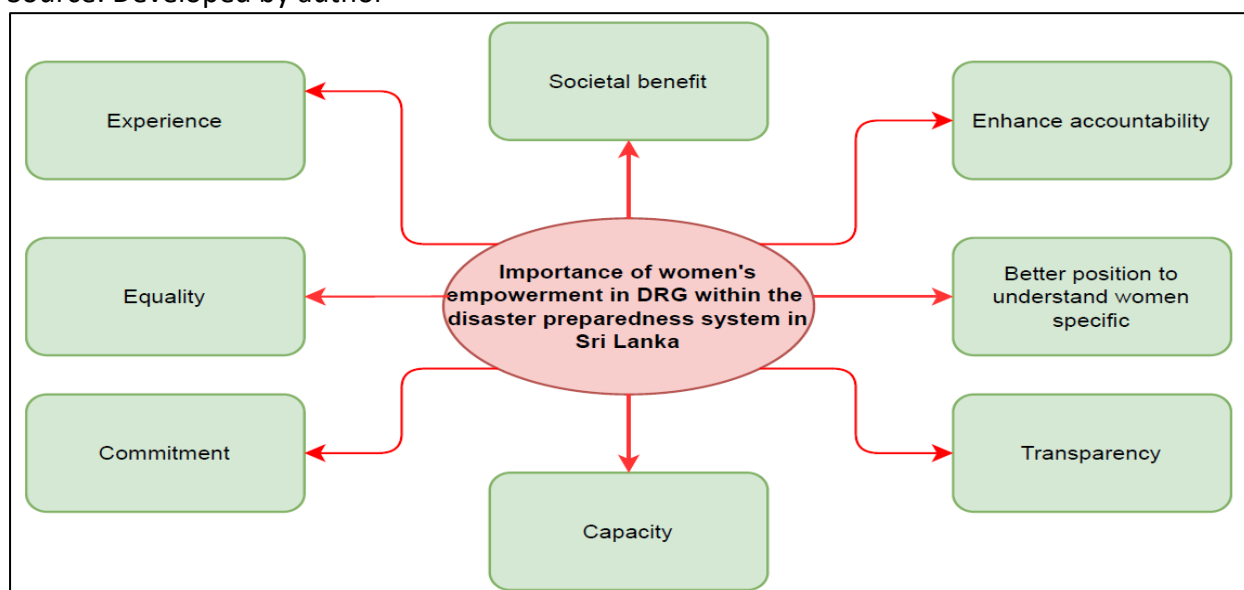


Figure 5. 2 Importance of women's empowerment in DRG within the disaster preparedness system in Sri Lanka to reduce women's vulnerabilities caused by disasters

Source: Prepared by the author

5.3.1.1 Accountability

Several experts identified that WE assure accountability within the preparedness system. According to EX10, *"Their engagement in governance enhances transparency and specifically accountability of decision-making"*. EX12 added that many international organisations, which conduct community development programmes, prefer to work with women since they are more accountable and responsible for the job or other assigned work. EX13 also highlighted how women officers assure DRG within the Sri Lankan disaster preparedness system. According to the expert, women officers concern about their *"Name and Shame"*. The expert further stated, *"They do not want to be targeted by men. So, they are reluctant to get involved in corruption and other misbehaviour. They do not want to be seen as bad characters in the society"*. In this way, one of the significant issues within the present disaster preparedness system, the accountability issue, can be overcome by empowering women in DRG within the disaster preparedness system in Sri Lanka.

5.3.1.2 Represent gender-specific needs

EX11, EX13 and EX14 emphasised the importance of WE in DRG to integrate gender-specific needs into the disaster preparedness system in Sri Lanka. EX11 stated, *"At the decision-making very top level, women representation is vital. Otherwise, top-level decision-making does not pay any attention to gender-specific needs, issues, etc."*. EX13 further emphasised that disaster preparedness at the local level needs women's representation stating, *"When deciding maternity clinics, who can give a better opinion in the council other than a woman. If you have a pre-schools or nutrition programme, Ayurveda etc. many areas women's representation or their voice needs to be heard"*. *"In terms of disaster preparedness system, women's representation in DRG is important to understand women-specific issues"* explained by EX 13. *"Even the public toilet, sanitary services and so much of services are there where women can contribute positively and creatively"* the expert further added. According to EX14, *"Especially in terms of decision-making on displacements and resettlements, women have not been considered. Hence, their concerns have been overlooked in many disaster management efforts"*. The expert highlighted that the consequences of not representing women in the disaster preparedness stage have resulted in many forms of discriminations. EX14 further mentioned, *"In terms of their participation in Sri Lankan DRG it is inadequate as I mentioned before. Down the line, they do not get the same kind of treatments and benefits as men receive. Therefore in many instances, we have experienced that women faced inequality and discrimination"*.

5.3.1.3 Transparency

Several experts emphasised the benefit of empowering women in DRG, specifically within the disaster preparedness system. Transparency is one of their primary concerns for empowering women in DRG. Most disaster preparedness programmes have issues related to transparency in decision-making. EX10 stated, *"The other thing is that their engagement in governance enhances transparency"*. Furthermore, EX12 stated, *"In managing any political influences at the DRG, women perform well, and they are not afraid of making the right decisions"*. Such independent and transparent decision-making is vital to strengthen the disaster preparedness system. However, some political influences may hinder the effectiveness of disaster preparedness strategies. Therefore, an effective and reliable disaster management system can be operated by empowering women in DRG within the preparedness system in Sri Lanka. The idea is already confirmed by EX13, explaining how women enhance DRG through their desire to establish transparency in the system.

5.3.1.4 Capacity

Capacity is one reason women's empowerment in DRG need to be introduced within the disaster preparedness system explained by EX1, EX3, EX9, EX10, EX11 and EX12. EX1, EX3 and EX11 highlighted that women's capacity to work and lead institutions in any situation. EX10 stated, *"Even though women have difficulties, they should be represented at the decision-making level because they can see many aspects of a problem simultaneously in comparison with men. Men can see only one aspect compared to women"*. EX11 highlighted, *"Another benefit of empowering women in DRG within disaster preparedness system is their capability to perform multi-tasking, which is very important in disaster decision-making table. I think this ability especially come from their experience working in a household. Even in a crisis, they are very stable and good at making decisions"*. EX11 explained with an example from the IPCC level, *"Even at IPCC, there are about 30% women and 70% men working with a science background and they work very well at the very top level. What I see is that women can work hand in hand with anyone because of their capacity and determination"*. EX9 and EX12 also agreed that women's capacity to work in disaster preparedness system. EX9 added, *"During any disaster condition, they perform their duties. There is no special issue, and I have three field lady officers. They work night and day because there should be an assistant engineer responsible for Kelani River. So being a woman is not an issue for them"*. EX12 explained, *"I think that Sri Lankan women have more capacities compared to other countries. They are not scared to take challenges for decision-making. Challenges mean working night shifts and continuous days. Sometimes when you work in a disastrous situation, you have*

to work for 96 hours at a stretch. They also have their families and kids. Present women do not feel reluctant to take challenges, and they face the challenges very well. In that way, they are very positive thinking". This capacity level is essential, especially for working in a disaster preparedness system to reduce future disaster risks. EX11 highlighted how women Divisional Secretariats work in the disaster preparedness system with their total capacity. EX2 similarly provided an example, where their former Secretary, the first women secretary to the Disaster Management Ministry in Sri Lanka, had contributed to the present disaster management system and her capacity in ensuring governance.

5.3.1.5 Commitment

Another reason women need to be empowered in DRG within the disaster preparedness system was explained by EX10, stating, *"Women prefer to work on time and do not wait until the last minute. So, I propose to encourage more women empowerment in the system. Their strengths of commitment and willingness to sacrifice for the betterment of the others are important"*. EX11 and EX12 further confirmed that women's commitment is essential for an effective disaster preparedness system. EX11 mentioned, *"In the head office (DMC), most of our work is related to administrative work. But at the DDMCU at district levels, most women officers have to go to the village level to conduct awareness programmes, mitigatory programmes etc. Even though these tasks are hard, their level of commitment and involvement is very satisfactory.* These qualities will help to strengthen the present disaster preparedness system in Sri Lanka. EX11 further added, *"when I was working in Rathnapura district, I saw the same situation from the lady District Secretary. She worked very well during the flood controlling and response measures for 24 hours. They have a perfect flood response mechanism with a well-coordinated system. Every year two times, she gathers all respective officers and coordinates for future flooding. This practice clearly shows the capacity of women in disaster management decision-making.* EX11 further explained her own experience, hardships and her commitment when assigned a responsibility. The expert's words, *"Even I did not have any prior experience in Anuradhapura. During the floods, I travelled from one place to another for more than 80km within the district. There are more than 44 reservoirs. Small tanks were affected and damaged. So, I had to facilitate diversions as well. There I had to get support from a close district office. I made an initial plan estimating the resources we may need and the means of sourcing them.* EX3 and EX8 further explained the commitment of women in community-level disaster preparedness activities. EX8 pointed out an example, *"I have seen women who work very well than men in the disaster management process. During the 2017 incident, a Divisional Secretary (women) has done everything for the response and recovery measures in an exceptional manner. She acquired land and divided the land*

where others have not started”.

5.3.1.6 Equality

According to EX11, EX13 and EX14, women should be empowered in DRG within the disaster preparedness system to ensure equality. EX14 firmly explained the necessity of assuring equality in DRG. The expert stated, *“Disaster management is an extensive area. In Planning for disaster or disaster preparedness, I think there should be both men and women equally. We want their knowledge and capacities to be improved”*. The expert further explained that in Sri Lanka, the contribution to the national economy, the most significant contribution comes from women. The expert added, *“Women are at the forefront in sectors like nursing, teaching, garment manufacturing, foreign employments, tea plantation etc. If you take any area, women are slowly coming into higher administrative positions, even in the administrative service. Overall, women’s contribution is there, but unfortunately, at the decision-making table, it is rare”*. Another reason women must be empowered is to ensure equality because they represent 50% of the population in Sri Lanka. Thus, equal representation to be assured in the disaster preparedness system. EX14 explained some examples where decision-making on displacements and resettlements, women have not been considered. Hence, their concerns have been overlooked in many disaster management efforts. EX13 highlighted that women’s contribution to the Sri Lankan economy is enormous. However, even though they contribute significantly to the economy, their representation at the decision-making level in all sectors is still low.

5.3.1.7 Experience

EX2 and EX10 underlined that another reason why women’s empowerment in DRG within the disaster preparedness system in Sri Lanka is their experience. According to experts, women are more organised and well planned. Their experience helps them to contribute more to the disaster preparedness system in Sri Lanka. Their experience could reduce the disproportionate impact of disasters on women’s vulnerabilities and establish a more resilient society. EX11 also identified their experience specifically; their experience in household decision-making to secure the household members is highly important in the national disaster preparedness system. EX11 described, *“They are essential. Women from military services, especially in response efforts like during floods. So, it is important and very inspiring that some women officers in three forces are learning DM related courses or subjects. The military schools have introduced DM-related courses, and they have a good relationship with the DMC”*. Further, EX12 added, *“Especially women representation is important in disaster decision-making table. I think this ability especially come from*

their experience in a household. Even in a crisis, they are very stable and good in making decisions”.

5.3.1.8 Societal benefits

EX14 stated that women’s empowerment should not be limited to organisational settings but at household levels. According to the expert, *“Most women do not get money for their own needs because most of their male counterparts need much money on unnecessary spendings like alcohol and cigarettes. These are some issues to be addressed in a broad approach in Sri Lanka. So, my suggestion is to encourage women’s empowerment as much as possible, not only at the institutional level but also at the household level in Sri Lanka. Because it is not a one-hand equation, equal opportunities for participating at the decision-making process and the community level is important”.*

5.3.2 The current contribution of women officers in DRG within the national disaster preparedness system in Sri Lanka

After understanding the benefits or reasons why women’s empowerment in DRG needs to be established within the preparedness system in Sri Lanka to reduce women’s vulnerabilities caused by disasters, the following section evaluates the current contribution of women in DRG within the disaster preparedness system in Sri Lanka.

Many experts highlighted that the current contribution of women in DRG within the disaster preparedness system in Sri Lanka is limited due to several reasons. For example, EX2 stated, *“There are many men in the decision-making structure at the DMC. In the planning stage, mostly, we can see men and hence women’s contribution at the planning stage is missing. This is an issue”.* In addition, EX1, EX2, EX7, EX11 and EX14 highlighted that the problem is further seen at the district level.

According to most experts, all 25 DDMCUs are led by men. Nevertheless, some level of increase in women officers’ appointments to the DMC was taken place recently. However, these appointments were limited to the DMC’s call centre as operational staff instead of decision-making. The first reason was legal provisions. According to the new rule, a minimum of one lady officer and one Tamil speaking person should be appointed during each shift at the call centre. The rule has created some equal career opportunities for women. Most of the vacancies were finally filled up with women. Such appointments were not a strategy to empower women but to fill the vacancies created by men who did not apply for these positions. This trend is present in most disaster management institutions in Sri Lanka. They appoint women only where men in the disaster management system

cannot fill vacancies.

According to EX4 and EX5, the situation is similar within disaster management related non-governmental organisations as well. Many women officers contributed well to implementation or response stages while they were limited in planning and decision-making. EX5 added, *"They have physical vulnerabilities, but I do not see as many problems. The other challenge at the organisational level, decision-making level, is that they are not empowered to take such decisions"*. According to EX12, the situation is similar to technical agencies related to disaster management. EX12 stated, *"When I joined the MET office, only one women meteorologist worked with me. Only 2 of us out of 25 meteorologists. Now, we have 15 women in the department. Even among our technical officers, we can see that women represent 40%, including meteorologists, and they are working very well"*.

EX13 also agrees that there is a slight improvement in women representation in government agencies in Sri Lanka. EX8, too revealed the same positive trend within another disaster management related technical agency, NBRO. An equal representation of both men and women can be seen within their institutional structure. For example, 50% of their director board comprises women. However, the expert also revealed the reality behind this upward trend. The reality is that because it is challenging to retain male scientists in these institutions. The expert also pointed out several challenges for increasing WE in DRG, highlighting examples from the village disaster management committees. EX5 and EX7 have identified a positive trend of women's representation in government institutions but not disaster management agencies. The EX5 mentioned, *"Maybe Grama Niladhari are mostly women, so I see a bigger role played by women at the community level. That is a good sign"*. EX9 explained how the situation is changing within their organisation. There is a gradual increase of women working in many fields in their organisation.

EX13 indicated that a new rule was introduced at the Local Government (LG) level to maintain a 25% women representation at the LG institutions in Sri Lanka. However, the expert's opinion was that even though the 25% is a positive factor, many politicians use this opportunity to introduce their relatives to these positions. Thus, women's equal representation has become somewhat controversial. According to EX11, the present level of women representation in the overall government sector is about 30-35%, including the District Secretariat offices, Divisional Secretariat offices, Grama Niladhari level, and secretaries to ministries. For example, in the Trincomalee district, there are no women divisional secretariats. In addition, women representation in the parliament and other

national committees in Sri Lanka is at the minimum. The expert stated, *"Most of the committees established by the government, women's involvements are very low"*. All this evidence indicates that women's empowerment in risk governance within the disaster preparedness system is low and needs significant improvements.

In addition to the expert's interviews, some documentary evidence shows that the present legal and policy background do not have adequate provisions to support women's empowerment in DRG. For example, according to the Policy Framework and National Plan of Action to address Sexual and Gender-based Violence (SGBV), Sri Lanka is committed to gender equality and women's empowerment. The 1978 Constitution guarantees fundamental rights and assures non-discrimination on the grounds of Sex (Art 12) (1) and Art (2). There are no legal barriers for women to engage in financial transactions or obtaining credit.

However, the Policy Framework and National Plan of Action to address Sexual and Gender-based Violence (SGBV) in Sri Lanka 2016-2020 also acknowledges that women's economic participation and opportunity and political empowerment are not satisfactory. Thus, Policy Framework and National Plan of Action to address Sexual and Gender-based Violence (SGBV) identified and proposed specific interventions across nine fields to assure minimum Sexual and Gender-Based Violence. One such priority area is disaster management. The document indicates the disproportionate impact of disasters on women and the necessity of mainstreaming gender into disaster management programmes.

As a strategy, the Ministry of Disaster Management has initiated linkages with the Ministry of Women and Child Affairs, introducing a circular to district level field officers to ensure effective coordination at the ground level. However, these programmes and initiatives targeted community women and did not empower women at the disaster management decision-making level. The document further emphasised that the Sri Lankan disaster management system is primarily male-dominated. There is a significant gap in present programmes and plans. Thus, the system needs a balanced approach. Therefore, Focus area 2 of the document recognised Gender equality in disaster preparedness, mitigation, response, rehabilitation, and reconstruction stages.

The Women's Charter highlights some areas where women's equal participation was assured through the Women's Charter introduced in 1993. Article 2(c) states that women have the equal right to contribute to policymaking and implementation, holding government positions and engage in public affairs. Article 9(b) states that both men and women have equal rights to engage in 10 years of compulsory education, and (e) states that women have equal rights to attend professional and job-related capacity building

programmes and training. Their employment rights are secured by articles 10 (a) and (b).

Apart from the above-stated documents, documents related to the disaster management system in Sri Lanka do not have the necessary provisions to strengthen women's empowerment in disaster risk governance. For example, the Sri Lanka Comprehensive Disaster Management Programme (2014-2018) does not have any provisions as the Comprehensive Disaster Management Programme in Sri Lanka. It only emphasises the necessity of child and women-centred DRM programmes as part of the overall programme. Under Outcome 03: Communities, local governments and sub-national agencies have the necessary capacities and mechanisms to respond to and recover from disasters. However, the allocated budget during 2014-2018 was Sri Lankan Rupees six million only, which is 0.28% of the total allocation under outcome 3 (Ministry of Disaster Management, 2014). Another example from Sri Lanka National Disaster Management Plan (2013-2017), no measures were stated to empower women officers in DRG. Instead, the document highlights women as one of the most vulnerable to disasters (Disaster Management Centre, 2014).

The above evidence too confirmed the minimum support from the legislative and policy background limit the contribution of women in disaster risk governance within the disaster management system in Sri Lanka. Hence, the following section examines the factors that affect women's empowerment in DRG within the preparedness system in Sri Lanka based on expert interviews.

5.3.3 Factors affecting women's empowerment in DRG within the disaster preparedness system in Sri Lanka

Based on expert interviews, 25 challenges were identified for enhancing women's empowerment in DRG within the disaster preparedness system in Sri Lanka. Figure 5.3 presents the NVivo analysis used to identify the challenges and categorised them under six categories based on their similarities. Thus, six categories are presented, along with the suggestions under each category in Section 5.3.4.

| Nodes | | | |
|--|-------|------------|----|
| Search Project | | | |
| Name | Files | References | |
| Challenges for WE in DRG within national DP system | | 13 | 96 |
| Individual characteristics | | 0 | 0 |
| Higher dependency | | 2 | 3 |
| Job security | | 2 | 3 |
| Lack of commitment | | 3 | 6 |
| Lack of self-interest | | 5 | 7 |
| Limited DM related knowledge and experience | | 5 | 6 |
| Limited skills | | 1 | 1 |
| Weak personality | | 4 | 6 |
| Institutional challenges | | 0 | 0 |
| Appointment bias | | 8 | 16 |
| Hirarchical rivalry | | 3 | 6 |
| Influence on independe decision making | | 1 | 2 |
| Limited role models | | 2 | 3 |
| Patriarchal culture | | 5 | 9 |
| Poor coordination with other stakeholder agencies | | 1 | 2 |
| Job specific challenges | | 0 | 0 |
| Unspecific time and availability | | 6 | 13 |
| Working environment is hard or unreachable | | 4 | 6 |
| Legal and policy related challenges | | 0 | 0 |
| Structural issue in Sri Lanka | | 3 | 5 |
| Women's empowerment is not linked to strategic plan of the country | | 2 | 2 |
| Sri Lankan education system | | 1 | 1 |
| Political structure | | 0 | 0 |
| Corrupted political system | | 3 | 4 |
| Poor recognition among political leaders | | 1 | 1 |
| Socio-cultural challenges | | 0 | 0 |
| Casts | | 1 | 1 |
| Extra burdon of household workload | | 6 | 12 |
| Relegiuos beleives | | 2 | 2 |
| Social status of women | | 4 | 5 |
| Cultural norms | | 8 | 17 |

Figure 5. 3 Challenges for WE in DRG within the disaster preparedness system in Sri Lanka NVivo analysis

5.3.3.1 Appointment related issues:

Several experts highlighted appointment bias as a challenge within institutions related to the disaster preparedness system. For example, EX9 explained that until 2000, women had not been appointed to the Department of Irrigation in Sri Lanka as Engineers or officers. During their recruitment process of the technical service, they practised a rule to recruit 70% men and only 30% women. EX9 explained the reason stating, *"This is due to some physical reasons. When you do this technical service, we have to go by boat, dig into rivers and flood. So, we always try to maintain that proportion. It is not a law. In the past, only men were in the service. For example, before 2001, there were no women in the service"*. However, the situation has been changed to this 30% rule at present. The reason is that more women have applied to technical post than before. The expert added, *"Appointments were made recently because there is not enough qualified male staff to be*

appointed to the posts. Many males found jobs abroad for higher salaries. So that the government had to appoint women since they did not have any other alternative". The above stated clearly demonstrates how appointments were made, limiting opportunities for women within the disaster preparedness system.

EX2 explained a similar example, stating, *"A women officer was called for an interview for the position of Director at a DDMCU mistakenly. From her name, they could not identify the gender. As a result, she was advised continuously to withdraw the application and select another area rather than applying as the Director at a DDMCU"*. The example highlights how gender-biased appointments are operated within the Sri Lankan disaster preparedness system. Especially when appointments are made for higher positions in disaster management, the authorities give preference to men.

EX1 and EX2 gave a different opinion. They explained the main reason as the maternity leave issue. During their maternity leave, another person needs to cover their duties for a woman's statutory paid maternity leave for 84 days in Sri Lanka. The experts further explained this situation as the dropout of women from the system, reducing their opportunities in the governance structure. According to EX1, *"Males do not want to take others extra work because of the maternity leave. Is that acceptable"*?

Another justification given by the experts for a gender-biased appointment is the nature of the job. May men consider disaster management jobs are suitable for men than women. Jobs related to disaster management require full-time availability and visits to challenging geographical locations. Nevertheless, due to men's unavailability and low interests, institutions had to appoint women in agencies and institutions within the disaster preparedness system. Furthermore, many of these appointments are made to lower-level jobs, such as policy implementation rather than planning and decision-making. EX2 added, *"In a way, there is a kind of restriction for ladies; for example, our former DG prefer to appoint men than women at the DMC. But for others, there are some regulations. It is not a regulation, but the panel might have a favour for male applicants assuming that the job related to emergencies where ladies cannot attend and perform well"*. EX11 also explained her own experience mentioning that when she came for the interview for the Assistant Director position at the DMC, at that time, a military DG was the head. EX11 added, *"He straightaway mentioned that women could not do this job. He repeatedly mentioned and repeated several times that women could not do this job. He asked me, please apply for another job in the DMC and not to apply as a director at the DDMCU."* During their appointment, there were some political influences. EX3 and EX12 also confirm that appointments are biased for male appointments due to the nature of the job.

Another dimension of the appointment issue is the selection of wrong women to the system. EX13 explained the appointment of wrong or unsuitable women into the system and its adverse impacts. Within the LGs rule, there is a 25% quota for women in the system. The expert added, *"However, due to an error in the system, we ended up with a 22% quota for women. Still, we have a 22% quota for women representatives for LG. But what happened was the system was such that we got some women appointed to councils, and they were appointed from the list. They are not the women who want to come to the governance system. So now they play a very passive role. They do not even come to meetings; they even answer the questions etc."*

5.3.3.2 Structural issues:

EX14 explained how structural issues embedded in the Sri Lankan disaster management system affects WE in DRG. The expert stated, *"The reason for their less representation in the DRG and the disaster preparedness system is the structural problem in Sri Lanka"*. The system shows a gender gap, specifically in the disaster management system. This opinion is also confirmed by EX2, stating that women at the top level are limited in the disaster management system in Sri Lanka. For example, women's engagement in decision-making for disaster preparedness strategies is limited to only two positions at the DMC, as explained by EX2. Another example, all DDMCUs are headed by men, according to EX11. The expert added that women's representation in the government sector is about 30-35% in the national disaster preparedness system representing the District Secretaries, Divisional Secretaries, Grama Nildharis, NBRO, Met office etc. secretaries to the Ministries. EX4 identified a structural challenge due to the lack of gender-specific data. The expert added, *"One another major issue in their empowerment is lacking data in our disaster preparedness system. At the moment, we do not have these systems in place within the disaster preparedness system"*.

5.3.3.3 Women's empowerment has not been linked to the country's strategic plan:

Another major challenge for WE in DRG is the lack of links to the country's overall strategic plan. EX1 identified the importance of women in DRG, specifically in the disaster preparedness system, due to many benefits. However, the expert mentioned that gender representation, specifically women in decision-making, is not identified as a supportive plan to countries overall strategic plan. The expert was not convinced of the overall strategic plan and WE as a supportive plan in the system. The expert identified DRR and gender as cross-cutting issues which have not been integrated into the primary plan. The situation made a minimum recognition for supporting WE in DRG within the disaster

preparedness system in Sri Lanka. EX3 expressed a similar idea that Sri Lanka ratified the UN Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) in 1981. However, EX3 emphasised the necessity of taking serious measures to achieve the stated objectives through legal and administrative provisions. According to EX3, *"At the time, the Government established the Women's Charter under the Ministry of Women's Empowerment and Social Welfare. However, the name of the Ministry has changed frequently and now it is named the Ministry of Women and Child Affairs and Dry Zone Development. This indicates that women's empowerment was disappeared from the legislative system"*. EX3 further emphasised that the Women's Charter focused on achieving equality rather than empowering them. *"The Charter focuses on political and civil rights, rights within the family right to education and training, right to economic activities and benefits, right to health-care and nutrition, right to protection from social discrimination and right to protection from gender-based violence and not to empower women"*.

5.3.3.4 Hierarchical rivalry:

Another challenge identified by EX1, EX12 and EX13 was the hierarchical rivalry as a challenge for women's empowerment in DRG within the country's disaster preparedness system. EX1 explained that hierarchical rivalry appeared to have arisen when you move on to the higher level in the disaster management system. Disaster management is a type of male-dominated work according to the majority of males in the system. The expert stated, *"When I started my career, I did not have any problems. But, when we come to a middle stage of the career, you feel the difficulty"*. The expert further emphasised how this affects frustration and disappointment for women in DRG. The expert also revealed that these issues are also arisen by women administrators in the disaster preparedness system. EX12 added the same opinion and referred to it as jealousy. According to the expert, it could be due to some cultural practices and attitudes which ends up with unnecessary competition.

EX13 pointed out with an example within the policy-making and political structure, stating, *"One of the reasons I observed is it's a political game. If you take Pavithra (Minister), she does not take other women equal to her. She will take a woman or teach someone who is demined and from a lower- strata. Rosi (Minister) has not taken any of her friends to politics. Same here for Pavithra. She has also not taken any of her colleagues to politics. Even if you take Chandrika Bandaranayaka (former president), has she taken anyone to politics? There is no second line. The moment you see a woman is coming up and challenging them, the person will be eliminated from the total system. That is my observation from the last 10-15 years. So that space is not giving by women in the first*

place because of their jealousy or job security". The expert highlighted that though there are very competent women leaders at the ground level, they are not allowed to come to the top. The expert added, "I mean that is the bitter truth. This is quite common even within the governance structure nature of the women. If you ask a woman for whom they voted, they never vote for another woman. People say women are not adequately represented. But whom to be blamed? Do we vote for them? If anyone is leading, the story will be written and who started the initiative is the woman".

5.3.3.5 Influence on decision-making:

For assuring DRG, independent decision-making and multi-stakeholder participation are essential. However, independent decision-making by women at the decision-making level within the preparedness system is limited. EX1 stated, *"For example, now I have a document regarding a project addressing to Director-General. He signed and made a note. Where is my decision-making power? Since this letter came to me, I need to make the decisions."* The expert considers this as a form of harassment at the organisational level. The expert questioned how women's empowerment in DRG is achieved if this is the situation within the disaster management system. EX1 also stated, *"Similarly, women keep all these things in themselves without revealing these things to anyone. One reason could be that another woman may criticise another woman. So, this is furthermore increased by male counterparts. Their acts may further help to make women silent. Therefore, women do not want to reveal these types of issues in front of everyone"*. The expert's opinion was to take the challenge and face it with confidence and with their personality.

5.3.3.6 Job security:

Enhancement of WE in DRG is further challenged by job security. EX13 explained how women in the decision-making system fear encouraging fellow women, assuming that it will threaten their job. The situation is specifically high in DRG since a limited number of women work in the DRG. In addition, EX8 explained how the decentralisation of authorities among lower-level employees at the organisation affect WE. As explained by the expert, *"Men do not worry about decentralising their power. However, women sometimes do not want to distribute their power due to employment insecurity (fear about her job). Women do not want to decentralise their power because I think they do not trust others and want to make sure everything should be approved by themselves"*. Women officers expect fellow staff members to get their approval and want everything to be approved by themselves. This delays the decision-making process, and this delay is highlighted as their inability to participate in decision-making.

5.3.3.7 Limited role models:

Another challenge identified by EX2 and EX5 was the limited availability of role models within the disaster preparedness system. Limited role models in the system are also related to the limited appointment of women in the system. Since the number of women in the decision-making is low, the development and recognition of role models become difficult. EX2 emphasised that specifically within DDMCUs, there are no single women at the decision-making level. EX5 highlighted the status of WE at local disaster management committee meetings. The expert stated, *"They are somewhat very passive about them. In many General meetings, if the environment is very compatible, they are ok. Otherwise, they are very passive"*.

Nevertheless, the expert also mentioned that the situation is slowly moving forward in Sri Lanka. EX5 added an example from Nuwara Eliya district, a prominent lady at the district level office. The expert stated, *"When they are coming to the scene, they present perfect role models. This encourages others to enter into decision-making or disaster risk governance"*. The expert suggested, *"Developing role models in the DM system will help them towards their empowerment"*.

5.3.3.8 Patriarchal culture:

Based on expert interviews, another challenge for WE in DRG was male dominance in the disaster management system. EX13 explained how male dominating behaviour operates within the disaster preparedness system in Sri Lanka. The expert stated, *"Sad to say that I had seen recent task force only other than two women ministers, I did not see any single women there. Though we talk about equal opportunity and all that, at the disaster-related decision-making level, I doubted that even Pavithra (Minister) has the power to make her own decisions. It is very, very centralised, a male-dominated system we are having in Sri Lankan DM system"*. This situation made limitations to women to enter to disaster risk governance structure. EX2, EX5, EX12 and EX11 also explained similar situations within their organisational setting. According to EX12, *"At the organisational setting also, it's a part of a big culture. Even in my department, people do not want to change their old attitudes. So, at the institutional level, it is not easy for women to work, especially at the decision-making level in disaster management"*. *I have experienced in many instances where they discouraged or emotionally not supportive and rather trying to discourage women in governance"*. These instances demonstrate how patriarchal culture hinders opportunities for women to be in DRG within the Sri Lankan disaster preparedness system.

5.3.3.9 Poor coordination with other stakeholders:

Another challenge identified through expert interviews was poor coordination with other stakeholders. EX4 explained how weak coordination with other stakeholders became a challenge to WE in DRG. The expert added, *"We empower local women to look after their issues while the national level also operates. But what happened was poor coordination. Coordination is lacking in disaster preparedness. Without this proper coordination, what is the purpose of WE in DRG? Empowering women in disaster preparedness is very good, but without this coordination, how can we proceed?"* According to EX4, the coordination between agencies and stakeholders such as DMC and other related institutions, district secretaries and local authorities, and NGOs is weak within the present disaster preparedness system.

The expert highlighted that women at the local level disaster preparedness system could be motivated and trained with the support of NGOs and other agencies. EX 4 added, *"To be frank, our women are participating fairly well. At the same time, coordination is lacking at the national to local/ grass root level with the typical system. Otherwise, our women are highly motivated. Opportunities are missing. The system does not have support towards their empowerment within the disaster management system. So how to empower them in risk governance"*. According to the experts, national-level disaster management institutions do not work closely with such organisations, specifically NGOs, who provide capacity building programmes for lower-level women officers in the disaster preparedness system.

5.3.3.10 Lack of commitment:

Several experts identified a lack of commitment among some women officers in the disaster management structure. EX1 highlighted that *"One thing for sure, the highest commitment comes from women. Ok. But that is for some limited and specific women"*. According to EX1, *"It is a multi-dimension story. Because, one way, we use the story to get rid of some work for our advantage. For example, we say that since we are women, we need to go home early. But if we call that we are the same, we should make the same commitment to do the job. Rather than doing that, we use the women concept to get rid of some work and take the benefit. If we ask women to do some work, they give their fullest contribution with their fullest commitment, but few women. The majority will take the advantage and spend their time living on ice, enjoy freedom,"*. The expert added, *"That means we create our barriers not only for easiness but as a habit. I do not know. But my experience is that"*. EX11 also agreed that women's lack of commitment is a challenge to their empowerment in DRG.

EX 4 explained another aspect of their commitment during the last flooding situation. The expert stated, *"A disastrous situation in the Divisional Secretariat officers there are women officers. But do you know what happened in the last flood situation, they were with their families. They did not come to help people in the centres"*. The above incident shows their lack of commitment to empowering themselves in DRG. According to the expert, *"Without identifying the issues in the disaster site, how can they contribute for next preparedness plans without their real experience? Instead, they should work to implement their GN level disaster preparedness plan and take account of any issues within their preparedness system at the GN level and inform higher levels"*. The situation made women officers keep silent during preparedness planning and governance structure.

5.3.3.11 Lack of self-interest:

Assuring WE in DRG is challenged by another factor, lack of self-interest among women in the disaster preparedness system. As explained by EX1, to take part in DRG, self-interest is vital. However, when self-interest is low, women do not want to take part in decision-making. The expert stated, *"I am also not interested in taking decisions. Why there are other people to take decisions. If they are not taking properly"*. One of the reasons highlighted by the expert was the disappointment about the disaster preparedness system in Sri Lanka. Another similar explanation was given by EX11, stating, *"Some women are not interested in political engagement. So, when higher-level committees which are established for higher-level political objectives, women do not like to engage with these kinds of committees and positions since those are related to political pressures"*. According to the expert, unnecessary political pressure also discourages and challenge women's empowerment in DRG. EX5 added confidence level and attitude as another aspect of low self-interest. EX7 also explained that though very active women have high self-interest, some work only when someone else asks them to. EX8 explained why women have low self-interest because there is no direct benefit for them engaging in DRG.

5.3.3.12 Weak personality:

EX1, EX2, EX5 and EX8 identified weak personality as a challenge for women's empowerment in DRG. EX1 explained how independent women use their personalities. The expert added, *"Because I am independent. I do not take any single penny from anyone. I do not go for any other "deals" except I work with my knowledge. I do not care about other things, and I do my job properly. But this may not be possible for everybody since when they face some requirements and become helpless. But for me, I am in a stable condition. My family is free from me and do not depend on me. I can consider my job as*

a bonus for me because I am financially stable. A similar opinion was given by EX2, stating, "At decision-making level, we can see many males. But Ms Anoja is there at the decision-making level, and she has a different personality". EX5 also added their experience working in field levels. EX8 added, "Education is not a major barrier. In terms of personality also no such remarkable barriers. For example, Nivithigala Divisional Secretary is a lady who performs very well and has a good personality to cope with anything. She faces challenges and talk about what is relevant and required in front of anyone".

5.3.3.13 Unspecific time and availability

One of the challenges identified by several experts was that disaster management related jobs do not have any specific time and date. Similarly, there is no specific place to perform their duties. Hence, many believe that disaster management related jobs are not suitable for women. EX11 stated, *"Specifically for women's empowerment in DRG is limited because this engages 24-hour service specifically during disaster periods. It is not every day, but during a disaster, you need to work for 24 hours"*. However, the expert explained that it was not a problem for her when working in a DDMCU in Sri Lanka. The expert added, *"After my appointment at the Anuradhapura district, there was a huge flood in the district. I had to work for the 24 hours as mentioned, and even I could not come to my home even during these days because my home town is in Rathnapura district. So, in a way, it is true that your commitment to work for 24 hours is necessary during disasters. So, you have to sacrifice some of your other commitments, not always but during disasters. Not only for me, even for district secretariats and divisional secretaries and their officers needs to work like this during disasters"*. EX12 also revealed the same idea when she was attending her interview. According to the experts, *"Normally people do not like to do these night shifts especially when they have kids. Because sometimes, we have to perform our duties at a stretch for 24 hours. If another person does not appear in some situations, you have to continue for another 24 hours. I remember once I had to work for 48 hours at a stretch. So, people do not want to join because of such night shifts. But I think the situation has been changed. Women do not consider this 24/7 work as a barrier"*. The EX2 and EX3 also assume that women cannot work in such long shifts, day and night duties at a stretch with limited facilities irrespective of the job rank they hold. The EX2 added, *"Yes, you know that our call office, 24/7, we are on call. Not only the preparedness division but all the divisions. In an emergency, we are responsible for looking after, visiting disaster places as DG instruct us. We have to go ignoring the time and place. We have to be ready for these types of emergencies. If they can show that they are ready to work in such conditions, they will get more opportunities. This division, mitigation, preparedness and training work more at the pre-disaster stage. But all officers should be ready for*

emergencies/ work. One day I had to stay and work; we all have to work at the station due to limited officers at the station in a normal time. But in an emergency, we have to report emergencies at the emergency centre that we were assigned. In addition to my duty here, again I have to do the duties at the emergency centre as well". The expert's opinion was that women could not perform like this. According to EX8, *"Disaster management is not from 8- 5 job. But in disaster management, we do not have a specific time. In disaster management, we have to be there 24/7. No guarantee of the time they will be at home. There I saw women face practical difficulties. When we go for land identification, the GN lady officer wants to go home for breastfeeding. So, then they appoint another person to show the land to officers who come to land identification".*

5.3.3.14 Limited knowledge and experience in disaster management

EX2, EX4, EX7 and EX11 identified limited knowledge and experience as challenges. EX2 explained that women in lower levels in the disaster management system have limited experience and limited knowledge in disaster management. Expressly, these lower-level women officers are limited to their surroundings and social status. Their access to disaster management knowledge and experiences from other countries is minimal. Their education is limited to either secondary education or sometimes university education. However, they have limited opportunity to get experience attending either local or international training or experience. The expert added, *"So, their concerns and decisions are very local and low-level standards due to limited knowledge".* EX4 and EX7 also explained how their knowledge of disaster management helped to secure positions. EX4 added, *"I have more than ten years experience including Community Development, Child Development, Project Management, and Disaster Risk Management. Actually, my first degree is related to development, including disaster management in Arts. My Masters is related to regional development and planning. It helped me to do my job confidently. Without my knowledge in disaster education and experiences, I will not be able to work in disaster management for so long. However, many women in Sri Lanka do not have the opportunity and desire to study disaster management related education and opportunities to get experiences in disaster management".*

EX7 revealed, *"I think when it comes to education, women have the knowledge of the subject. They do what they were asked to do at the time. Personally, I think that they do not know about disasters".* A similar idea was expressed by EX11, stating, *"Because right now many women are graduated with the theoretical knowledge, but very limited have the practical knowledge".* EX4 further added, *"Currently, I am conducting training for Empowering women in preparedness stage as an NGO study, and we did a baseline survey,*

to see the country context. I feel like Sri Lankan women do not know how to address these issues practically and strategically. That is the issue. Compared to men, women are very good at talking, but do not know how to tackle/ address these issues practically and strategically".

5.3.3.15 Cultural beliefs and norms

EX2, EX4, EX8, EX10, EX11, EX12, EX13 and EX14 identified cultural beliefs and norms as challenges for WE in DRG. For example, EX11 added, *"If we take Trincomalee district, there are no women for divisional secretaries in the district. If you take all the Divisional Secretaries, they are less than 15%. Therefore, I see there are limitations for WE in the north and east areas due to their cultural practices. Nobody identifies such problems yet. If we have identified these issues, it will be a real contribution towards women's empowerment as well as reducing their difficulties or vulnerabilities from disasters"*. The experts have further emphasised that women are not expected to workday-and- night and outstations due to cultural barriers. The expert stated, *"These are mostly related to culture, I must say cultural barriers remaining in the society. When we talk about the global village and technological era, still we have some cultural barriers in this country"*. EX4 also agreed with the idea stating, *"Having said that, there were excellent women officers who came first. They were powerful characters. There we saw the women power. That is what is hidden in our culture, especially in Sri Lanka. Sri Lanka women have the capacity to work within any situation, but those are limited by culture and society. It is a real barrier"*. EX10 also expressed a similar situation in how culture affects their empowerment in DRG, stating, *"What I see for men is that they do not have such limitations to work in the late night, weekends, even away from home being 2-3 weeks out of the country. These barriers mainly come after you get married"*. According to EX12, *"Men or their counterparts are not very open-minded. Especially ladies work in rosters and night shifts. These kinds of barriers are there. However, even with these barriers' women work well, and they come to the front"*. The expert further explained how jealousy affects household members. The expert stated, *"I see some cultural practices or attitudes such as jealousy. I do not know how to erase them. But these things are available within DRG."* EX 13 stated, *"Cultural factors are also affecting, culture and family background influence the very grass-root level women up to the very highest positions in the country. How many husbands like to see their wives coming at 7 or 8 o'clock after meetings at the council or ministry"*. EX10 added, *"Women participation in decision-making (risk governance) even at my institution is very low. In Sri Lanka, people have the mindset that if a meeting is organised by a woman, that is done by a lady, so it is ok. You know this kind of social attitude is prevalent"*. EX14 added, *"What I see that is many women tend to get marginalised and so on. I think that it might also because of gender stereotypes that we*

have in Sri Lanka". The expert further added, "Especially, you know, when it comes to employment, in terms of labour force participation is very low among women compared to men in Sri Lanka. That is taken for granted for all other aspects of decision-making forums and places. They always a stereotype typical view about gender and women".

5.3.3.16 Excessive household workload

Another challenge identified by experts was the excessive household workload assigned to women. EX10 stated, *"Being an academic, we can do many things compared to other women. However, even for us, we have limitations as other women due to a lot of household work, child-caring which are mainly given as a responsibility of women only. After office work, they are completely flooded with all household work. So, in my case, I am only limited to my legal duties, other than any extra activities in the office because of household responsibilities. I cannot work on extra time and weekends because of the extra household work. What I see for men is that they do not have such limitations"*. The expert further explained how women's capacities working in DRG is limited after their marriage. According to the expert, *"These are mainly coming after you get married. Before we marry, we can work with our full capacity, with no obligations or limitations. Some of my friend who completed higher education with masters, but after their marriage, they quit from their jobs because of their commitment to house and kids"*. EX8 also agreed that *"I am not making a comment about their contribution. However, our society is working at this level of the situation. As I see, our culture is still in the position of believing that women should carry out most of the household work"*. EX10 and EX12 explained how the situation is getting more challenging for women when they marry. After their marriages, their capacity is limited with the disproportionately excessive household workload. EX12 explained the situation as the limited support from their spouses. The expert further added, *"Otherwise not because of their inability but due to lack of support from their families. Especially men are not very supportive in Sri Lanka. In the organisational setting also, it's a part of the big culture. So at the institutional level, it is not easy for women to work, especially at the decision-making level for disaster management"*. EX12 further explained the situation for women in the governance structure. Accordingly, *"Many women who have kids, the main problem that their contribution is limited by the unavailability of domestic servants. Many cannot come to work when their servant is absent. In Sri Lanka, finding a servant is very difficult and very costly. This is because many women go abroad as housemaids. So, there is plenty of space for household servants in the country. Especially, keeping a servant is not an easy task because it is costly as well as risky, sometimes"*.

EX4, EX8, EX13 and EX14 also explained that there is no expectation of women coming into politics or governance easily, with the heavy household workload. The expert highlighted, *"They are not independent. Especially it is a burden due to lack of support system for women with kids in Sri Lanka"*. EX14 added that *"Especially women in lower levels in the administrative structure face the issue significantly than higher levels. Even at higher levels, some women in governance face too. Many women lack the support on doing their day to day household work. So, their valuable time is spent on basic household work which prevents their full capacity and commitment in governance and decision-making level in disaster management system in Sri Lanka"*.

5.3.3.17 Poor recognition among political leaders

Another challenge identified by EX2 and EX13 for women's empowerment in DRG is the poor recognition from political leaders. EX2 mentioned how political leaders recognise the importance of women's empowerment in a broader context. According to the expert, politicians consider women as weak and incapable of doing their jobs. The expert highlighted, *"I remember that our former minister used some wordings down stating women, specifically highlighting pregnant ladies and their difficulties in a large audience. He said in front of thousands of people without a shy. He wanted to say that ladies' commitment is low, and they cannot work as men"*. One thing is that even within the political system, women representation is minimal. EX13 also identified the political environment as unsupportive for WE in governance and suggested creating a discourse between politicians and respective organisations.

5.3.3.18 Social status of women

Many experts identified social status as a challenge for their empowerment in risk governance. As explained by EX13, the empowerment of grass-root level women officers in DRG are limited explicitly by their social status. EX13 also stated that middle class or upper-middle-class girls and women have different attitudes to involve in politics. According to the expert, *"They do not look up to them, but they look down for them. If you take middle class urban young girls, how many of them would appreciate another girl coming to politics or governance"*. The expert also highlighted another aspect of the social status and how it affects their level of empowerment. EX13 explained how women are changed when they reach a certain level in society or a career. With the social status change, most women tend to be silent and trained to absorb the situation. EX14 added that their empowerment is comparatively low even in the household decision-making level in a cascading situation, especially at the village level. EX2 provided another justification highlighting that GN officers are the lowest administrative officers in the governance

structure, representing the same situation as community women. The expert stated, *"They are in normal life they used to satisfy with these minimum things"*. These minimum standards are sufficient for most of them. Thus, they are not interested in achieving equality in accessing resources or decision-making power in the system.

According to EX4, *"This is our culture. Maybe our culture in Sri Lanka. When we get married, most women have to look after household work. But some women like us manage somehow this situation and work here. We buy something; we go anywhere etc. When I compare my role with a grass-root level officer, we manage all these things well and ahead of them. But women at the rural level, including officers who represent disaster management, suffer from the same problems as the community women. Because they represent the similar status and face same problems as other grass-root level women"*.

5.3.3.19 Limited skills

Another challenge identified by EX8 is the limited skills among women in agencies related to disaster management. EX8 added, *"Lower-level women suffer from lack of skills: such as communication skills, language skills and information technology skills."* Such skills are essential for women officers working in disaster preparedness and management. In addition, disaster preparedness mechanisms need some technical knowledge, which can be easily found in English. Therefore, limited skills make difficulties to women's empowerment in DRG. Lack of such skills also results in affecting their confidence and personality as well.

5.3.3.20 Caste

EX8 identified another challenge for WE in DRG, caste. According to EX8, *"For example, in this village, people do not participate in this area of the village due to caste issue"*. Women officers from a lower caste receive low recognition in the decision-making within the community. The expert further explained how such a situation has affected to lower their personality and confidence level. According to the expert, the suggestion was to eliminate such social phenomenon through awareness programmes and school curricular activities.

5.3.3.21 Unfriendly/challenging-working environment

EX4, EX11, EX12 and EX13 identified the working environment as a challenge. As explained by EX11, women have encouragements to take responsibility within the disaster management structure. The expert added, *"During the last four years, several women management officers have started to work in the DMC. However, their participation in this*

kind of awareness programmes is minimum. Only 2% of women have attended the office every day during the last disaster situation".

The reason explained by the expert was the locational difficulties. Some locations are difficult to be visited by women officers. EX12 explained another aspect of a working environment and how it negatively affects women's empowerment. The expert added, *"We have 23 outstations, and women are working in those stations. The situation is further different for these women working in these stations. Because they need to work sometimes for a week at a stretch, this is because of some transport issues. We have a staff like meteorological assistants. Because, at the local level, they have to do a lot of physical work like clearing the area, the premise etc."*. The experts further explained that accessibility limits women's participation in risk governance in the disaster preparedness system. According to experts, *"For example, Mahaelukpallama station is located in a distant place. The officer needs to go for about 2 km on a very isolated lonely road; women officers find it unsafe to go by themselves because of their safety. So, in the beginning, we did not appoint any lady officers to these local stations because of this issue. But later, we had to appoint some women due to the lack of enough male force. Then many issues came to women since they all had to occupy another member of their family to visit the station because of the location difficulty, I mean lack of security. Because of this issue, some had resigned from the job"*.

5.3.3.22 Sri Lankan education system

Another challenge identified by EX11 and EX12 is the Sri Lankan education system which directly and indirectly affects women officers engage in disaster management. The Sri Lankan education system does not provide enough knowledge on disaster management-related subjects. The experts further explained how education systems in Japan and Indonesia teach disaster management even at primary schools. Lack of this disaster management education directly affects women's opportunity to study disaster management-related subjects. EX11 further highlighted that the Sri Lankan education system is limited to theoretical knowledge. According to the expert, practical knowledge and research interests are limited even within the university education system. The expert highlighted, *"Because right now many women are graduated with the theoretical knowledge, but very limited have the practical knowledge. Nowadays, our university systems are packed with the semester system. So, the students try to pass with good grades"*. In addition, the present education system adds a burden for parents, especially for women. The Sri Lankan education system demands additional support for their kids to excel in education. This additional support requires additional time, especially from mothers restricting their time. This is an indirect impact of the education system on

women's empowerment in governance. The situation is specifically difficult for women in disaster management since they are essential workers and need to stay longer office hours.

5.3.3.23 Corrupted political system

Several experts identified a corrupted political system as another challenge for women's empowerment in DRG. For example, EX11 and EX13 explained that most women are not interested in political engagement because of negative attitudes and violence. EX11 further stated, *"And also, when the higher-level committees which are established for higher-level political objectives, women do not like to engage with these kinds of committees and positions since those are related to political pressures"*. EX13 explained how the present political system in Sri Lanka introduces women into politics. The expert added, *"The system they have developed is like that. You know our culture; you cannot get into the list easily. Either you have to have money, power or be someone's wife, mistress or a girlfriend "*. The expert further emphasised, *"But that does not mean that we do not have independent women who can really work well. But generally, women are reluctant to get into politics due to violence and other cultural issues. So, women do not want to get into politics"*. EX5 explained how the Sri Lanka political system misuses the rule of law with an example of the present rule applicable to 25% of women representation in local governments. The expert stated, *"Rules and regulations are there. I do not think that rules are enough. For instance, the government is trying to achieve 25% of women representation in local governments. I heard this is as an entry point to the wives of existing politicians in the system. So how to protect the system. So, the system will be a business for the family. I do not know whether R and R will help to achieve women's empowerment"*.

5.3.3.24 Higher dependency

According to EX13, *"Apart from that, access to resources is another issue for very grass-root level women officers. When we talk to women officers at the village level, they express their desire to have their livelihoods. They can have their own money and their freedom and so on. Especially when it comes to HH responsibilities, they need their income. Otherwise, they need to depend on money from their husbands"*. Since women depend on their husbands, independent decision-making at the households' level and institutional levels are limited. As explained by the expert, women need to seek permission for every act they take due to their high financial dependency. They cannot spend any spare time in social and political engagement because of this higher dependency nature in the system.

The situation is significant, specifically for women at the lower level in the system.

5.3.3.25 Religious beliefs

Religious beliefs is a challenge for women's empowerment, as explained by experts. EX13 stated, "Many Muslim women are not allowed to get into politics". As explained by the expert, some women cannot get into politics and governance in Sri Lanka due to some religious beliefs. EX8 also confirmed by stating that religious beliefs restrict their empowerment and engagement in disaster management. This is another issue since Sri Lanka represent a multi-cultural and multi-ethnic, and multi-religious country. The expert's suggested, "Regarding their barriers such as language, religion etc. Even though women are capable and prefer to work in the governance structure, religious beliefs limited their engagement. This is specially applied for disaster management since it is a challenging job and no time limit is applicable."

As presented above, all 25 challenges identified through expert interviews were categorised into six categories based on their similarities and presented in Figure 5.4

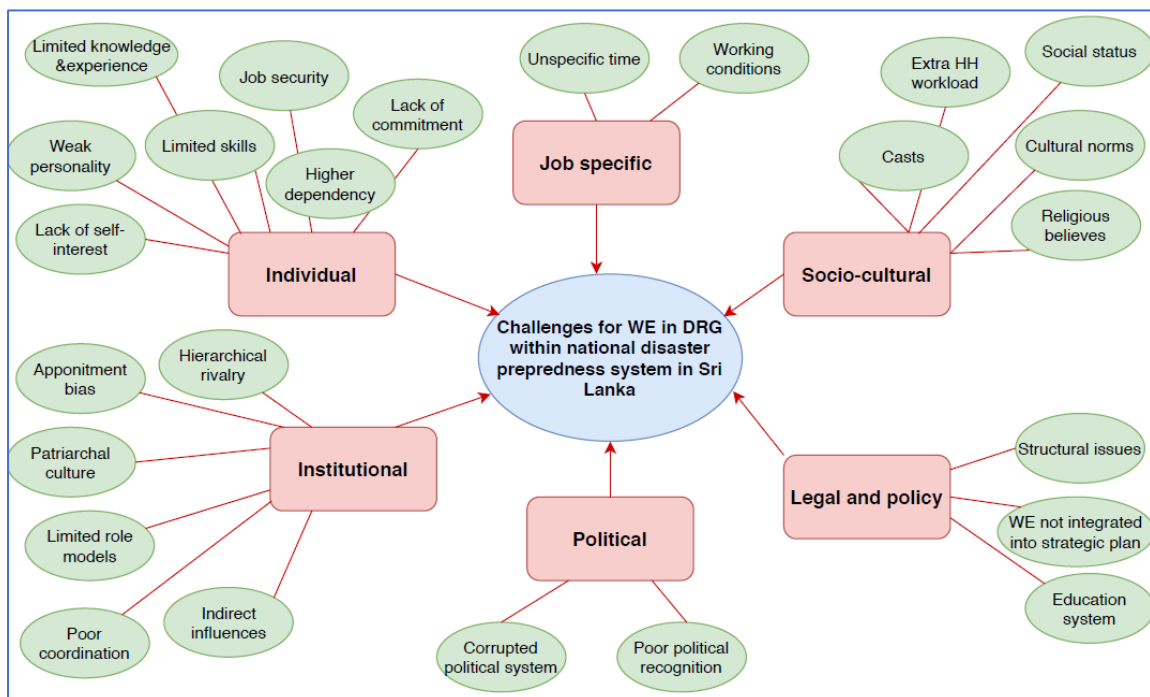


Figure 5. 4 Challenges for women's empowerment in disaster risk governance within national disaster preparedness system in Sri Lanka

Source: Prepared by the author

5.3.4 Suggestions to overcome the identified challenges for women's empowerment in disaster risk governance within the national disaster preparedness system in Sri Lanka

Expert interviews revealed 25 different challenges presented in Section 5.3.3 for WE in DRG within the national disaster preparedness system in Sri Lanka. The identified challenges were categorised into six categories based on similarities under key themes. This categorisation helps to provide suggestions to overcome the identified challenges under each category. The categories are legal and policy, organisational, individual, socio-cultural, job-specific and political. The challenges and suggestions are presented in Cognitive Maps drawn under each category.

5.3.4.1 Suggestions for addressing legislative and policy-related challenges

Three challenges were categorised under legal and policy-related challenges. They are *structural issues* (Section 5.3.3.2), lack of integration into the country's overall *strategic plan* (Section 5.3.3.3), and *the education system* (Section 5.3.3.22). Accordingly, the suggestions made by the experts are presented in Figure 5.5.

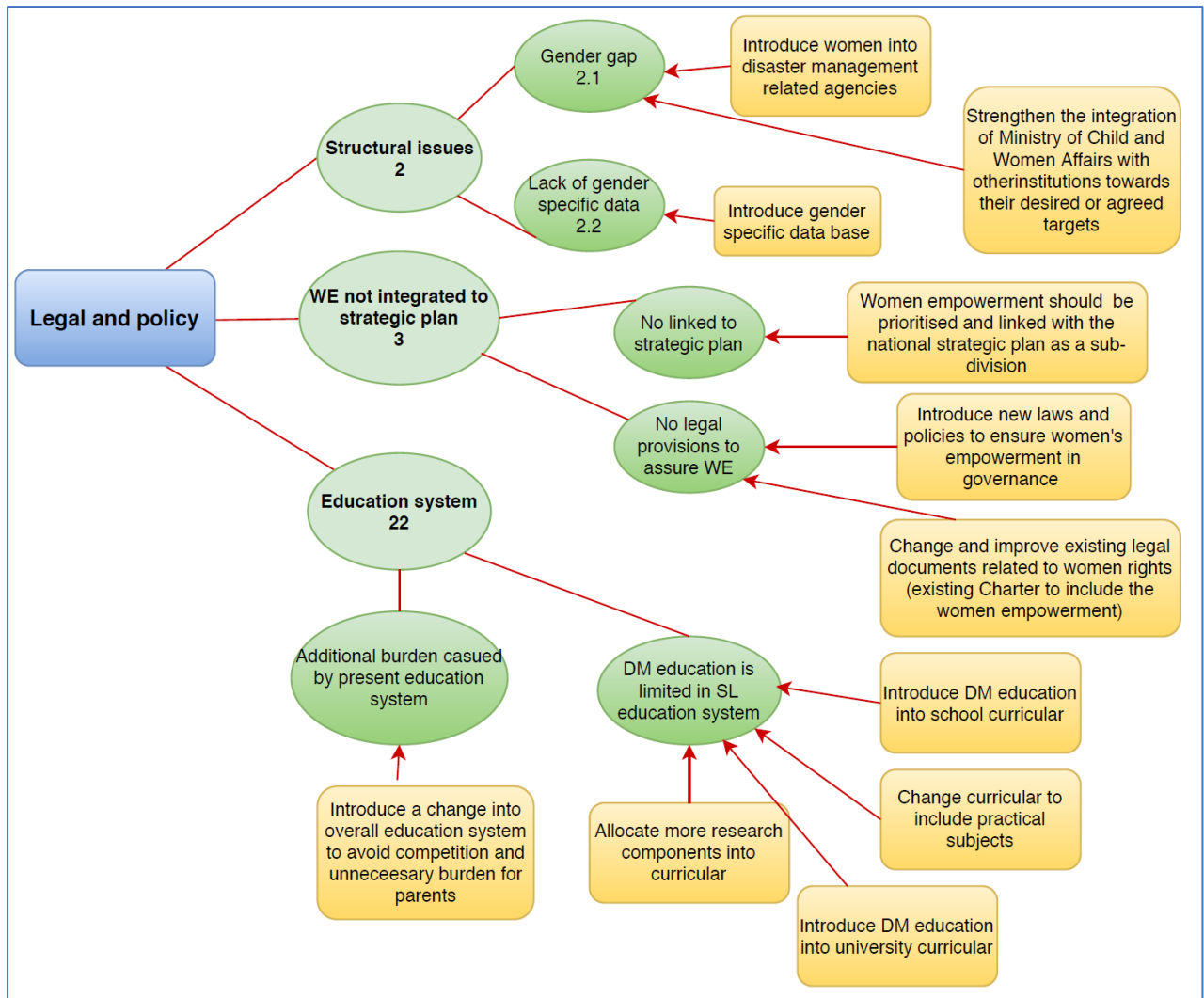


Figure 5. 5 Summary of the suggestions to overcome legal and policy-related challenges based on expert interviews analysis

Source: Prepared by the author

EX2, EX4, EX11 and EX14 identified the gender gap that existed in the overall governance system in Sri Lanka, as presented in Section 5.3.3.2. EX14 stated, *"The reason for their less representation in the DRG and the disaster preparedness system is the structural problem in Sri Lanka"*. The expert suggested introducing more women into all disaster management related agencies and institutions to avoid the situation. According to EX3, women officers represent in other organisations such as the health sector as doctors and midwives and the police force. Similarly, more women can be appointed to disaster-related agencies at higher positions: meteorologists, engineers, researchers, District Secretaries, Directors at the DDMCU, and Divisional DMCUs. EX3 suggested, *"Strengthen the integration of Ministry of Child and Women Affairs with other institutions towards their desired or agreed targets"*. EX4 made another suggestion stating, *"If we have a proper*

data set, we can prepare a plan". EX3 also agreed with the statement highlighting the importance of adequate data on gender issues.

EX1 and EX3 identified WE as part of the country's overall strategic plan. However, they emphasised that this has not been linked or integrated into the national strategic plan in Sri Lanka. The suggestion made by EX1 was, *"My suggestion is that women empowerment should also be prioritised and linked with the national strategic plan as a sub-division"*. EX3 proposed introducing necessary legislative and policy measures to bring women's empowerment into governance to address the limited legal provisions available for empowering women in Sri Lanka. For example, the existing Charter can be refined to include WE, especially for women at the policymaking level.

The Sri Lankan education system was identified as a challenge in Section 5.3.3.22. Therefore, EX11's opinion was, *"My suggestion is that our overall education system should focus on skills-based. We have a traditional UK civil service-based education system. But only SL, India, Bangladesh and Pakistan remain in the civil service. These systems should have been reformed to skilled-based; otherwise, all these civil service officers should be developed into the skilled-based education system. It should be changed from the filing system to skilled-based system"*. In addition, EX12 recommended introducing a research component into the Sri Lankan education system and introducing more disaster management education to schools and university curricular. EX12 further explained how she was supported with her higher education qualification in disaster management obtained from the USA, achieving more qualifications, research, and publications related to meteorological studies. The expert suggested introducing a more practice-based education system in Sri Lanka. Another challenge related to the Sri Lankan education system was the additional burden for parents, especially women. The additional burden of the education system makes it difficult for women working in disaster preparedness since they are essential workers and need to stay longer office hours. The suggestion made by EX11 was to introduce an overall change in the education system.

5.3.4.2 Organisational challenges

Six challenges were categorised under organisational challenges based on their similarities. The six challenges are: *"appointment related issues"* (Section 5.3.3.1), *"hierarchical rivalry"* (Section 5.3.3.4), *"influence on independent decision-making"* (Section 5.3.3.5), *"limited role models"* (Section 5.3.3.7), *"patriarchal culture"* (Section 5.3.3.8) and *"poor coordination"* (Section 5.3.3.9). The six challenges and the suggestions are presented in Figure 5.6.

EX2, EX9, EX11 and EX13 explained how appointment related issues affected women's empowerment in DRG in Section 5.3.3.1. EX2 and EX5 suggested introducing supportive policies within the organizations at the local and national levels to overcome these challenges. For example, to avoid the appointment of wrong or unsuitable women in the systems, more rules should be introduced specifying some minimum qualifications and experiences, according to EX13. In addition, supportive organizational policies can be introduced for women encouraging their contribution to risk governance. For example, flexible and extensive maternity leave can be introduced because maternity leave was considered a barrier by many male officers who do not want to work for someone else work. EX2 further emphasised, *"So, we should secure the positions of women in DRG through supportive policies and facilitates like more maternity leave days. Then they will not drop out of their role in the longer term. Otherwise, they drop out from their jobs."*

EX1, EX12 and EX13 identified hierarchical rivalry as a challenge that affects WE in DRG, as presented in Section 5.3.3.4. EX1 explained how both men and women engage in disaster management institutions become rivals. Especially when women move up on the hierarchy, challenges become significant. As solutions, EX12 suggested, *"Because I had the highest number of publications. So even I had to face some level of issues in this promotion. So, for the PhD they awarded marks, and I got that as well. And then they stopped giving marks for PhD. Because of the point-based system. I came first because I have more qualifications than others. So, at the interviews, if we can introduce some point-based systems, I think equal opportunities for all can be served."* EX1 added, *"I think these are from our culture and attitude, which should be changed by changing people's attitude and the overall culture."* EX2 proposed another solution stating, *"I suggest introducing a quota system for women to be represented in the parliament and other governance structure."* EX13 also confirmed the same suggestion.

Influences on women's decision-making are considered as another challenge by EX1. According to the expert, in several ways, women are unnecessarily influenced. The experts suggested many strategies to overcome this challenge. Among them, building confidence is one such suggestion made by EX1, EX2 and EX5. The experts further suggested making women understanding their roles and responsibilities well. The EX1 stated, *"So what I am suggesting is to develop your confidence level to face these challenges. Be independent and know your job-related duties. Stick to what is correct as per the legislations"*. EX5 also explained with an example from the DS operates in Nuwara Eliya. The expert stated, *"She has great confidence which made her take independent decisions in disaster management system"*.

According to EX2, to overcome harassment at organizations, *"When there is an injustice, with whom we should talk about, We should talk with men. We should make aware men specifically. We should tell them the injustice happened from them, do you know whether this type of thing is happening, it is not good, etc. should be informed, men."* Another issue related to limited role models in the system, EX5 proposed to identify more role models in disaster management related institutions. Women's representation within the disaster preparedness system is limited, and hence, finding role models become further complicated, as explained by EX2 and EX5. Thus, EX5 suggested that building confidence level and attitude is part of their suggestions.

EX2, EX5, EX11, EX12 and EX13 identified patriarchal culture as another challenge for women's empowerment in DRG, as presented in Section 5.3.3.8. To avoid a male-dominated disaster management system in Sri Lanka, EX2, EX11, EX12, EX13 proposed a change of attitude among men in the organisation. Attitude change can be supported through conducting raising awareness-raising programmes in organisations.

To address the challenge of poor coordination, establishing and strengthening the link between disaster management-related institutions are suggested. Non-governmental organisations provide many capacity building programmes, specifically for women officers, according to EX4. The expert added, *"So building this relationship, I mean the coordination is important to recognize women capacities and accordingly they can assign more responsibilities to women towards risk governance."*

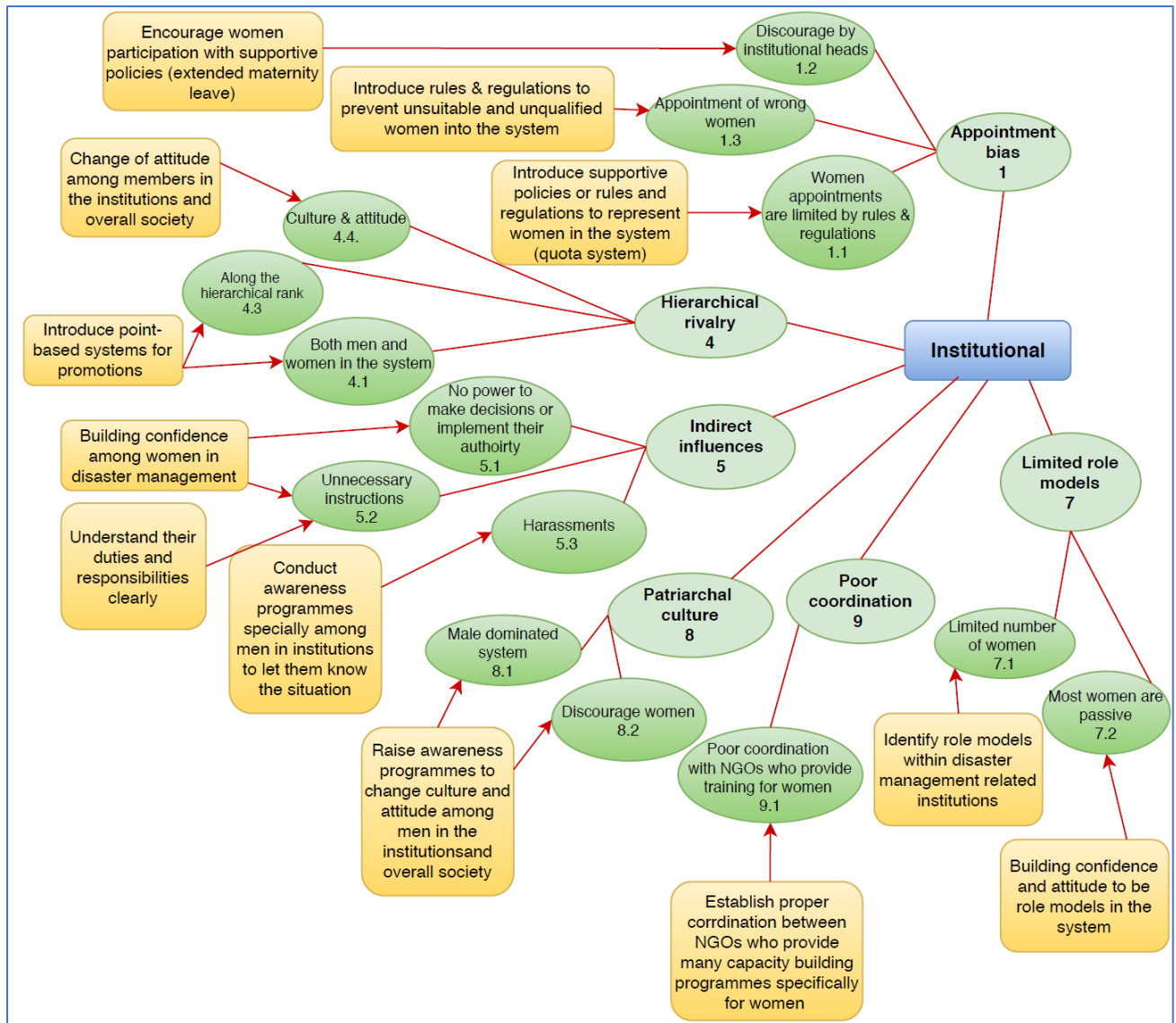


Figure 5. 6 Summary of the suggestions to overcome organizational-related challenges based on expert interviews analysis

Source: Prepared by the author

5.3.4.3 Individual constraints

There are seven challenges identified and grouped under individual constraints based on their similarities. The challenges are: "job security" (Section 5.3.3.6), "lack of commitment" (Section 5.3.3.10), "Lack of self-interest" (Section 5.3.3.11), "weak personality" (Section 5.3.3.12), "limited disaster management knowledge and experience" (Section 5.3.3.14), "limited skills" (Section 5.3.3.20), and "higher dependency" (Section 5.3.3.24). The seven challenges and the suggestions are presented in Figure 5.7.

Several experts identified job security as a challenge to WE in DRG, as presented in Section 5.3.3.6. Hence, experts suggested encouraging women in higher-level administration to promote peers. Similarly, lower-level women officers should be allowed to access the system and create a culture to trust their peers, avoiding competition. Women do not like to centralize power due to their hesitancy to trust their peers. Thus, EX8 suggested having close supervision when they decentralise their powers and duties to create trust among peers. The expert highlighted a success story where a female Divisional Secretariat had successfully managed the last landslide situation. EX8 stated, *"This demonstrates that women should trust their fellow members and get all the jobs done by decentralising the powers and with close supervision."*

Several experts recommend addressing the lower commitment issues among women officers by encouraging them to provide their total capacity. Disaster management is a critical task, which could turn a hazard into a catastrophic disaster. Thus, officers' total commitment is vital. When women officers indicate a lower commitment, it is highlighted as a weakness for their empowerment. As a solution, EX1 recommended, *"We should demand knowing our weaknesses. Otherwise, others can point out when we make demands by highlighting our weaknesses."* EX4 similarly explained, *"Without identifying the issues in the disaster site, how can they contribute to next preparedness plans without their real experience. Thus, they should work to implement their GN level disaster preparedness plan and take account of any issues within their preparedness system at the GN level and inform higher levels."* The expert further suggested making them aware of their duties and responsibilities and how important their commitment is. EX2 also added, *"We have to work ignoring the time and place. We have to be ready for these types of emergencies. If they can show that they are ready to work in such conditions, they will get more opportunities."*

Another challenge for ensuring WE in DRG is lack of self-interest, as identified by EX1, EX5, EX8 and EX11. Accordingly, EX8 suggested a rewarding system or benefits to women working in the disaster management system. To address unnecessary pressure, EX1 proposed adding, *"So what I am suggesting is to develop your confidence level to face these challenges. Be independent and know your job-related duties. Stick to what is correct as per the legislation."*

The level of women's empowerment in DRG is further challenged by weak personality among women officers in the disaster management system. According to EX1, the issue could be addressed by developing personality through confidence-building programmes. EX5 argued, *"Building Confidence level and attitude is part of the main suggestion."*

Because women's participation at all levels is affected by confidence-building, but this has been fast improved during the last ten years." EX1 identified another challenge among women officers as a high dependency. EX13 and EX14 suggested strengthening their financial situation and making them economically strong to be interdependent, resulting in independent decision-making. The EX13 added, *"Not only finance because they earn some income. I mean, they should know what the outside world is and what is the benefit of being independent. They should make some independence in HH decision-making"*. EX11 made a suggestion stating, *"Give good training and education on disaster management for women working in disaster management. Give adequate foreign exposure to learn about international level disaster management knowledge for women."* Similar to limited knowledge, many women officers suffer from limited skills, as explained by EX8. The EX2 argued, *"If women officers have some additional skills like driving skills, IT skills, communication skills would be added advantage for them to move easily, communicate easily etc."* Above mentioned skills assure their freedom instead of depending on others. Specifically, disaster management involves many technical and social aspects. Therefore, knowledge and skills on both technological and social aspects will help them towards their empowerment. EX8 added, *"My suggestion is to give them opportunities to acquire such skills in addition to their educational qualifications and also encourage them to collect these additional skills and make them understand the benefit of adding more skills to them"*.

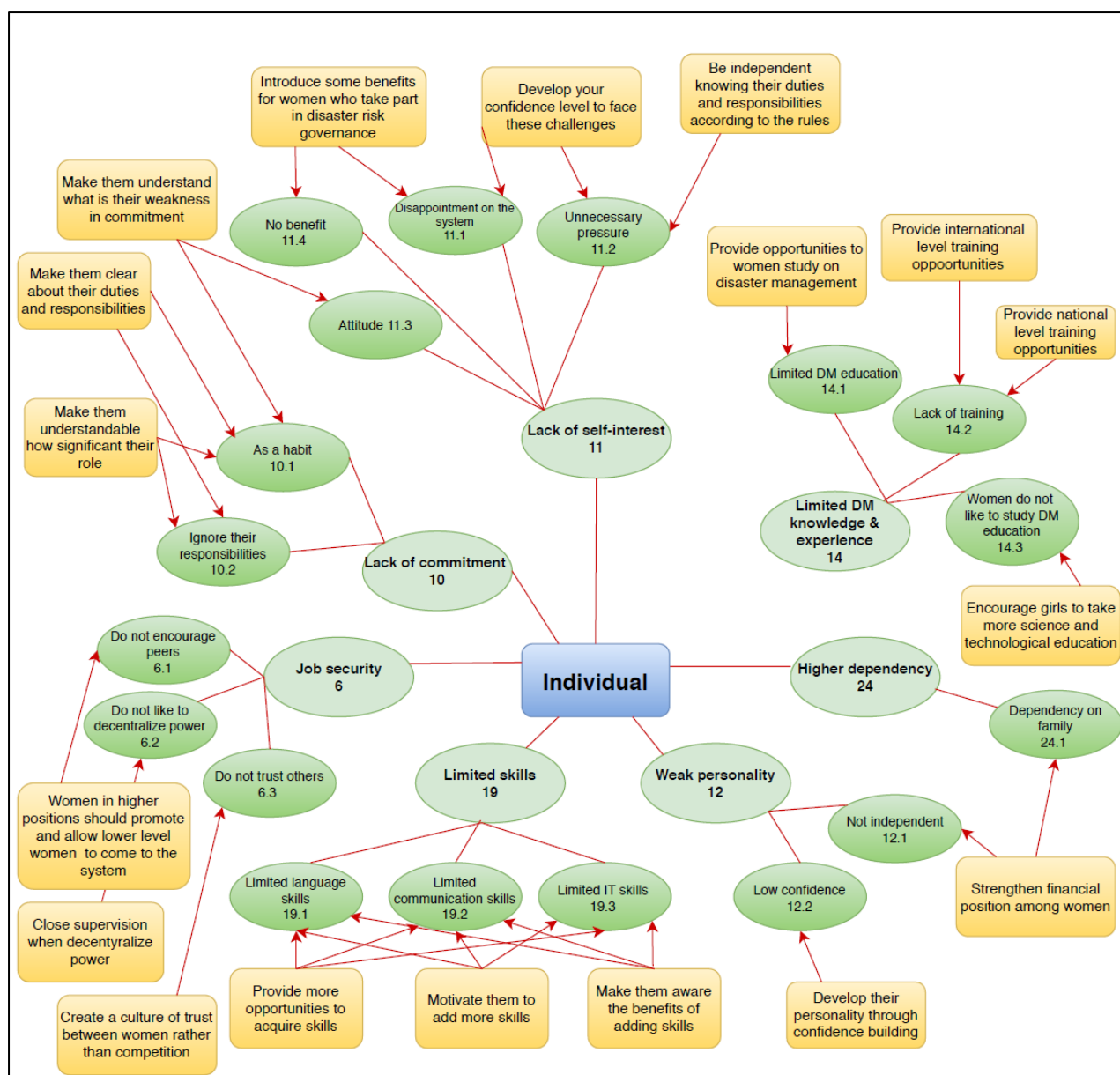


Figure 5. 7 Summary of the suggestions to overcome individual-related challenges based on expert interviews analysis

Source: Prepared by the author

5.3.4.4 Socio-cultural factors

Five challenges were identified and grouped under the socio-cultural category based on their similarities. The challenges are: “*cultural norms*” (Section 5.3.3.15), “*disproportionate household workload*” (Section 5.3.3.16), “*social status of women*” (Section 5.3.3.18), “*cast*” (Section 5.3.3.20) and “*religious believes*” (Section 5.3.3.25). Figure 5.8 demonstrates the suggestions to overcome the identified challenges.

Interviewees suggested several recommendations to overcome the challenges related to socio-cultural practices. EX10, EX11, EX12 and EX13 suggested the importance of raising awareness among communities and families to overcome many issues related to cultural norms that restrict women's empowerment in DRG. EX4, EX10, EX11, EX12, EX13 and EX14 explained how cultural norms affect WE in DRG in Section 5.3.3.15. EX10 stated, *"So, what I suggest is to raise awareness among the community on how they can continue and be a success in their career with the support and understanding of the family members."* EX11 and EX12 confirmed that raising awareness can fill the gap among men or household members who are narrow-minded and unable to understand the work women can perform in disaster risk reduction related decision-making.

Several experts identified jealousy as a challenge created within the socio-cultural structures. Thus, EX11 suggestion was, *"If we have identified these issues, it will be a real contribution towards women's empowerment as well as reducing their difficulties or vulnerabilities from disasters."* The suggestion by EX13 was, *"And overall attitude among the community and the society to be changed. The change should start from the house and starting from men to women both. Making a change of their attitude for supporting women in administration can enhance their empowerment in any field."* EX14 agreed on the same suggestion and stated, *"Especially a favourable cultural change towards women working in disasters to be introduced."* EX5 added, *"I think developing the culture will be a good thing for this empowerment of women. Better to improve cultural practices among people."*

Religious beliefs were identified as a challenge for WE in DRG. Several interviewees recommended raising awareness on the rights and capacities of women in governance and the importance of allowing and empowering them towards their desires in achieving and contributing to governance, according to EX8. EX10 suggestion was to introduce women's empowerment into school curricular, stating, *"My overall suggestion is to introduce the subject of women's empowerment within the school curricular as an effective way. 50% of the population in Sri Lanka and the world are represented by women who suffer from many inequalities. Their empowerment could be the strategy to establish this equality. Introducing women's empowerment into school curricular can change many social and cultural beliefs about women's position in society, in organisations, and in the family"*.

EX2, EX4, EX13, and EX14 explained how the social status of women affect their level of empowerment in DRG in Section 5.3.3.18. As stated by EX13, the issue of minimum representation of middle and upper-middle-class women in the disaster management system is not supported by the same group because of jealousy. The interviewee pointed

out, *"This is hard to change. Change can be made through a change in their attitude. We should change the attitude among women to support their peers and create the next layer in the system"*. EX13 argued, *"I suggest some awareness among women themselves to address the issue. Women in DRG should know their contribution towards transparency and accountability. Raising awareness on their role in the system, they can be motivated to be empowered in the system, rather than being silent"*. EX2 and EX4 highlighted how social standards or living standards limited their level of empowerment and suggested, *"To allow them to explore the outside world, outside of their household level. Such opportunities can be created by giving training either national or international level to see and get experience beyond their level."*

EX10 argued how the extra household workload could be addressed, stating, *"So, what I suggest is to raise awareness among the community on how they can continue and be a success in their career with the support and understanding of the family members"*. EX13 also underlined the importance of awareness-raising to increasing family support towards women working in disaster risk governance, adding, *"Family support should be there."* One of the main factors that limit women's empowerment in DRG is child-caring responsibility. Accordingly, the EX12 emphasised the importance of introducing affordable and reliable childcare services specifically to their workplaces. The experts added, *"So if we can have affordable and reliable childcare services for working women, that can solve many barriers for their empowerment in governance. Affordability should be a key factor because it has to be manageable with women working at the lower level. If they have enough time, they can continue their education or acquire more skills and training that help their empowerment with improved skills and capacities. Especially these childcare services are needed to a certain age limit of children. Once children are grown up, women can work as usual."*

In addition, EX12 explained how women's empowerment is challenged by the attitude of family members precisely when they are not open-minded. Accordingly, EX12 suggested, *"This can be overcome by creating awareness among the society to change social and cultural believes deep-rooted in the society"*. The expert also suggested establishing an equal society through policy and legislative measures to overcome this deep-rooted inequality. EX10 suggested raising awareness among the community to get higher social acceptance to women working in disaster management to supporting their empowerment by building their morale.

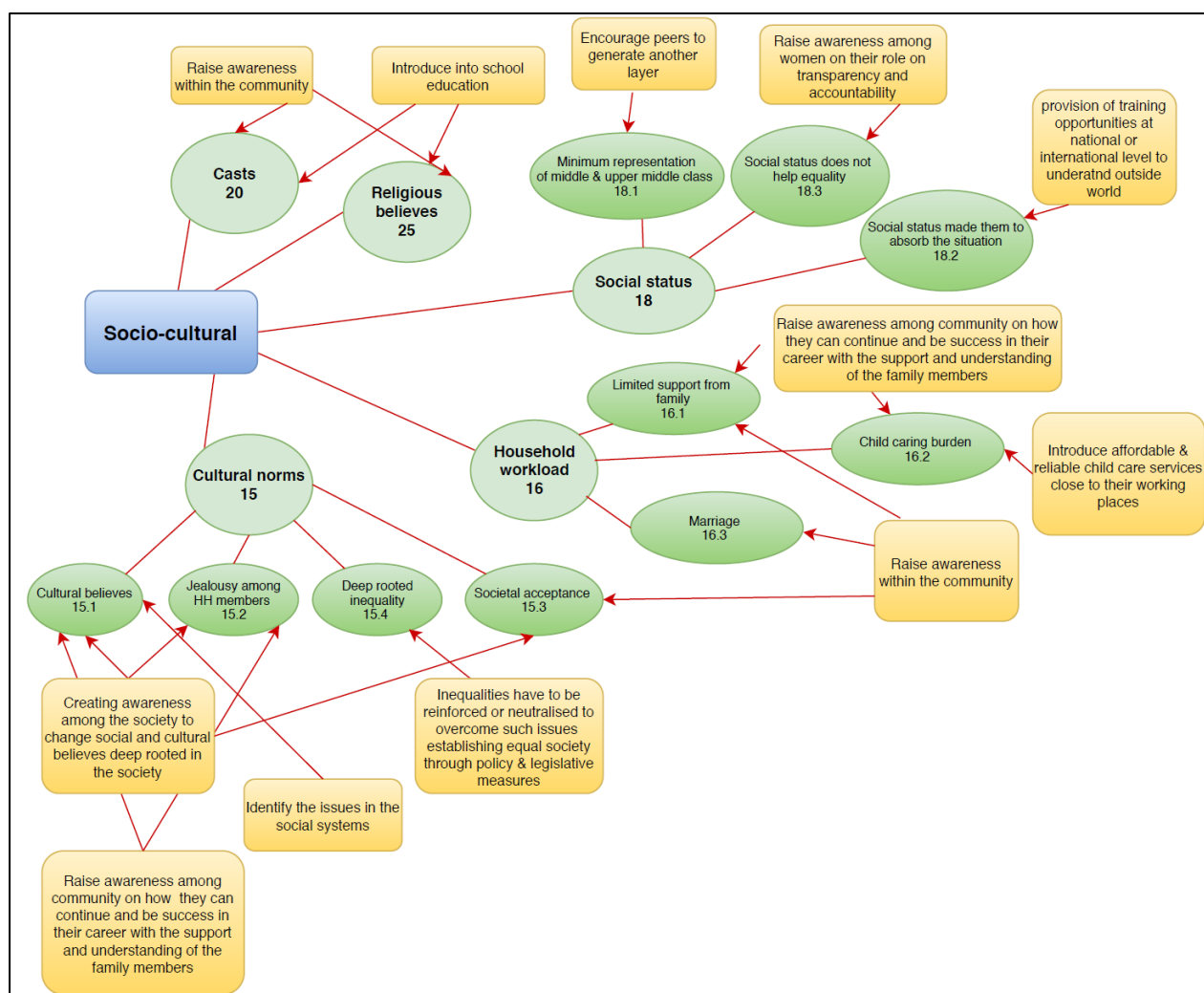


Figure 5. 8 Summary of the suggestions to overcome socio-cultural-related challenges based on expert interviews analysis

Source: Prepared by the author

5.3.4.5 Job-specific factors

There are two challenges identified and grouped under the job-specific category based on the expert's interview outcome. The challenges were presented as "*unspecific time and availability*" in Section 5.3.3.13 and "*working environment*" in Section 5.3.3.21. The suggestions are given in Figure 5.9 under each identified challenge.

EX2, EX3, EX8, EX11, and EX12 highlighted that unspecific time is a common feature among jobs related to disaster management. Hence, the general acceptability is that women cannot contribute to disaster risk governance due to unspecific time factor. During the interviews, several interviewees made recommendations. One of the suggestions made by EX2 was to prepare them to work under any conditions where and when

necessary. The expert stated, *"We have to be ready for these types of emergencies. If they can show that they are ready to work in such conditions, they will get more opportunities"*.

Another suggestion made by EX13 was to create a situation where women can work from their homes, especially in coordination and planning. The expert stated, *"If we suggest work from home, that may not be compatible with all our job. We need to take observations and collect evidence. But it is possible for many jobs like people who do research and forecasting etc by giving necessary computers and internet facilities they can easily do their job done"*. In addition to resources, it is also essential to know how to use these new technologies. The expert argued, *"If any integrated system is placed, then we can work from home to a certain level"*. Providing facilities to work remotely and increase their commitment to work continuously and work outside will help them secure their empowerment in DRG. EX11 recommended changing the community's attitude assuming it can play a significant role in addressing many issues. As the expert stated in Section 5.3.3.13, they sacrificed some of their commitment during an emergency or disaster. Such sacrifice discourages many women from taking part in DRG because of the situation they face in society. Therefore, a change of attitude among household members and the community will motivate women to be empowered in DRG. To address working in multiple locations during a disaster, the EX2 suggested developing additional skills among DRG women. For example, they can acquire some driving skills, which will enhance their mobility without depending on others.

Another job-related challenge is the working conditions stated in Section 5.3.3.21. For example, EX12 highlighted how poor working conditions affect women's empowerment in DRG. Accordingly, EX12 proposed the use of new technologies where access is difficult. From the EX 12 point of view, *"If we have any automated data from the observation stations, that will be highly valuable. So, nobody is required to observe the changes physically"*. Technology can overcome both unfavourable working conditions and accessibility issues, as presented in Section 5.3.3.21. Another work-related issue highlighted by the EX12 was safety. The interviewee recommended providing more equipment and computers to facilitate and coordinate activities from a distant place.

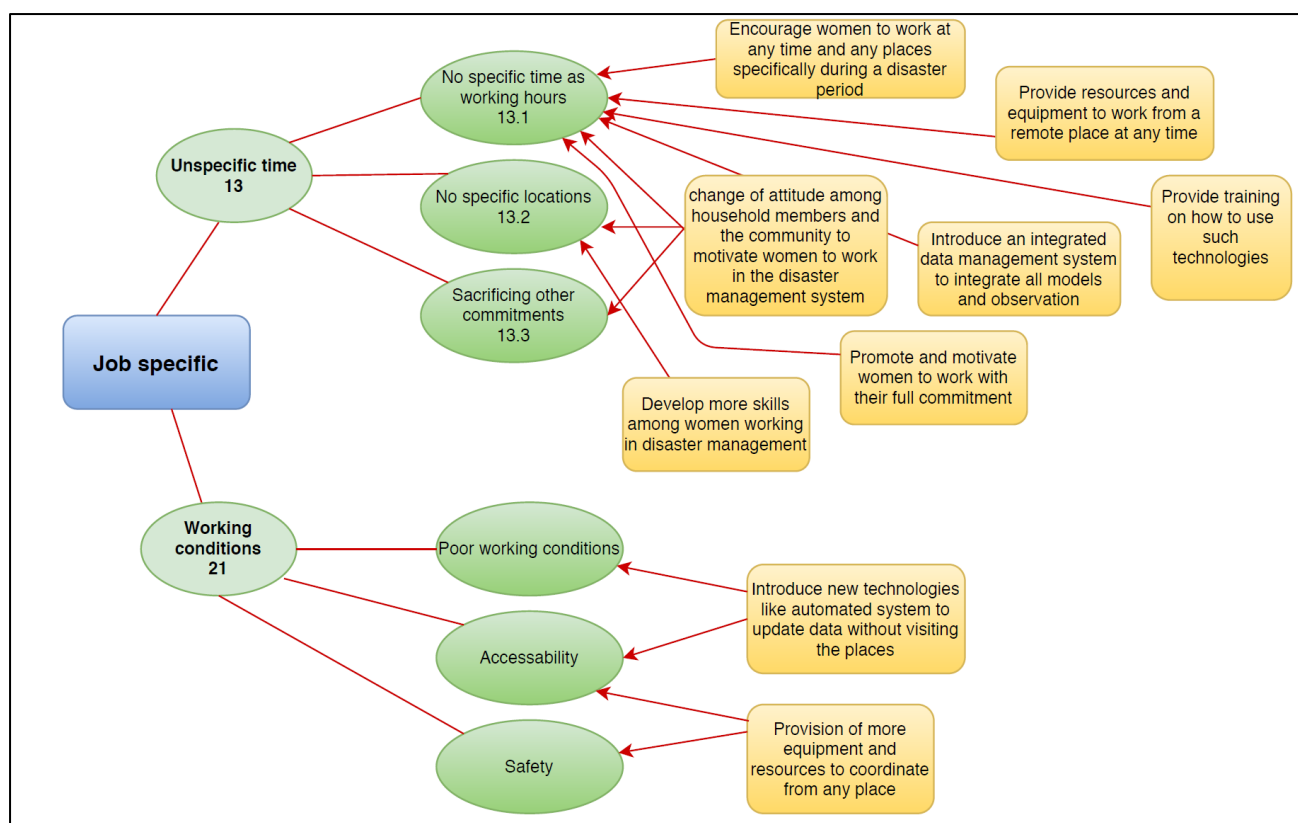


Figure 5. 9 Summary of the suggestions to overcome job-specific challenges based on expert interviews analysis

Source: Prepared by the author

5.3.4.6 Political challenges

There are two challenges identified and grouped under the “Political” category. The challenges were presented as a “*corrupted political system*” in Section 5.3.3.23 and “*poor political recognition*” in Section 5.3.3.17. The suggestions are presented in Figure 5.10.

Based on the expert interviews, it was evident that political factors play an essential role in securing women’s empowerment in DRG. As described earlier, a corrupted political system makes the situation more challenging for women’s empowerment in DRG. Accordingly, EX11 raised community awareness about the importance of a sound political system, free from violence and corruption in society. Similarly, it is also essential to raise awareness among politicians and political systems about the necessity of establishing good governance in political systems, avoiding corruption and violence. Furthermore, it is vital to highlight why young and educated women are reluctant to come to higher positions in governance within such awareness programmes, including political positions. Furthermore, the expert favoured creating a broader awareness in the community to highlight the

significance of women's participation and representation in parliament and governance and promote them to empower in risk governance.

According to EX11, unnecessary political pressure prevents women from being into higher positions in the governance structure. Thus, the interviewee argued for building confidence among women to take the right decision in the administration to overcome this challenge. In addition, the expert highlighted awareness-raising among women administrators in the disaster management system for working independently towards transparency and accountability. The expert stated, "*Work according to the rules and regulations and use their powers stated in them*" in decision-making, irrespective of the pressure they face as solutions.

Another challenge identified as part of a corrupted political system was the misuse of rules and regulations by political authorities. Thus, EX5 recommended making a cultural change through an awareness programme. However, EX13 was in favour of introducing rules and regulations to prevent relatives from entering into politics. The expert further stated, "*And I also suggest introducing some minimum criteria as entry qualifications*". The intention is to ensure more opportunities for qualified and capable candidates to enter into politics. The experts EX2 and EX13 indicated how important to have a supportive political system for an equitable society. EX2 strongly believe that it is crucial to avoid treating women as weak and incapable members of the system, stating, "*This needs to be done by raising awareness among political leaders*". EX13 proposed, "*This can be avoided by creating a discourse between politicians and the relevant authorities*". Through such discussions, misunderstanding or misconception about women and their role in society, particularly in risk governance, can be avoided among politicians. As identified by EX2, minimum women representation in the parliament is another challenge for receiving and showing poor recognition for women's empowerment in DRG. As per the expert, "*So, I suggest encouraging more women representation in the parliament so that they can create an image among politicians the need to empower them in other sectors. I suggest introducing a quota system for women to be represented in the parliament and other governance structure*". EX13 made a similar suggestion to increase the level of women's representation at the parliament, stating, "*Rather it should be some opportunity for women to contest and then come into politics*".

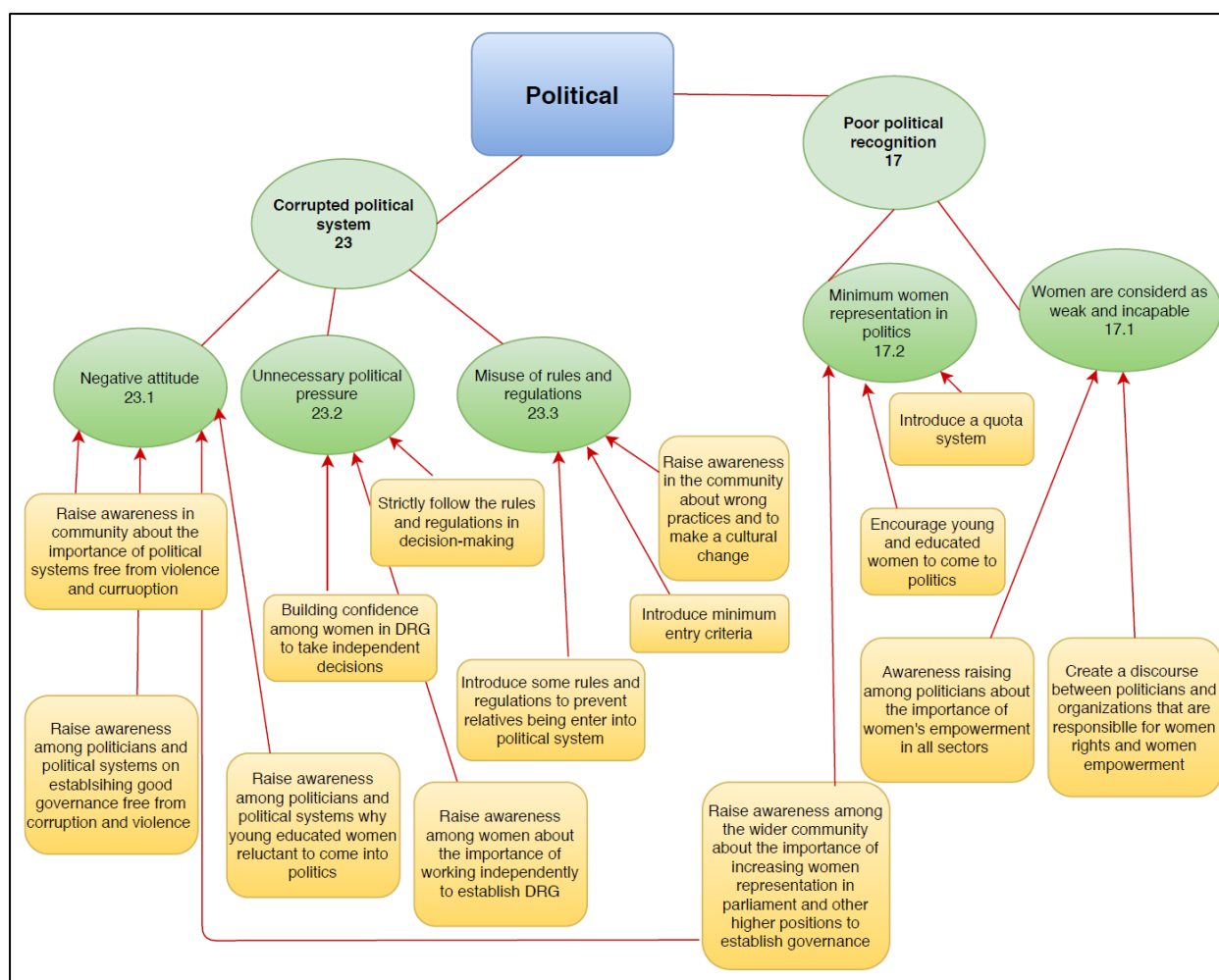


Figure 5. 10 Summary of the suggestions to overcome political challenges based on expert interviews analysis

Source: Prepared by the author

5.3.5 An additional outcome of the study - An account of the present disaster preparedness system in Sri Lanka- based on expert interviews analysis

Section 5.3.2. presented the present level of women's contribution in DRG within the disaster preparedness system in Sri Lanka. Accordingly, Appendix 6 provides an account of the present disaster preparedness system in Sri Lanka. This is because the study was conducted within the Sri Lankan disaster preparedness system. Therefore, the expert interviewees also aimed to explore and evaluate the national disaster preparedness system in Sri Lanka.

5.4 Summary and the link

This chapter presented the outcome of the expert interviews analysis. Accordingly, the chapter presented the importance of women's empowerment in DRG, identifying the reasons for women's empowerment in DRG within the disaster preparedness system. The experts also revealed the minimum level of women's empowerment in DRG, highlighting many challenges. Accordingly, twenty-five challenges were identified and classified under six categories based on their similarities. During the interviews, suggestions were collected for addressing each challenge. In addition, the chapter provides an additional outcome based on expert interviews evaluating the status of the present disaster preparedness system in Sri Lanka in appendices. Accordingly, the next chapter presents the case study analysis conducted for the study.

CHAPTER 6 Analysis of Case Studies

6.1 Introduction

After presenting the analysis of the expert interviews in the previous chapter, Chapter Six presents the analysis of the three case studies. First, Section 6.2 presents the basis for the three-case study selection and analysis method used in the study. Section 6.3 presents the Colombo district case study analysis, followed by Section 6.4 presenting the Kegalle district case study analysis. Finally, Section 6.5 presents the Kalutara district case study analysis, and Section 6.6 presents the summary and the link.

6.2 Case study selection and analysis method

The study selected three case studies considering the district as the case boundary. The study explores women's empowerment (WE) in DRG within the disaster preparedness system in Sri Lanka. Disaster preparedness strategies are designed and implemented through the district level agencies as presented in Section 3.9.3. Accordingly, Colombo, Kalutara, and Kegalle districts were selected based on the district's high disaster vulnerability and diversity.

The case study interviews were conducted with the persons engaged in the disaster preparedness system within the district settings. Accordingly, interviews were conducted with the District Secretariats, Divisional Secretariats, Assistant Directors, Sahana officers and GN officers. Interviews were conducted using semi-structured interview guidelines as explained in Section 3.11.1.

Recorded interviews were transcribed into a word document and transferred to NVivo 12 software to conduct the analysis. Accordingly, three separate case study analyses were conducted, and the results were presented below. The interview data were analysed using Thematic Analysis as described in Section 3.11.2. Finally, analysis results were presented as Cognitive maps to present various challenges and recommendations made by the interviewees.

6.3 Case study 1- Colombo District

6.3.1 District disaster profile

In addition to the case study description presented in Chapter 3, case study interviews revealed district-specific disaster information. Colombo district is subjected to multiple hazards caused by natural and man-made incidents, as presented in Section 3.9.3.1. Floods, lightning, cyclones and coastal erosions are common natural hazards, while electricity shocks, fires, and epidemics are the man-made hazards frequently affecting the district. According to C1, *"In Sri Lanka, the biggest flooding incidents were recorded in 1989 and 2016. However, when compared to 1989, the loss and damage from 2016 floods is heavy and is identified the reason as landfilling in low elevated areas."* Many predicted that the damage would be further increased during future flooding incidents. C3 and C8 also added that frequent floods are caused by continuous land filling. C3 further explained, *"When the Kelani River overloaded, the two drainage lanes are overloaded, and then the flood started."* C4 also explained, *"We can see a clear increase of future floods due to heavy rains, landfilling and unauthorised settlements nearby river sides."* C8 further confirmed, *"Because there are many slums in that areas and all their discharges from the houses go to the river and hence the river cannot carry extra rain water. Their malpractices directly related to disasters in Kolonnawa."*

C6 explained the impact of disasters on women in the district, adding, *"In our DivS office, we cover around 400,000 people. Colombo district's total population is 2,300,000 and we have 400,000 people. That means we provide services for around 1/5 of its population in the Colombo district. So as a DivS Office, we have different types of problems. More than 80-90% are poor in this division. The status of women in this division is worse than in other divisions. Many men are addicted to either alcohol or drugs. Hence the living status of the families and the children are minimum. Most women used to go abroad as a solution to many problems. Many women come here as a single parent either their husband has abandoned them with the children or gone abroad for work and no contacts afterwards."* C6 further added, *"As an administrative officer, we engage with all types of decision-making at our office. I believe that women participation in decision-making is essential in the organisation as well as the household level. Especially due to the situation in this division, women in administration is critical since the condition of the community women are worse than any other division. Many women suffer their daily life and especially during and after disaster because of their current vulnerabilities."*

After identifying the status of women in the district and their vulnerability in disasters, the following section explores why women should be empowered in DRG within the disaster preparedness system.

6.3.2 Importance of women's empowerment in disaster risk governance within the disaster preparedness system to reduce women's vulnerabilities – Colombo district

Figure 6.1 demonstrates the Nvivo software analysis to understand why women officers should be empowered in disaster risk governance. Figure 6.2 presents the summary of the analysis diagrammatically.

| Importance of WE in DRG | | 0 | 0 |
|--|--|---|----|
| <input type="radio"/> Transparency and accountability | | 1 | 1 |
| <input type="radio"/> Societal benefit | | 4 | 6 |
| <input type="radio"/> Self-satisfaction | | 5 | 8 |
| <input type="radio"/> Preference for women officers | | 1 | 1 |
| <input type="radio"/> Multi tasking capacity | | 2 | 2 |
| <input type="radio"/> Mental stability | | 2 | 3 |
| <input type="radio"/> High commitment | | 8 | 21 |
| <input type="radio"/> Good listeners | | 2 | 2 |
| <input type="radio"/> Experience | | 3 | 3 |
| <input type="radio"/> Better position to understand women specific issues in disasters | | 3 | 3 |

Figure 6. 1 Importance of women's empowerment in DRG within the disaster preparedness system- Colombo district

6.3.2.1 Transparency and accountability

According to C1, women must be empowered in DRG to secure transparency and accountability in decision-making. The interviewee explained by adding, *"Most women do not try to override existing rules and regulations. Most women work adhering to the existing legal frameworks. Women provide their fullest cooperation within the existing regulatory system."* This quality helps to strengthen the preparedness system through their empowerment in DRG.

6.3.2.2 Better understanding of gender-specific issues in disasters

Several interviewees identified another importance of empowering women in DRG for better understanding of women-specific issues. According to C1, C2 and C8, women officers can better understand their issues. C1 added, *"Another reason for such high commitments is that women officers feel and understand others' difficulties easily and properly. That is an advantage for being women officers in disaster management which can help to address many issues faced by women in temporary shelters, during evacuation and pre-disaster."* C2 stated, *"I completely agree with the difficulties women face during and after disasters. For example, no standard toilet facilities for women, no standard changing rooms or facilities, and no facilities for child-caring, especially with babies and young girls. They face many challenges and difficulties, especially after a disaster happen."*

6.3.2.3 Experience

Several interviewees identified experience among women officers as one reason they should be empowered in DRG. C2 and C4 explained how their experience helped in assuring DRG in making preparedness measures. C4 stated, *"We engaged in disaster management with our knowledge and experience."* C2 explained how their personal experience helped to understand the difficulties, requirements, and concerns of everyone suffering from disasters based on their experience working with family matters. Therefore, C2 further suggested highlighting, *"But it is more practical to engage more females during the planning stage."*

6.3.2.4 Good listeners

According to C10, women officers have a unique talent for being good listeners. This quality is an essential feature in disaster management. Since disasters are panic and careful listening and patience is highly important for accurate decisions. C10 described, *"One of the reasons why they perform their responsibilities is because they see many things from a different angle. They do not have anger issues compared to men. For example, I saw a senior politician complained to a lady Divisional Secretary during a flooding situation. I noticed that the officer was never angry and listened carefully. Finally she replied the minister with a smiling face and she did not accept the accusation."* C8 commended the same idea stating, *"Sometimes as women we may feel more sensitive with working with the community. Sometimes these sensitive areas or aspects are important while engaging in DM."*

6.3.2.5 High commitment

Women's high commitment was identified as another reason they should be empowered in DRG. As stated by C1, *"In terms of work, women officers are more active and doing great compared to men. Because, when they are at the office, they do not leave the office, no extra engagement. So that they totally engage in work during the office hours."* The interviewee further added, *"Most of our GN are women and has shown top quality work during past disasters with other officers. They never complaints about that and they do their level best. Especially I must say their role is much higher than their salaries."* C10 also supported by adding, *"All these major disasters in the Colombo district were handled with the support of women officers working in disaster management. They performed well with the highest commitment. Another example I saw from Kollonnawa, many women GN officers worked tirelessly to provide facilities for their community. I am not saying that all women GN are alike. However, most women GN officers had the real contribution and commitment to save people in their GN division and provide facilities to them."* C3, C4, C6 and C8, and C9 gave many further examples to highlight the commitment of women officers who work in the present disaster risk governance.

6.3.2.6 Mental stability

C10 identified another reason for arguing for women's empowerment in the DRG is high mental stability. C10 highlighted that high mental stability among women officers and how it helped reduce their vulnerabilities and strengthen resilience stating, *"Their special capacity and strength is not be panic or arrogant in a situation which is important in managing disasters."* The interviewee further highlighted another example, *"I saw in Kaduwella, a lady Divisional Secretary as having a highly confident and good personality. In Seethawaka, DivS was a male officer. Compared to Seethawaka, the lady officer in Kaduwela managed well during the last flooding incident while the Seethawaka Divisional Secretary made a mess. He could not perform well, and many issues were reported. I see this is because women refrain from a disputable mentality. They have the high patience when compared to men."*

6.3.2.7 Multi-tasking capacity

Several interviewees identified multi-tasking capacity as a strength and why they should be empowered in DRG. C1 mentioned, *"All administrative positions in this DivS office are held by women. Women officers represent as Assistant Divisional Secretary, Accountant, Administrative Officer, Assistant Director, Director Planning positions. So, being a women administrator, I did not find any problems regarding their work, commitment, and*

capacities." C10 also complemented, *"I must say that even though women have personal issues, they perform their duties well. They never mixed them with their responsibilities because they are competent with managing multiple tasks well."*

6.3.2.8 Preference for women officers

According to C10, the community prefer women officers, especially when dealing with disaster preparedness, response and recovery measures. The interviewee added, *"For example, working in many places during my career, we had many evacuation camps where displaced communities are housed because of the civil war. We realised that women suffered from many issues and did not want to discuss their issues with male officers. There we realised that how important to appoint more women officers in dealing with disaster management."*

6.3.2.9 Self- satisfaction

Many interviewees identified self-satisfaction among women officers as another reason why women should be empowered in DRG. According to C3, *"We know that we do the right thing for our community. So I hope that I will receive its merits in the future. We have done our level best to function this system. We cannot think about anything more."* Her statement explains how satisfied women officers who work in the disaster management field. C4 also confirmed, adding, *"In our job and our duty, we are happy. We did more than what we were expected to do so."* C5 explained her own experience adding, *"There are many people suggested not to engage in extra work. However I am interested in working like this because of my interest. Actually, my desire and my commitment are essential to do this job, especially in disaster management work. For me, what I do should be genuine and satisfied as a person."* Such positive attitudes among women officers are essential for dealing with disaster management related jobs.

6.3.2.10 Societal benefit

Several interviewees identified another reason why women's empowerment in DRG is essential as explained by C1, C2, C8 and C10. C10 further elaborated, adding, *"Especially when women have any difficulties in the system, they must be supported to develop their professional life which benefits women and the society."* According to the interviewees, by empowering women officers in DRG, society can be benefitted from understanding social issues more deeply.

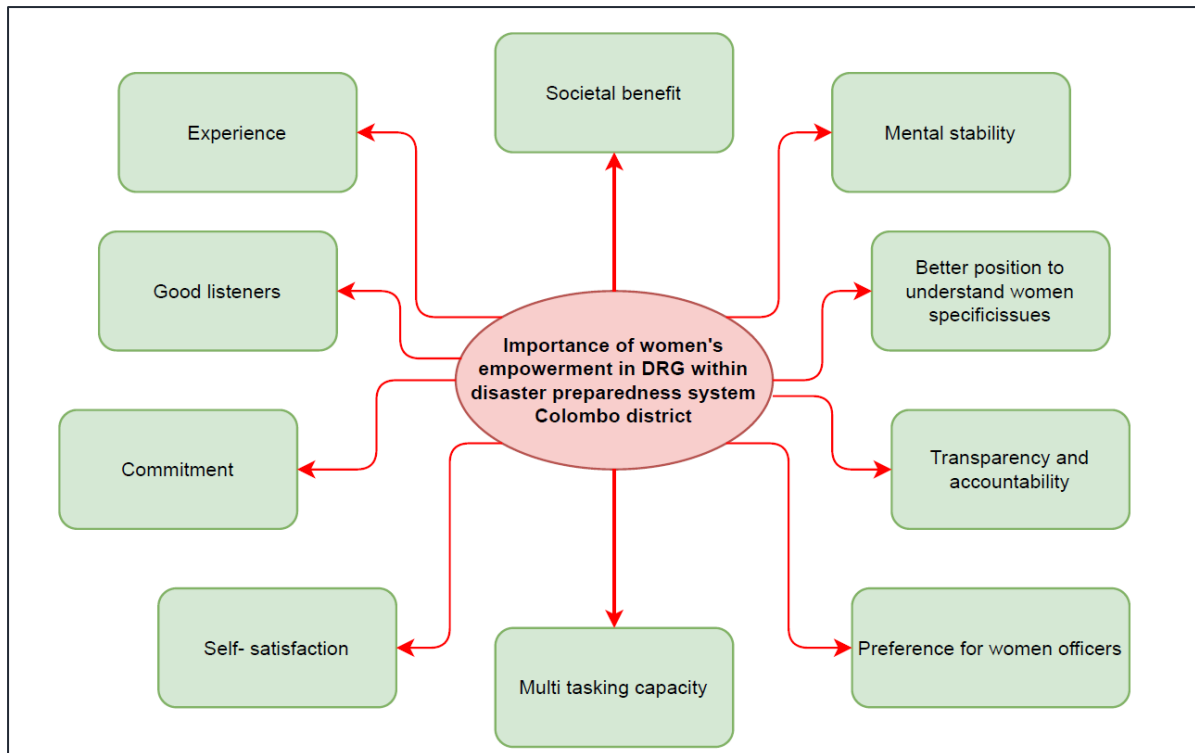


Figure 6. 2 Importance of women's empowerment in DRG within disaster preparedness system- Colombo district

Source: Prepared by the author

6.3.3 Evaluation of the present contribution of women in DRG within the disaster preparedness system- Colombo district

After identifying the importance of empowering women in DRG, the interviewees were asked to express their opinion of the present level of their contribution to DRG within the disaster preparedness system in the district. Accordingly, many revealed mixed opinions regarding the present situation.

Male officers hold the highest positions related to disaster preparedness in the district. For example, the District Secretary and the Assistant Director at the DDMCU are held by male officers. Women officers primarily represent the second layer. According to C10, *"In terms of the number of women in the organisational level, women are more. For example, in Colombo district, 9 DivS offices are headed by women out of 13 DivS offices."* According to C9, women officers have been involved with full commitment during the last disaster response stage. They have contributed day and night during the response stage. The interviewee stated, *"During the last floods, we did not go home except for get changed. I went only once or twice at around 2.00 in the morning to get change."* According to the interviewee, most female officers have contributed during the response stage than the

preparedness stage. The interviewee also highlighted that most lower-level positions are held by women officers, for example, GN officers and field officers in the district disaster preparedness settings.

According to C2, *"We work all three stages of the disaster cycle, pre, during and post stages. When we get information about a possible future hazard, the Disaster Management Ministry, NBRO, have informed before a disaster strike. After a disaster, we gather data regarding the number of people could be affected, how many houses could be damaged etc., to the Ministry of Disaster Management and the DS Office."* C9 described the present preparedness system adding, *"We have a preparedness plan. In the plan, the main focus is to find where these people are evacuated to a safe place. Then how do we provide basic needs for them? Mainly foods are the main concern. We have to coordinate with other stakeholders to provide food and other basic needs."* The interviewee furthermore added, *"We also have a relation with the DMC when dealing with hazards. Especially, DMC works with pre-disaster, whereas the relief service works with post-disaster response and recovery efforts. When dealing with a disaster, we work according to the plan set in the preparedness plan. Basically, we had time to inform people about getting ready for the flood hazard and evacuating people and making ready evacuation centres. Even in the 2017 floods, 36 GN divisions were flooded but not completely as in 2016. There 6233 families with more than 23,000 people were affected. Warning messages were sent by the DivS office along with the GN officers. Even during the last floods incident, all GN officers were called to the DivS office. Then the other activities were coordinated among Relief officers and GN officers."*

C1 highlighted the issues with the overall disaster preparedness system adding, *"We certainly need a proper disaster preparedness mechanism. Even though I was not here during the 2016 and 2017 floods, I face many post-disaster situations. As I understood, this is mainly due to lack of proper preparedness mechanism in Sri Lanka."* C10 explained the duties vested with the DS Office, adding, *"In overall, the decision or policymaking system in Sri Lanka is vested with the ministerial level. The DS offices perform the duty of implementing the decisions taken at the cooperation, ministries, and authorities. So, at the DS level, we coordinate with the DivS office to distribute the functions at the divisional and lower levels. This is the same situation for the DM also"*.

C5 found many challenges or difficulties when performing her duties achieving risk governance in the preparedness system. For example, coordinating with relief distribution. Thus, she explained how did assure accountability and transparency in her duties. C5 added, *"I prepared a data sheet including all details of the family and its members and*

another to collect details of the house details (materials, number of rooms, floors, wood house or brick house etc.), their level of education, job category, and details of the ownership of the houses (owned, leased, government given, unauthorised etc.)." According to her, such a database prevents any unlawful claims and issues with relief distribution.

C4 also explained that even during the response stage, officers found many challenges while performing their duties. The interviewee added, *"Even though we faced the biggest flooding in 2016, during the 2017 floods, we did not have adequate officers to work at the evacuation centres. So, we got help from our family members to coordinate and help activities"*. C3 and C6 also confirmed the same opinion highlighting their difficulties in engaging in disaster management. The above evidence explains that the present status of women's empowerment in DRG is not operated at the maximum level and face many challenges within the disaster preparedness system in the district.

6.3.4 Factors affecting women's empowerment in disaster risk governance within disaster preparedness system to reduce women's vulnerabilities – Colombo district

Based on the case study interviews conducted in the district, the following challenges were identified for women's empowerment in DRG within the Sri Lankan disaster preparedness system. The challenges were categorised into six themes similar to the expert analysis and presented with the suggestions made by interviewees to overcome the challenges. Figure 6.3 shows six themes identified using the NVivo software, and Figure 6.4 presents the graphical analysis. Each category of challenges is presented with the interviewees' suggestions in a cognitive map, demonstrating the challenges and relevant suggestions.

| | | |
|---|---|----|
| Challenges for WE in DRG within the disaster preparedness system Colombo district | 0 | 0 |
| Socio-cultural | 0 | 0 |
| Cultural norms | 1 | 1 |
| Extra household work load | 8 | 10 |
| Lack of support from the community including men | 1 | 1 |
| Political | 0 | 0 |
| Political interferences | 4 | 4 |
| Organizational | 0 | 0 |
| No motivation | 4 | 7 |
| Limited resources | 4 | 10 |
| Limited opportunities | 1 | 1 |
| Leave related | 2 | 3 |
| Job security | 2 | 3 |
| Extra workload | 3 | 5 |
| Legal and policy | 0 | 0 |
| No supportive legal provisions | 1 | 1 |
| Extra burden from SL education system | 2 | 3 |
| Job specific | 0 | 0 |
| Working environment | 2 | 3 |
| Unspecific time | 3 | 5 |
| Security issues | 6 | 10 |
| Extra pressure from the community | 1 | 2 |
| Individual | 0 | 0 |
| Limited skills | 2 | 3 |
| Limited knowledge in DM | 8 | 12 |
| Limited experience | 2 | 2 |
| Disappointment | 5 | 12 |

Figure 6. 3 Challenges for women's empowerment in DRG within the disaster preparedness system- Colombo district

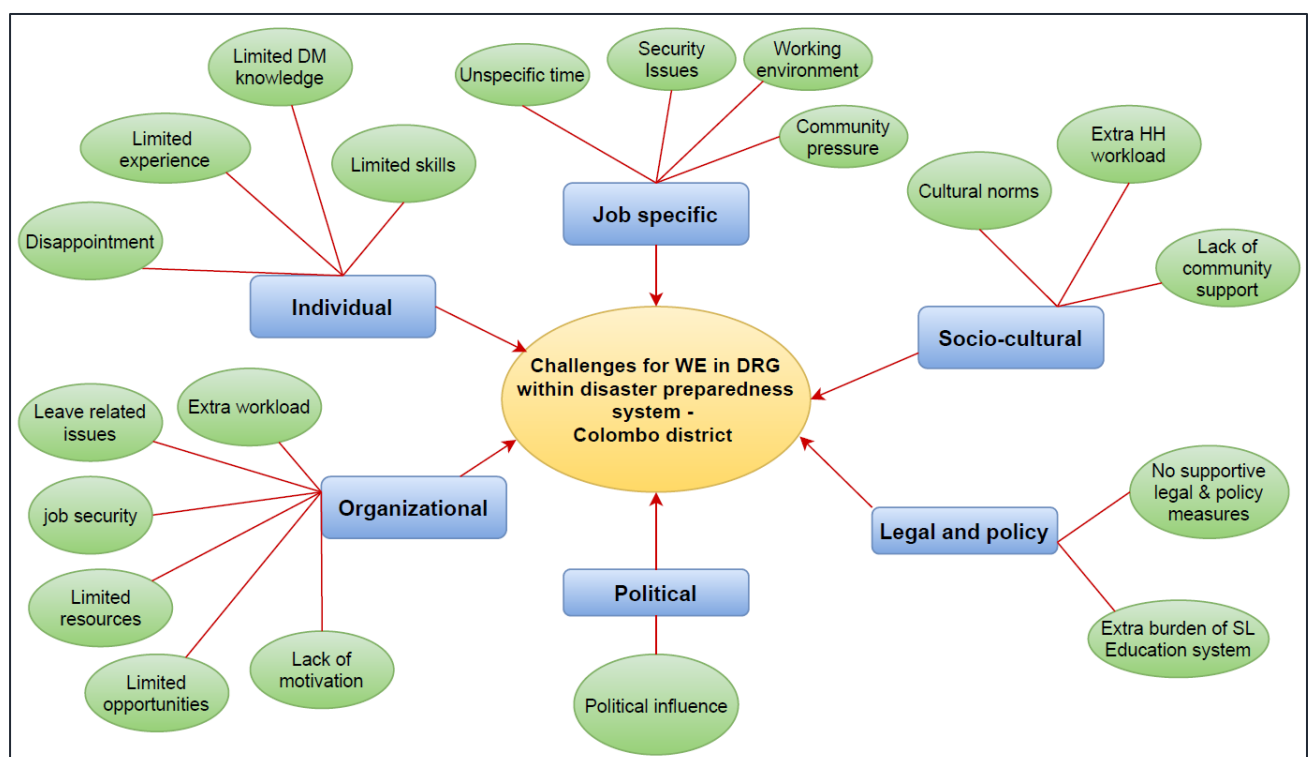


Figure 6. 4 Challenges for women's empowerment in DRG within disaster preparedness system- Colombo district

Source: Prepared by the author

6.3.4.1 Job-related challenges

Four job-related challenges were identified based on interviews' outcomes: security issues, unspecific time, accessibility issues and extra pressure from the community.

6.3.4.1.1 Security issues

Several interviewees identified security as a challenge for women's empowerment in DRG within the preparedness system. C1 explained how security matters for women engaged in DRG, adding, *"Being a woman naturally or psychologically, we are afraid due to security issues."* C3, C6, C9 and C11 reconfirmed and explained how they feel about their security when they visit the field or working at night. C8 explained how security is affected, especially during disasters when communities are frustrated by disasters. As a result, communities become arrogant and violent, challenging officers.

Interviewees made several suggestions to overcome the security challenge. C3 suggested coordinating with other institutions and their officers, such as Samurdhi and Development officers. In addition, C3 explained, *"When we visit the field, we have some issues with the security. There we seek support from the family or husband. And we also get some help from the village level committees"*. In addition, provision of extra security support was suggested by C6, adding, *"If we really want to attend some places which is risky, we can accompany some police or any other support staff for our security."* C9 suggested how their prior experience working in similar working condition could help them to be strong and be empowered.

6.3.4.1.2 Unspecific time

Another job-related challenge highlighted by several interviewees was unspecific time related to disaster management. C1 emphasised, *"Especially, when we work in disaster management or disasters, we need to work continuously at the office or other places. During an emergency, we need to perform 24-hour service at the office or the disaster site."* Unspecific time is a challenge for women officers in many ways. C8 and C9 also identified this 24/7 availability as a challenge for women officers in disaster management. C9 explained, *"Since they have to be in the office for 24 hours during a disaster, the family roles and responsibilities could be neglected. Therefore, I drop my children at my parent's home during disasters to help with my work. So, I think this is difficult for women because most of them have to depend on someone"*.

C9 suggested introducing work from home culture, especially where women officers find it difficult to reach. The interviewee added, *"They can work from the office or home without*

travel.” According to the interviewee, this encourages many women to enter the disaster management field.

6.3.4.1.3 Working condition/ accessibility issues

Another challenge faced by many women officers in disaster management is accessibility and working environment-related issues. C7 and C9 described how the working environment affects women engage in DRG. C7 added, *“For example, the situation in Colombo DivS area is completely different from an office in either Kurunegala or Kegalle. The reactions and community engagement and even the officers’ reactions are different. Especially this may be challenging for a woman to work with a very poor and low level of societal standards and with an environment with lots of social and economic issues.”* C2 and C4 highlighted another aspect of accessibility issues related to limited skills. For example, most women officers cannot drive or ride which reduce their independence in the working. Due to limited driving skills, most women officers depend on work colleagues, fellow officers, or husband. The situation affects their independent decision-making significantly.

Hence, interviewees proposed several suggestions to overcome the challenge. One suggestion made by C9 was to initiate a work from home culture, which is applicable since preparedness measures can be easily coordinated in this way. For this arrangement, allocation of more resources would be necessary. C9 also added, *“So it has to be a powerful character to work here. Because of this diversity in the community, work pressure and system become hard and complex. However, the situation would be different, if you appoint officers who were born and brought up in the area, they could manage well”*. Thus, appointment of officers from their area was recommended, especially for the lower level. Furthermore, understanding and making some changes to the environment through awareness-raising in the community was recommended by C9. C9 also recommended to develop personalities to become strong characters. According to C7, an officer’s prior experience working in a diverse environment will help them face this challenge. C2 and C4 proposed to acquire additional skills like driving skills and other life-saving skills, which enhance their independence in working and decision-making in disaster management.

6.3.4.1.4 Extra pressure from the community

Several interviewees identified community pressure as a challenge for their empowerment in DRG. C1, C7 and C8 explained how community pressure arose *after disasters*. Working under such pressure is challenging for women since women are regarded as oversensitive.

Thus, the provision of disaster management education for women officers was recommended by C7 to address the challenge. The interviewee believed that sound knowledge in DM education and experience could help in handling community pressure effectively. C8 also added, *"It is good to have a good education, which helps us to understand the community and people behaviour. Especially when working in the community, the community express their difficulties and requirements differently. Education could help to stay calm, stay strong and understand the situation clearly"*.

In addition, a clear understanding of roles and responsibilities can help the officers to become empowered in DRG, as pointed out by C1. The interviewee explained, *"We are to provide service to the public similar to the roles of political authorities. Politicians are also there to provide service to the public. People approach politicians if government officers are unable to help them. So, as public servants, if we can deliver our services for the public, then we can minimise the undue influence from politicians."*

Moreover, training was recommended to strengthen women's empowerment in DRG. C7 added, *"The officer should be prepared and trained through training. Training matters on how to work with a diverse community and with confidence."* The interviewee further suggested introducing rules and regulations to overcome the pressure from the community. The interviewee added, *"We have to follow the rules. In terms, it helps to protect the officers as well"*.

The abovementioned challenges related to job-specific are presented with the suggestions based on the Colombo case study interviews in Figure 6.5 in a Cognitive Map.

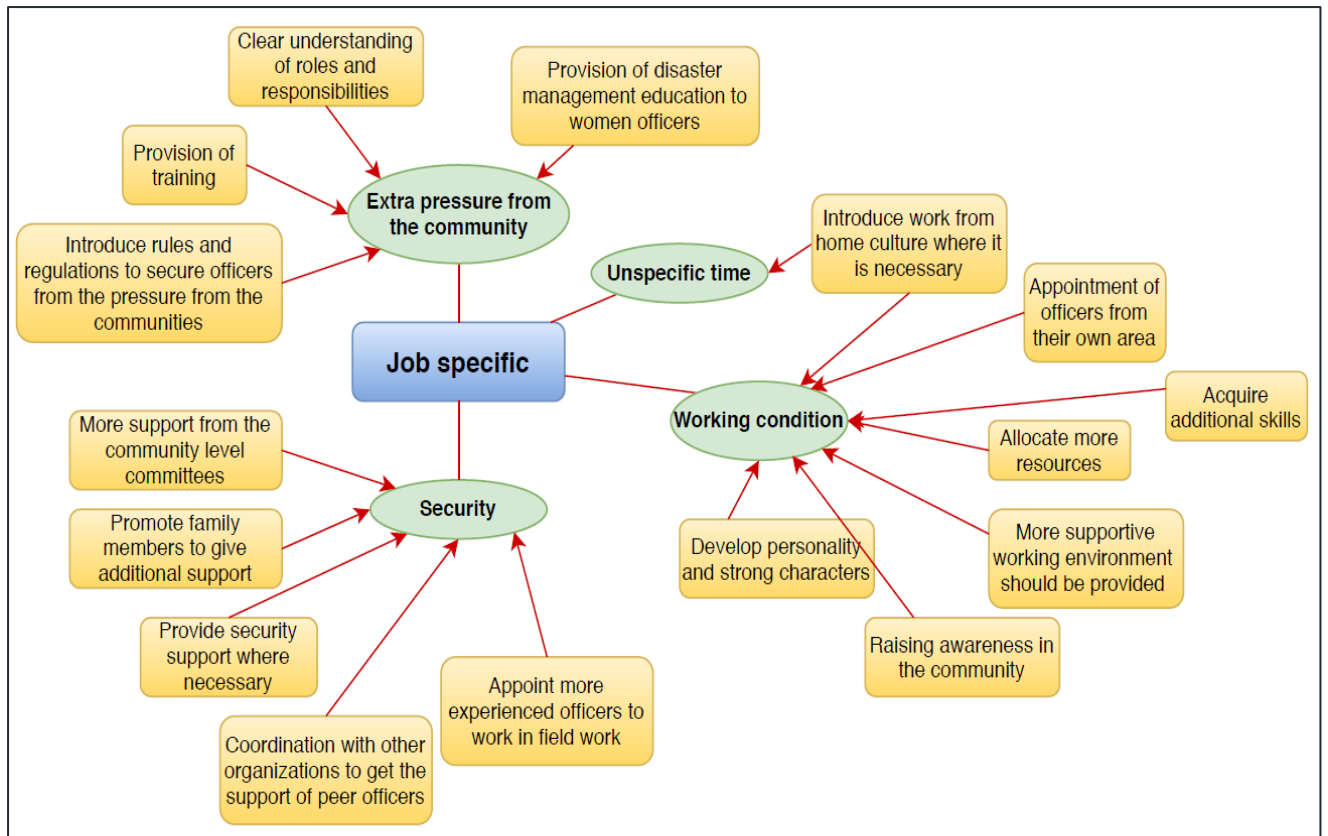


Figure 6. 5 Job-specific challenges for women's empowerment in DRG within the preparedness system with the suggestions Colombo district

Source: Prepared by the author

6.3.4.2 Socio-cultural challenges

Three types of socio-cultural challenges were identified based on interviews' outcomes: cultural norms, household workload and lack of support from the community.

6.3.4.2.1 Cultural norms

Cultural norms were identified as a challenge for empowering women in DRG in the district preparedness system. C1 explained how socially or culturally assigned duties affect their level of empowerment in DRG, stating, "As a practice, higher or lower women officers have to deal with personal matters. For example, when their kids are sick, women officers may be on leave; when there is a parent's meeting or school meeting, women officers are on leave. This type of leave is not related to men. Such concerns come as a part of the cultural aspect of the society." Hence, cultural norms were identified as a significant challenge to women to be empowered, limiting their full capacities and commitment. C1 added, "Mostly child-related matters are assigned to women by culture". C9 also stated, "This is much easier for men than women. Especially the Sri Lankan system, our culture. Women are

expected to be at home in the evening and look after all the household work, irrespective of the position in the work environment. They struggle in this situation."

C1 suggested establishing affordable and reliable childcare services for women officers working in disaster management. C1 and C11 proposed raising awareness in communities as another suggestion. C1 added, *"There should be a change in the society, and the family should understand how important the work done by women in office, especially at the office related to disaster management."* C11 explained how community awareness should be conducted for effective results. Accordingly, the awareness programmes should be conducted either in the evening or at weekends to increase participants, including men and women. The interviewee added, *"If the message is targeted to the wider community, change the time. The awareness should not be targeted only at women but men as well. They are the issue, and they should understand women's issues, and their support is highly important."* C9 highlighted that raising awareness is critical to change cultural beliefs deeply rooted in society.

6.3.4.2.2 Extra household workload

Many interviewees revealed that household workload affected the level of their empowerment in DRG. According to C4, *"In Sri Lanka, women are usually expected to cook three times, but now at least two times a day. This is a burden for women, especially working in disaster management related jobs."* C6 also further added, *"Actually, most women in administration find it difficult to managing both office and household work."* C8 and C9 revealed how challenging to balance both household and disaster management duties when you have children. C8 added, *"I have a small child. I need to make sure that my kid is secure for me to work with a clear mind. It is not safe to keep a child alone at home. Though you have a servant or a maid, it is not safe. In Sri Lanka, keeping a maid is very costly and sometimes not safe."* C1 also explained a similar situation, adding, *"Her maid will decide women officers' attendance on a particular day."*

As for recommendations, the provision of affordable childcare services was suggested by C1, C2 and C6 to address the issue. Interviewee C1 added, *"Like, childcare facilities and so on. Because most urban women depend on maids at home since they live in nuclear families. Child-related matters are assigned to women by culture. If any child-caring facilities are available, women officers make more commitment with the work especially to engage with disasters situation."* C2 also added, *"If I do not have my parents' support to look after my children, I cannot engage to this level."*

C4 suggested providing some extra payment as compensation for women who struggle with balancing household and disaster management duties as a solution. The extra payment could be used to pay for childcare services or buy some ready meals when busy at work. In addition, raising awareness in the community was suggested by C1, C7 and C11 to reduce household duties culturally assigned to women. C1 explained, *"There should be a change in the society and the family to understand how important the work done by women in office, especially at the office related to disaster management. The awareness in society is a necessary thing to support for women working in the field."*

6.3.4.2.3 Lack of support from the community

Another challenge identified by the interviewees was the lack of community support. C2 and C4 explained that even though village-level disaster management committees comprise both men and women, the workload is finally assigned to village-level officers. At the village level, there is an issue related to lack of motivation to take responsibilities. Hence, the interviewees suggested developing role models in the community as a strategy to create morale and motivation among village level officers and the community towards disaster-related matters. Such role models can demonstrate the importance of their job in disaster management. C2 supported by stating, *"We see a good role model from our Divisional Secretaryt as a women administrator. Because of her, all our GN officers are motivated."*

Accordingly, C6 proposed raising community awareness as a strategy to get community support and understand the role of women officers in disaster management. The interviewee further suggested how schools can initiate such behavioural change in society as part of their curricular, adding, *"Mainly education matters a lot for such behavioural change. We try hard to create a culture among children in schools."*

The above-explained challenges and the suggestions are presented in Figure 6.6 in a Cognitive Map.

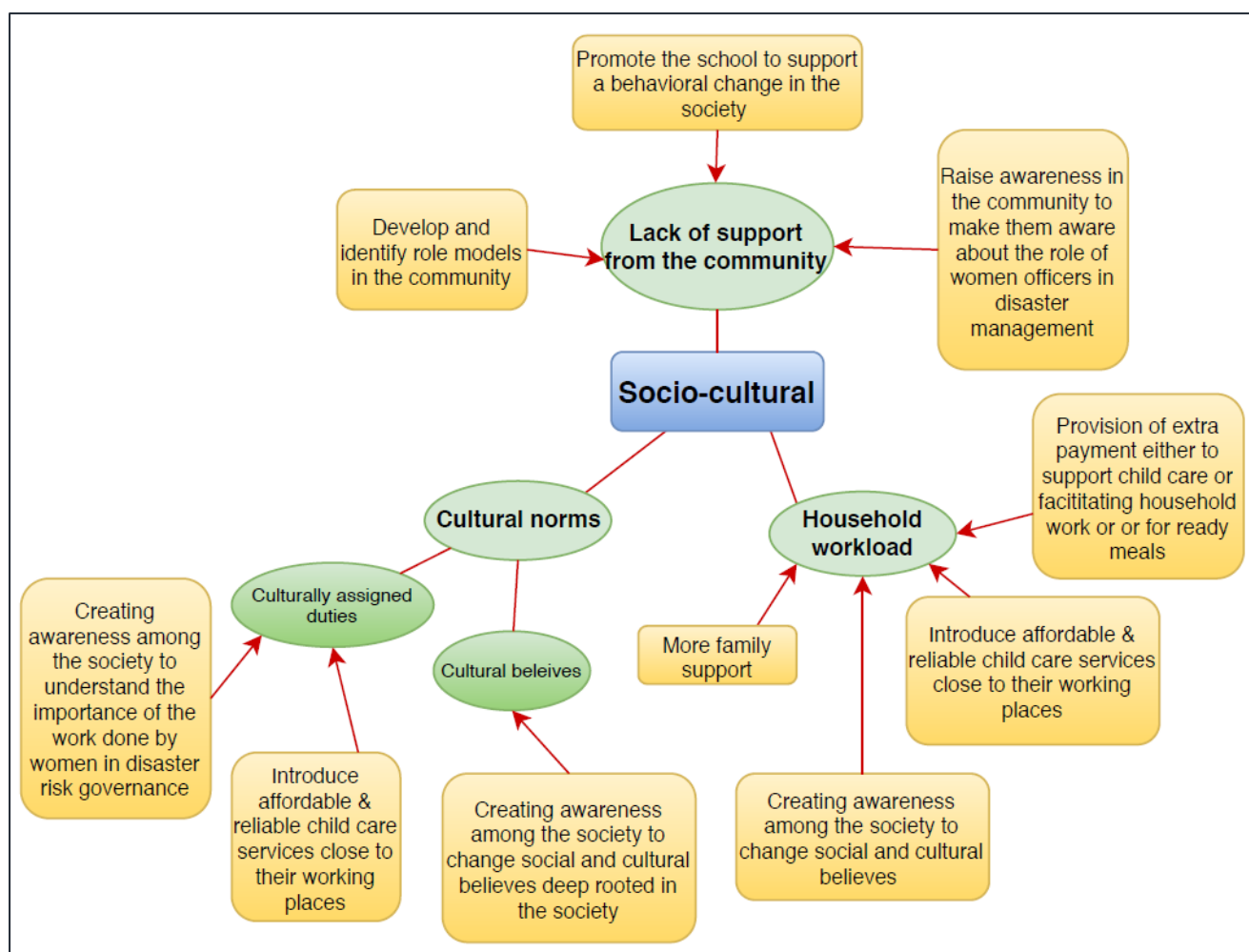


Figure 6. 6 Socio-cultural challenges for women's empowerment with the suggestions Colombo district

Source: Prepared by the author

6.3.4.3 Individual challenges

Four individual challenges were identified from the Colombo district case study analysis. Disappointment among officers, limited experiences, limited disaster management knowledge and limited skills are the challenges.

6.3.4.3.1 Disappointment

Disappointment among women officers engage in DRG was identified as another challenge towards their empowerment. According to the interviewees, disappointments were arisen due to many reasons. C2 and C3 explained how resource inadequacy leads to disappointing women officers working in disaster relief efforts at the divisional secretariat office in Kaduwela and finally gave up her appointment. Interviewee C2 added, *"It is very difficult to believe that there are not any facilities to perform duties, with the limited infrastructure*

or resource limitations. These difficulties lead to many issues such as waste of time and concentration. Previous officer left the office because she could not work with the resource limitations.” C3 added that another aspect of disappointments came through the community as well as higher-level officers. The interviewee stated, “Especially after the 2016 flood, I am not happy with the GN job because of the unnecessary workload assigned to us. In addition, no recognition from higher authorities and the community. Instead of the recognition, people in the division complained us for not visiting them.” C4 supported this idea by adding, “Engagement in disaster risk governance has become an additional duty to our routine duties. The Divisional Secretary instructs to establish a committee. Accordingly, we set up the committee and the disaster preparedness plan. However, we received complaints when implementing these plans.” C9 explained that disappointments came through due to lack of motivation or compensation for their commitment. C9 explained, “These officers are working hard without considering their effort and time. Nevertheless, there is no compensation for them who work day and night at the lowest level.”

To overcome the disappointments faced by women officers, C6 suggested introducing a method of appreciation. C2 suggested identifying and use role models to raise motivation and interest to further engage in disaster management. C1 and C2 further recommended to allocate adequate resources to address the disappointment issue.

6.3.4.3.2 Limited experience

Another issue highlighted by several interviewees was a lack of experience. Due to a lack of experience in disaster management, many women officers are reluctant to be empowered in DRG. C5 stated, *“I do not have any prior experience of working in floods.”*. According to C6, the situation is further complex among newly appointed officers since they do not have enough experience working in disaster management. The interviewee added, *“There is a certain level of pressure from male officers in the organisation. They highlight that newly appointed women officers are unable to perform well since they do not have any experience.”*

The suggestion made by C4 is to provide some training for women officers in disaster management. The interviewee added, *“And we need training on how to plan and engage with disaster management. No one has such training or knowledge on DM. Officers work according to their experience and the instructions from the higher level.”*

6.3.4.3.3 Limited knowledge in DM

Several interviewees identified a lack of adequate knowledge in disaster management as a challenge for women's empowerment in DRG. C1 added, *"One of the main challenges is limited knowledge in disaster management. Our officers have limited knowledge compared to other countries. The knowledge is limited among our officers, particular with lower-level officers. Even though the Sri Lankan literacy rate is high, we do not have new knowledge. When compared to an officer in a developed country, the level of knowledge and training for our officers is minimum."* C2 supported the idea stating, *"I am not very familiar with the preparedness plan since I cover Shaana Officer's work. Sahana officer made some maps for the GN levels."* C3, C4, C5, C8 and C11 underlined the same challenge. C5 added, *"We do not have good knowledge of disaster management. However, we are involved in disaster management. Gaining disaster management knowledge is our right. We struggle to acquire disaster management knowledge."* C8 further supported, stating, *"I do not have specific diplomas or degrees in disaster management. We received some training on disaster management at the ministry."*

Accordingly, several interviewees suggested acquiring some disaster management knowledge as a suggestion. For example, C1 added, *"Knowledge should be renewed, updated and improved. For example, even though the number of mobile phones is doubled the size of the population, its usage has not been towards knowledge creation, dissemination and advancements."* C11 also supported the suggestion made by C1, adding, *"Provide them some basic knowledge about the disaster management system."* C6 and C8 also commended the suggestion made by C1 and C11. In addition, training was suggested by C1 and C8 as other suggestions to overcome the challenge. According to C1, *"I strongly believe that training is essential. Because training helps to update knowledge always."* C8 particularly mentioned the importance of overseas training to acquire knowledge and experience. Promoting women officers to enrol in higher education was also suggested by C1 and C6. They explained that women officers would acquire multiple benefits that help their empowerment in DRG through higher education. C6 added, *"Promoting women for further education will benefit them and bring their knowledge to their jobs. Especially, if we can introduce further education for GN officers would be helpful. They can improve their capacities with the jobs."*

6.3.4.3.4 Limited skills

According to the interviewees, limited skills among women officers significantly challenge their empowerment in DRG. C5 explained how her knowledge of computers and languages helped her in disaster decision-making. The interviewee further emphasised that most of her fellow staff do not have such skills, and they find many difficulties performing their jobs.

The interviewee explained how her additional skills helped her performing and preparing for disasters at the GN level, explaining, *"I can assess wen Nagalagam Street release water, how many feet of flood will be there, and accordingly how many houses within GN division will be affected. There I can see on my computer how many houses and people will be affected. This helps me to find the correct applications for processing relief assistance. Nobody can claim relief assistance without being eligible. This system discouraged applying for relief assistance by ineligible people. They know that data is recorded and maintained at the DivS office. I developed this system. I completed a computer course as well as an English course."* C4 also added, *"We have limited knowledge about new technology like computers and internet facilities and access to emails etc."*

Several interviewees suggested giving training and acquiring some additional skills as the solution. C4 mentioned, *"Training would be useful. We would like to learn if facilities are available."* C6 further added that acquiring interpersonal skills and IT skills through training helps them address the issue. C4 suggested, *"Even though we are given motorcycles, many women officers cannot ride them. We do not have a driving licence and cannot drive. We would like to acquire these additional skills."* C1 also suggested engagement in higher education to acquire many other skills required for their empowerment.

The above-explained four types of challenges related to individual considerations are presented with the suggestions based on the Colombo case study interviews in Figure 6.7 as a Cognitive Map.

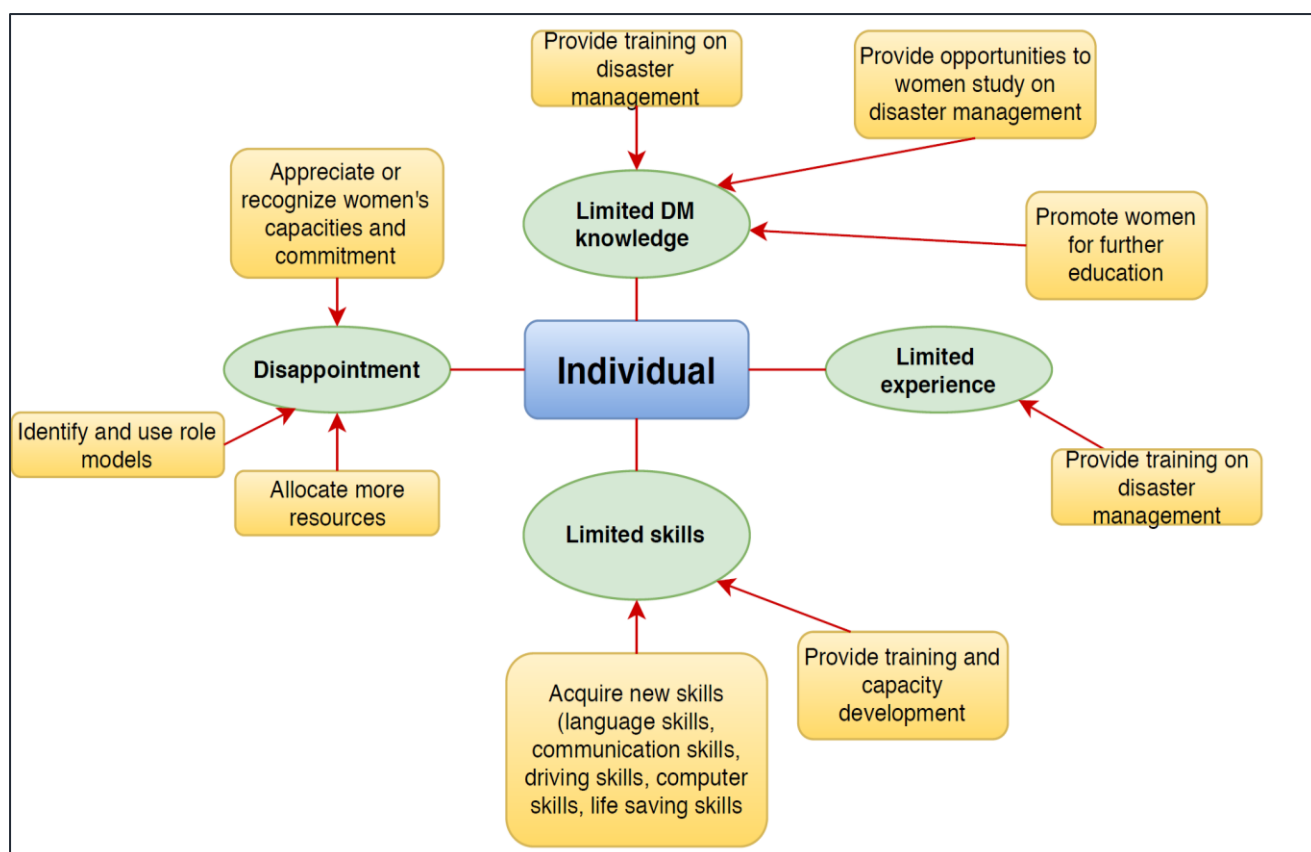


Figure 6. 7 Individual challenges for women's empowerment with the suggestions Colombo district

Source: Prepared by the author

6.3.4.4 Legal and policy challenges

Two legal and policy-related challenges were identified as the extra burden of the Sri Lankan education system and the limited support from the existing legal system, as presented in Figure 6.8.

6.3.4.4.1 Extra burden of the Sri Lankan education system

C2 identified the extra burden of the Sri Lankan education system as a challenge for women's empowerment in DRG. According to the interviewee, *"We do not like to send our kids to a closer school. This is the Sri Lankan education system and our culture. We could not send our child to a nearby local school. Therefore, we would like to send children to a reputable school even though the school is too far. As a result, we arrange transport. We also send our children to extra tuition classes."* The present education system has been considered a burden, especially for women officers who engage in disaster management. C5 also commended by added, *"Today I want to pick my daughter from the school and take her to the classes. These are other extra work created by the education system*

especially for women in administration." Due to social norms, women bear the burden of children's education in Sri Lanka, and the education system is a competition among children and parents.

The suggestion was either to heavily depend on family support or change the present education system, according to C2. The interviewee stated, *"I take care of kids with the support of my parents to manage work and family. I also suggest a change in the education system, overcoming competition and quality education among all schools in Sri Lanka."*

6.3.4.4.2 Limited support from existing legal provisions

C1 and C2 identified another challenge for women's empowerment in DRG: the lack of supportive legal provisions for women's empowerment. C2 stated, *"No supportive laws in favour of women appointments so far."*

Accordingly, C1 suggested introducing supportive legal provisions to assure women's empowerment in DRG. C1 further added, *"We propose to introduce some additional measures through rules and regulation to define and refine the duties and responsibilities of officers in these institutions, including disaster management."* C2 explained some examples, such as securing specific leaves for women. The interviewee explained, *"We have 84 working days as maternity leave in the government sector. One hour for breastfeeding, leaving one hour before the office time."* If further extended leave could be introduced for maternity leave with some payment, more women will be attracted to the disaster management field. Besides, C10 suggested increasing the level of involvement of the Ministry of Women Affairs and other related ministries for securing women's empowerment at the policy level.

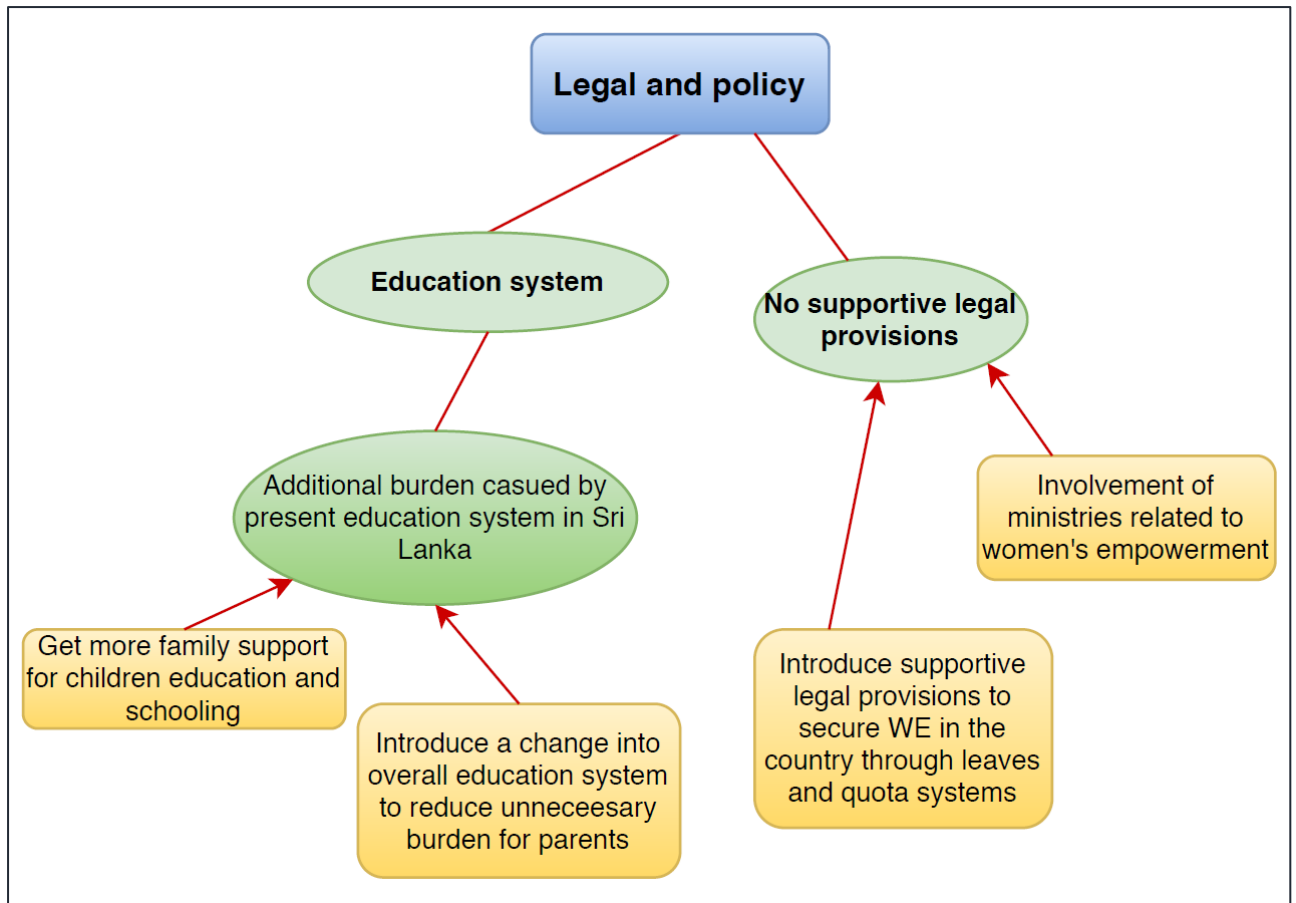


Figure 6. 8 Legal and policy challenges for women's empowerment with the suggestions- Colombo district

Source: Prepared by the author

6.3.4.5 Organizational challenges

Extra workload, leave related issues, job security, limited opportunities, limited resources and minimum motivation were identified as challenges for women's empowerment within the organisational category.

6.3.4.5.1 Extra workload

According to C3, women officers working in disaster management are overloaded with heavy workload. The interviewee explained, "We do not receive any additional benefits for working in disaster preparedness, except for extra workload. Now I am looking after two GN divisions. We work with stress in this job. We have a significantly overloaded workload caused by consecutive flooding in our GN divisions. I am unable to explain the workload we perform." C4 reconfirmed the same challenge by adding, "Human resources are the main limitation. We do not have adequate officers to accommodate relief assistance at once."

C4 suggested coordinating with other institutions to get their support as a recommendation. The interviewee added, *"We could coordinate with relevant local agencies to make effective preparedness mechanism in the GN division."* According to C4, the extra workload could be shared among officers in other organisations through such coordination. For example, coordination with the Ministry of Public Affairs would be advisable to get the support of Samurdhi and Development officers.

6.3.4.5.2 Leave related

Women officers are not encouraged to be in the disaster management structure. One of the reasons is maternity leave. C6 added, *"Women officers are entitled for maternity leave as a work right. If some officer led down women due to this maternity leave, I consider their act as jealously or negative attitude."* The interviewee explained how maternity leave affects their appointment and promotions in disaster management organisations. Most male officers do not like to cover the extra workload caused by women officers on maternity leave. Similarly, C1 and C6 explained another instance where women officers are discouraged or discriminated due to leave related issues. For example, mothers have to attend to their children needs, especially when they are sick or their school matters.

The suggestion made by C6 was to raise awareness in the organisation, about how vital is women workforce in the DRG. C1 suggested to introduce supportive rules and regulations through introducing flexible working pattern for them promoting women's empowerment in DRG.

6.3.4.5.3 Job security

Many interviewees identified job security as a challenge when making independent decisions in disaster management. C6 and C7 explained that women officers are afraid to make some decisions because of the pressure on their job security, which significantly affects their empowerment in governance.

C6 and C7 recommended introducing necessary rules and regulations to secure job security. C6 added, *"Through a sound legal system could safeguard when performing duties."* C7 complemented the above idea adding, *"Rules and regulations are important when making decisions. It helps to empower women and others since it provides job security for decision makers."*

6.3.4.5.4 Limited opportunities

C8 identified another challenge for women's empowerment in disaster management within the Sri Lankan disaster preparedness system. Women have limited opportunities to be empowered in disaster risk governance. The interviewee stated, *"We receive some training on disaster management at the ministry. These training are mostly residential training and very limited to non-residential training. Unfortunately, most of the senior officers in disaster management attend those training. I received training only operated in Sri Lanka."* The interviewee explained the reason as those women are assigned only national-level training assuming that they cannot attend overseas training due to household commitments.

Nevertheless, the suggestion was to provide equal opportunities for women to take advantage of training, including national and overseas training. C8 explained how crucial such training is for officers adding, *"As officers, we involved with the community. However, we would like to attend overseas training, which provides us more confidence, experience, and exposure."*

6.3.4.5.5 Limited resources

Limited resources have also challenged women's empowerment in DRG. C2 stated, *"Very unfortunate to talk about this situation. Even for the previous officer (lady), Sahana officer, did not have a table, a cupboard to keep all documents, no computer, and no printer, even there is no direct telephone, no fax."* C4 reconfirmed the challenge by adding, *"Our main problem is resources. We do not have any additional resources for performing our duties related to disaster management. Especially no telephone facilities, computer facilities, transport facilities, internet etc. No infrastructure facilities at all. We do not have a telephone, a computer, a mechanism to coordinate with the Disaster Management Ministry directly. We do not have adequate human resources and infrastructure facilities, transport facilities etc."* C5 also mentioned, *"I make a purchase request; it will take more than a year. I made such kind of request three years ago. If I wait for this to be done by the Divisional Secretariat or the government, it will not make my job easier."* According to C8, *"When performing duties within disaster management, we find many resource limitations as officers. When there is a disaster, there is no fax machine for the officers. We go to the other divisions to get any necessary equipment. When there is a disaster, I am the only Sahana officer appointed to the division."*

To overcome the resource limitation related challenge, the interviewees C2, C4 and C11 recommended either coordinate with other organisation to share the resources or provide adequate resources.”

6.3.4.5.6 No motivation

C3, C4, C5 and C9 identified lack of motivation from the organisational setting as a challenge for women engaged in disaster management. C3 explained, *"We do not perform our job as GN officer, but we perform another job. We did not have any issues performing as GN officers. We do not receive any extra payment for working day and night using our resources (vehicles, telephone, telephone bills, all our commitments etc.)."* C4 also confirmed, adding, *"There is no motivational method for women to be empowered in the system. It is just an additional duty."* C5 reconfirmed, *"Many of our GN officers do not want this additional burden since it does not give any benefit for them."*

One of the suggestions was the provision of training on disaster management. C9 added, *"Some training would be helpful as motivation for their commitment."* In addition, C2 suggested introducing some rules and regulations as measures to motivate them. For example, the interviewee explained how flexible maternity leave would motivate in the risk governance. In addition, organisational level appreciation could be introduced, suggested by C6. C2 suggested introducing some role models. C6 further suggested promoting awareness in the community adding , *"We tried to raise awareness among community women showing ourselves as role models. For example, we highlight some role models highlightinmg their achievement and personalities during our weekly meeting."* C7, C8 and C9 also confirmed the same suggestion. C4 suggested provision of more benefits as a strategy to motivate women in DRG. For example, giving some extra payment and allocating more resources for them.

The above-explained challenges are presented with the suggestions based on the Colombo case study interviews in a Cognitive Map in Figure 6.9.

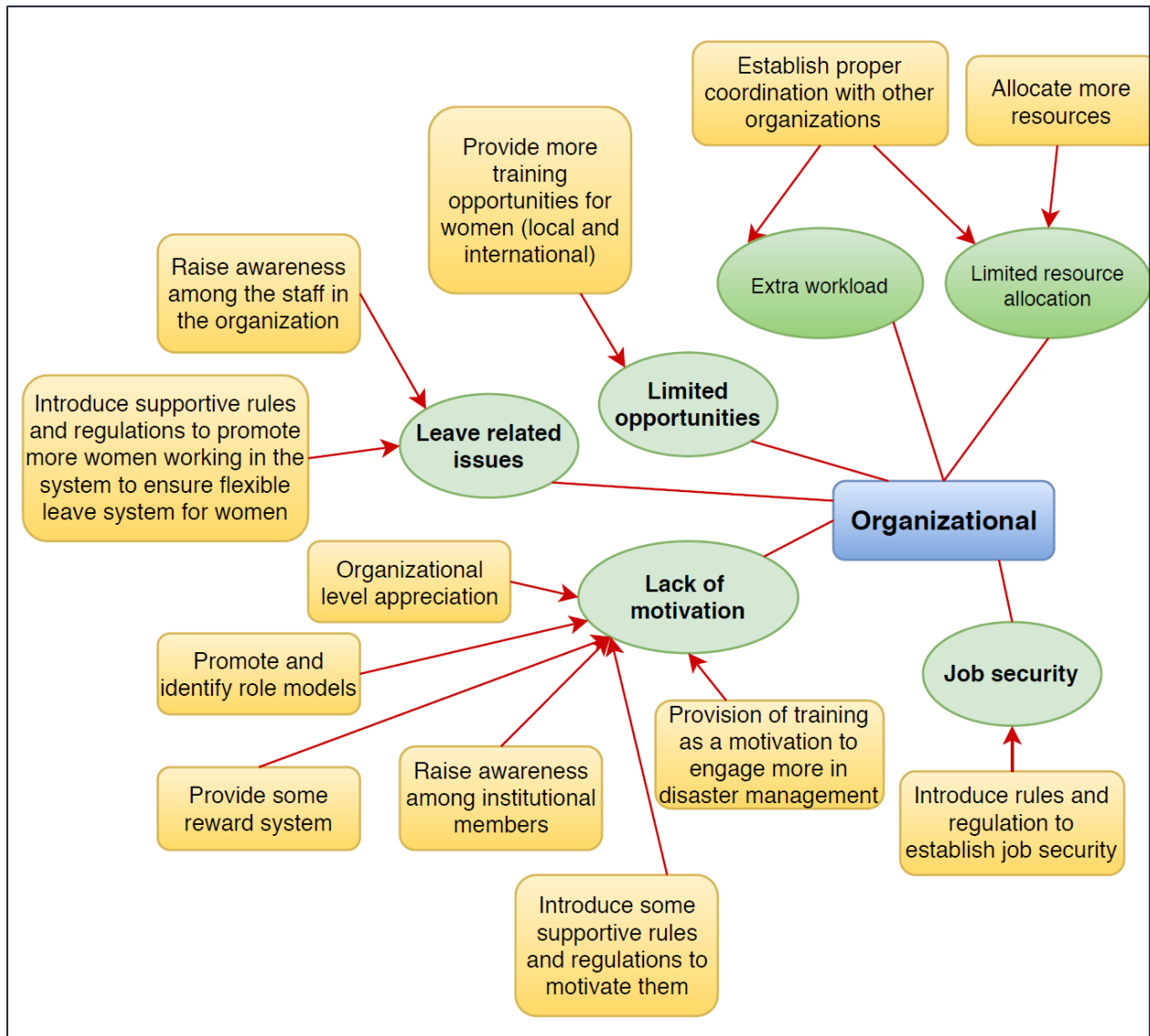


Figure 6. 9 Organisational challenges for women's empowerment in DRG with the suggestions- Colombo district

Source: Prepared by the author

6.3.4.6 Political Challenges

Undue political influences faced by women officers working in the disaster preparedness system in Sri Lanka was identified as a challenge for women's empowerment.

6.3.4.6.1 Political interferences

Political interference was identified as a challenge for women's empowerment in establishing disaster risk governance. C1 stated, "This is not the same situation for everywhere. Some of my colleagues, similar to my position, have some influences and difficulties when working with political authorities." C6 also reconfirmed a certain level of

political influence, though it was not an issue in their district. C7 also added, *"Some politicians try to influence or threaten women officers."*

Interviewees presented multiple suggestions. Developing rational decision-making skills among women officers in disaster preparedness was recommended by C1. The interviewee added, *"Some background support from the places where I worked previously. As a practice, I do not take decisions irrationally. I carefully listen to people to understand their issues and like to explain them in return. So, most of the issues are solved easily."*

The interviewee further suggested to strictly follow rules and regulations to control unnecessary influence from political parties. C1 further explained how your party politics affect your independent decision-making in the system. According to the interviewee, *"As a government servant, I do not have a strict political party. I have the freedom to vote based on my evaluations for the benefit of the country. If our country benefits, we will be benefitted. I have good support from the politicians and believe that they have a good impression of me. So, I do believe that government servants can work without political influence. I work with two ministers in the district. I have their support. I do not have any unnecessary influence at the official level."* In addition, a clear understanding of their duties within the risk governance has helped them achieve their empowerment.

C6 and C7 highlighted how vital is courage and confidence to face the challenges caused by political influences. C7 explained by adding, *"Women officers' confidence and experience are highly important to deal with disaster management."* C6 complemented, adding, *"I should have the courage and confidence to tell them or make them understand the right procedure to follow when you do your job. In addition, we can refer court cases, or we can make a complaint to many commissions if you really face any undue influences."* C6 also highlighted how important it is to develop a personality. The interviewee explained the strategy by adding, *"For me, experience, authority, and personal relations are highly important in empowering women in disaster management."*

The above-explained political influence was identified as a critical challenge for women's empowerment in DRG and presented with the suggestions based on the Colombo case study interviews in Figure 6.10 in a Cognitive Map.

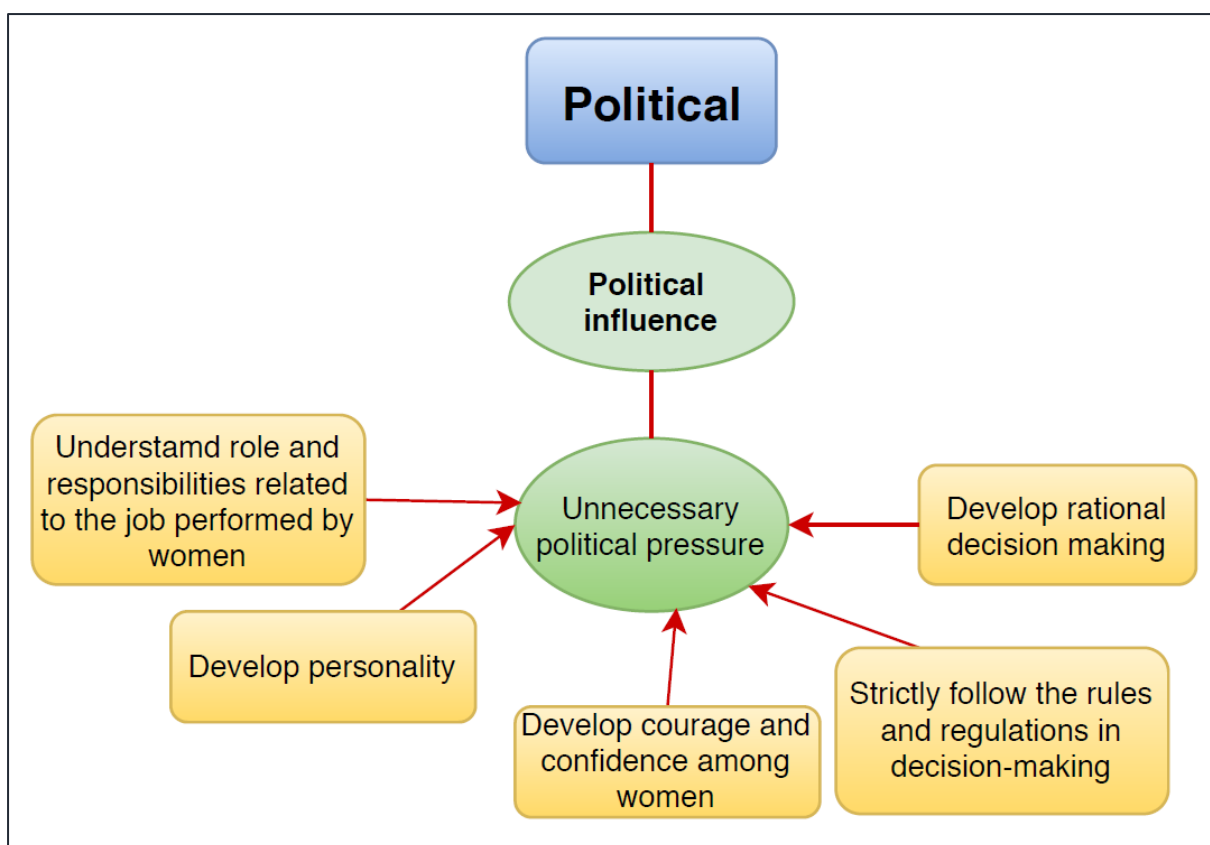


Figure 6. 10 Political challenges for women's empowerment in DRG with the suggestions- Colombo district

Source: Prepared by the author

6.3.5 Favourable conditions for WE in DRG

In addition to the challenges mentioned above, two favourable factors supporting women's empowerment in DRG were identified. The first favourable condition was women's enrolment in higher education, which helps them to secure jobs in the disaster management system in Sri Lanka, as highlighted by C2. The interviewee added, *"Education among females than ever before. Women involved in higher education."*

The second favourable factor for women's empowerment in DRG is family support. For example, C2 added, *"I do my job and take care of kids with the support of my parents."* According to C3, *"I get a lot of help from my parents, in-laws and my husband during all these emergencies to perform my duty. My kids are looked after by my parents while my husband works. He looks after household work. Without this family support, we cannot do these jobs. I emphasise that my whole strength is the support from my family."* C4, C5, C6, C8 and C9 confirmed the same fact, emphasising how vital family support is for women's empowerment. C4 added, *"This is because we receive a lot of assistance from families, especially for married women from her husband. But for unmarried women, I am*

not sure how does they manage during such events. Their parents cannot help them.” C9 stated, “More than 95% of women officers receive support from their husbands to complete their jobs, especially during a disaster.”

After identifying the challenges with the suggestions to overcome the identified challenges in the district, Figure 6.11 presents the summary of the Colombo district case study findings.

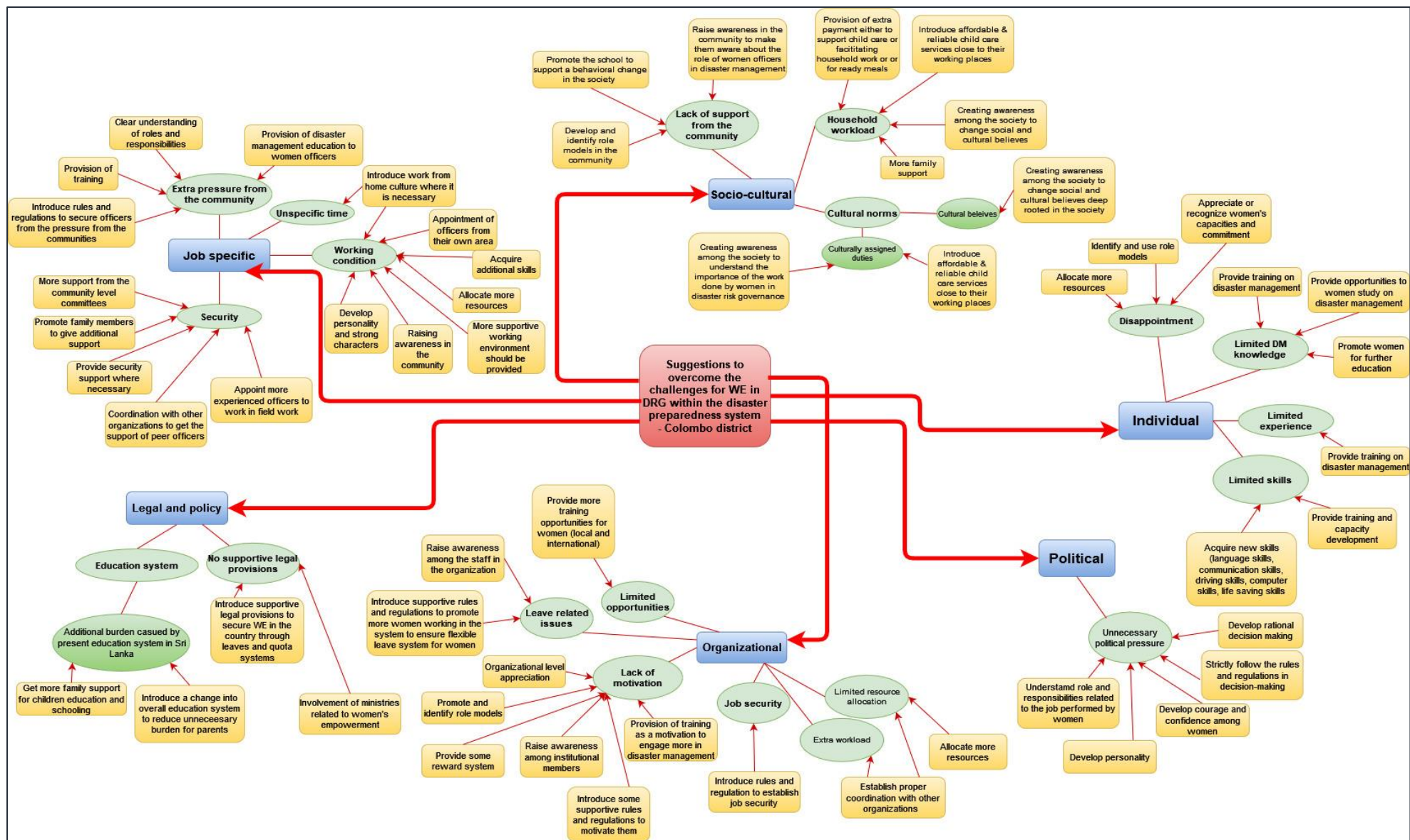


Figure 6. 11 Summary of Colombo District case study analysis identifying the challenges affecting women's empowerment in DRG with the solutions

Source: Prepared by the author

6.4 Kalutara case study

6.4.1 District disaster profile and the disaster preparedness system- Kalutara district

Kalutara district is frequently susceptible to natural hazards, as described in Section 3.9.3.3. Several interviewees further highlighted common hazards in the district. KA1 identified flooding as one of the most frequent natural hazards in the district. The interviewee explained, "Kalutara is the lowest area where all excess water is drained to the sea. Until we open up the mouth to the sea, Kalutara is flooded." KA2 further added, "When there is rain in Rathnapura district, all excess water and mudflow from highlands flooded Kalutara district." In addition to floods, tsunami, cyclone and drought conditions are also prevalent in the district, as explained by KA2 and KA5. Recently, landslide incidents overtake other hazards in the district. Five landslide-prone areas in Agalawaata, Matugama, Walallawita, Bulathsinghala and Panadura Divisional Secretariat Divisions were identified in the district. The interviewees further expect an increase in disasters in the future.

After the 2016 floods, the district prepared a disaster preparedness plan. The KA1 added, *"Today, we had a discussion with the Parliament Minister for Kalutara for making flood prevention plans for Kalutara district. We discussed the necessity of cleaning the existing canals to cope with future flooding. So, we are working towards that plan which would be implemented next year."* The interviewee further explained that they closely work with the Town Councils since they have more resources.

Interviewees revealed several issues associated with the present preparedness system. For example, KA1 and KA2 identified a lack of cooperation and understanding among communities as a challenge within the district preparedness system. KA2 identified another challenge, stating, *"We have issues related to Kukule Ganga. When the sluice gates (waan doratu) open in Kukuleganga, some villages are flooded."* Thus, disseminating early warning messages through a separate system has become crucial. KA 2 explained, *"We cannot appoint all officers from the DDMCU. However, we have 14 Sahana officers (Disaster Management Relief Service Officers). We coordinate with the District Secretary, 14*

Divisional Secretaries and 762 GN officers in Kalutara.” According to KA2, “For example, if we receive a tsunami warning, we disseminate immediately to all 14 Divisional Secretaries through mobile phones. They have a system to disseminate from that point onwards, including disseminating to 762 GN officers and below. In Kukuleganga area, we have 150 officers in 15 GN divisions. When there is a possibility of increasing the water level in Kukuleganga, we send a separate SMS to our officers in that area. The system helps them to take immediate action to safeguard people. In addition, the Head Office uses media to disseminate information among the public.”

The disaster profile presented above justified the reason for selecting Kalutara district as one of the case studies. A high disaster profile in the district increases vulnerabilities among women in the district. Thus, women’s empowerment in governance should be secured within the district disaster preparedness system due to the following reasons explained by the interviewees.

6.4.2 Importance of women’s empowerment in DRG within the disaster preparedness system to reduce women’s vulnerabilities- Kalutara district

The interviewees’ data were analysed using the Nvivo software, as presented in Figure 6.12.

| | | |
|--------------------------------------|---|---|
| Importance of WE in DRG | 0 | 0 |
| Commitment | 5 | 8 |
| Easy to understand gender specific i | 4 | 5 |
| Equality | 1 | 2 |
| Experience | 1 | 2 |
| Free from corruption | 1 | 1 |
| Friendly environment | 1 | 2 |
| Good listening ability | 3 | 6 |
| Multi tasking capacity | 4 | 5 |
| Social benefit | 4 | 5 |
| Women prefer women officers | 2 | 2 |

Figure 6. 12 Importance of women's empowerment in DRG within the disaster preparedness system - Kalutara district

6.4.2.1 Commitment

Several interviewees identified commitment as one reason for empowering women in DRG within the district disaster preparedness system. For example, KA3 added, *"Two out of three Divisional Secretariat offices are headed by women administrators in the coastal belt Divisional Secretariat Offices. They have demonstrated their commitment to managing overall activities in the division, including disaster management. One advantage of appointing more women officers is their high performance."* KA4 commended that women officers give maximum commitment, understanding the importance of their contribution for effective disaster management. KA1 explained how they committed to their official duties adding, *"We take the responsibility as women officers with high priority. Some of our household level duties could be neglected. However, we do not neglect our official responsibilities."* KA2 explained a situation where no violence have been reported at temporary shelters during the 2016 floods. This is mainly because of the commitment of women officers worked at these temporary shelters. KA5 explained, *"Women work hard. They have committed nature for work."*

6.4.2.2 Experience

Another reason why women should be empowered in DRG was their experience. KA1 explained, *"Our experiences help us to make the right decisions. It helps to improve our decision-making."* The interviewee believes that women's experience can benefit the disaster preparedness system. Especially, women take many precautionary or preparedness measures at the household level to safeguard household members, properties, and relationships. Thus, such experiences benefit disaster management decision-making to strengthen the resilience to future disasters.

6.4.2.3 Friendly environments

Another reason for empowering women in DRG was their ability to create a friendly environment, as explained by KA3. KA3 added, *"They do not speak or express hard words. They can handle situations smoothly. This creates a very pleasant environment in the organisation."* The interviewee further elaborated their own experience where the interviewee got opportunities to learn some good qualities from women officers who work with communities. In addition, the interviewee

appreciated women officers for giving supportive comments towards effective decision-making.

6.4.2.4 Good listening ability

Women are regarded as good listeners. For example, KA1 added, *"Women officers have the good listening ability and understand carefully. Their experiences and patience are significant. Women can explain friendly and empathetically."* According to KA3, because of women's capacity and ability to be good listeners, they can handle situations smoothly, identifying the real issues. In addition, KA5 explained that good listening is significant to understand the issues/problems faced by women, mainly in camps. From KA5 point of view, *"As women officers, we understand many issues in the centres. People live in temporary shelters prefer to work with a female officer than male officers. This is because female officers carefully listen and understand many family issues than male officers."*

6.4.2.5 Multi-tasking capacity

Another reason why women officers should be empowered in DRG is their multi-tasking capacity. This capacity helps effective disaster preparedness strategy making. KA3, KA4, KA5 and KA6 agreed that women could deal with multi-tasks simultaneously. For example, KA6 stated, *"I believe women are mentally stronger to work under any situation. Moreover, they can perform multi-tasking."* Another interviewee, KA3, stated, *"They have shown very effective in managing overall activities in the division, including disaster management."*

6.4.2.6 Social benefit

In addition to the benefits of being empowered in DRG, there is a societal benefit. KA6 emphasised that through women's empowerment, society and community could be served for the betterment. KA1 too added, *"At the end of the day, we have some satisfaction by working here compared to my previous work in the ministry. You feel happy when you see happy people after helping them to solve their problems."* In addition, KA2 and KA3 emphasised that women's participation is essential in DRG to understand the difficulties and issues communities face. KA2 explained how women's empowerment in DRG helps to reduce the vulnerabilities of community women. KA1 added, *"I believe that empowering women in*

organisations, institutions and household level, it would be very easy to address societal issues."

6.4.2.7 Preference for women officers

Another reason why women should be empowered in DRG is that most affected women prefer to work with women officers than male officers. KA1 and KA5 agreed that women officers receive high recognition and welcome from society. Women affected by disasters prefer to communicate with women officers. Their confidence level increases when more women are involved in DRG.

6.4.2.8 Equality

Another justification why women should be empowered in DRG is to secure equality. KA6 emphasised that 50% of the population represent women. Thus, their views are essential in any field of decision-making and specifically for disaster management. KA6 explained, *"Women should represent in the decision-making because half of the population is women. Thus, equal representation should be very important, especially in managing disasters. Because most of the disasters affect more women than men."*

6.4.2.9 Easy to understand gender-specific issues

Women representation in DRG helps to understand gender-specific issues easily. KA6 emphasised, *"When women involved in disaster related decision-making, they understand gender-specific issues. Women face many issues staying in temporary shelters. These problems can be well understood by women officers and communicate to the higher authorities."* According to KA2, *"Especially men do not understand the situations as similar to women in leadership. They focus only on work."* KA3 and KA5 further added that women representation in DRG is essential since they can understand societal issues with a greater sense. Thus, the inclusion of their thoughts, ideas and recommendations will help to strengthen the effective preparedness mechanism.

6.4.2.10 Free from corruption

The last reason why women's empowerment is essential in DRG is due to the claim that most of women officers are free from corruption. KA5 explained, *"most of the*

time, women are genuine, free from corruption and bribes." Free from corruption could ensure governance, and thus, women must be empowered in DRG.

The reasons mentioned above are presented in Figure 6.13, summarising the importance of women's empowerment in DRG within the district disaster preparedness system.

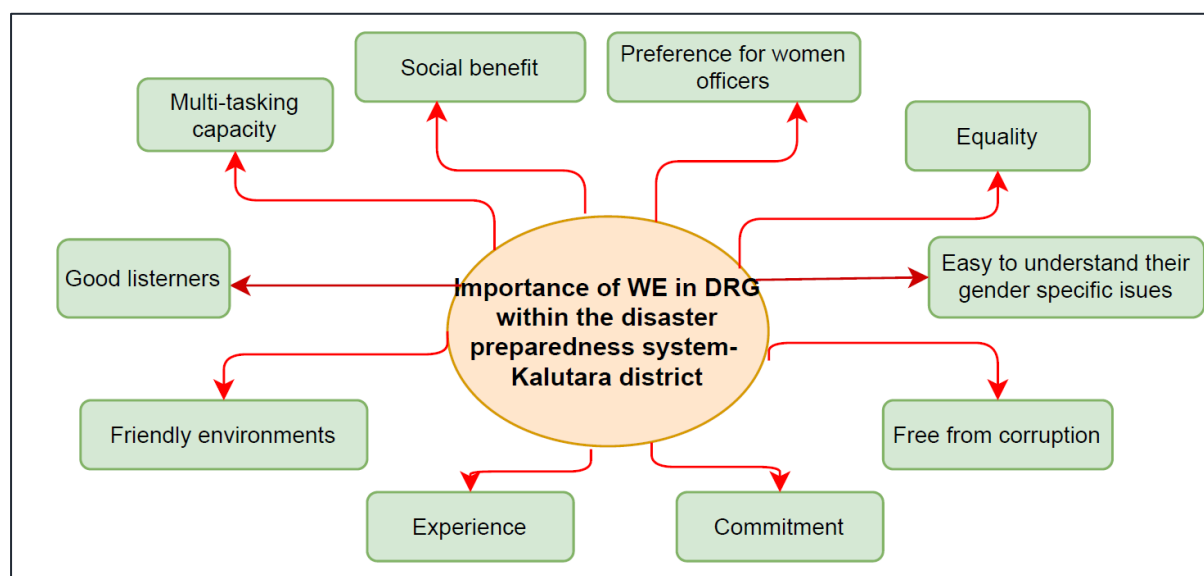


Figure 6. 13 Importance of women's empowerment in DRG within the district disaster preparedness system

Source: Prepared by the author

6.4.3 Evaluation of the present contribution of women in DRG within the district disaster preparedness system- Kalutara district

The present contribution of women in DRG in the district was identified based on interviews' outcomes. The level of women's empowerment flows from the District Secretary to the GN level. For example, the District Secretary is the highest position, which deals with the disaster preparedness system in the district and directly coordinates with the DDMCU. A male officer holds the Kalutara District Secretary position. An Army officer represents the Assistant Director of the DDMCU position in the district.

According to KA3, "We have six women (representing forces) officers working at the DDMCU. All of them are working as clerical staff. They do not go out of the office. All other officers are working both office and the field. No women officers are found in the field." In addition, at the DDMCU office, one lady officer and five male officers represent the DMC. The only lady officer works as management

assistance at the Kalutara DDMCU. Except for the only lady officer representing the DMC, other women officers work as clerical staff.

Nevertheless, the interviewee further highlighted some exceptional situations where they use women officers to support other duties. The interviewee added, *"When conducting a tsunami drill, we assign our women officers to work at the registration table at camps. They do clerical work"*. According to the interviewee, all 25 DDMCUs are operated under male Assistant Directors in Sri Lanka. KA3 further added, *"However only in Gampaha district DDMCU; woman officer was appointed temporarily as the Assistant Director to fill a gap. The previous officer went abroad."*

At the next level, the Divisional Secretaries participate in disaster preparedness and overall disaster management in the district. Out of the 14 DivS offices in the Kalutara district, eight represent women officers, according to KA1 and KA2. KA2 added, *"In the coastal belt in Kalutara district, we have three DivS Offices. Two out of three offices are headed by women administrators. They have shown very effective in managing overall activities in the division, including disaster management."* According to KA1, Sahana officers at the DivS offices represent men and women equally in the district.

At the village level, there are village disaster management committees operated under the direct coordination of the GN officers. GN officer plays a role in DRG within the disaster management system. For example, KA6 added, *"I represent the village disaster management committee. We prepare the village disaster management plan and send it to the divisional disaster management committee."* According to the interviewee, the village disaster management committee comprised some volunteer groups (most common groups in the village like the funeral assistance committee (Maranadana samithiya, youth society) members, some leading people in the village, and chief monks of the village attend to these village-level DM committees. The committee involves preparing a disaster preparedness plan, raising awareness, coordinating and conducting national level drills, and coordinating with disaster relief officers at the DivS office helping disaster response efforts.

KA2 also confirmed that most GN positions are held by female officers in the district. KA1 too added, *"Most of our GN officers are women. Most of our staff in the DivS office are women. Their contribute dealing with disaster response and*

preparedness stage.” The KA6 added, “We all work together, especially when there is a disaster. All officers actively work irrespective of day or night. We take some village level decisions etc.” KA4 also explained their role at the GN level, adding, “We mainly engage in preparedness measures as well as response measures. As preparedness measures, we do the GN disaster management committee meeting to identify the disasters at our GN level, make evaluation plans and maps, and identify safe routes and locations. And also conduct some training programmes and help in some tsunami drills. We also coordinate with the district office, DDMCUs.”

However, at the moment, most women officers involved in disaster response measures than disaster preparedness stage. More attention is given to disaster response than preparedness in Sri Lanka. However, after recent flooding incidents, some level of preparedness measures has been started across the system. Nevertheless, most preparedness measures have not been practised in the event of disasters, as explained by KA6. KA6 added, *“We are unable to implement village-level plan independently because the national level response straightaway takes over our role.”* This results in women officers being the implementers than planners, as described by EX5.

After identifying the level of women’s empowerment in DRG within the disaster preparedness system, the following section presented the challenges that affect their level of empowerment in DRG in the district. Based on similarities, the identified challenges were classified into six categories and presented below.

6.4.4 Factors affecting women’s empowerment in disaster risk governance within the disaster preparedness system – Kalutara district

This section presents the challenges identified within the Kalutara case study and is categorised into six categories. After presenting each challenge, the suggestions are presented. Accordingly, six Cognitive Maps were presented, demonstrating the challenges and their solutions. Figure 6.14 demonstrates the NVivo analysis outcome. Figure 6.15 demonstrates the Thematic analysis identifying six key themes based on the challenges identified.

| | | |
|------------------------------------|---|----|
| Challenges for WE in DRG | 0 | 0 |
| Individual | 0 | 0 |
| Disappointment | 4 | 6 |
| Lack of skills | 3 | 6 |
| Limited knowledge on DM | 5 | 6 |
| Personality | 2 | 3 |
| Job specific | 0 | 0 |
| Accessibility issues | 2 | 4 |
| Security issues | 3 | 5 |
| Unspecific time | 4 | 5 |
| Legal and policy | 0 | 0 |
| Education system | 1 | 1 |
| Limited opportunities | 2 | 2 |
| No WE policy or strategy | 2 | 2 |
| Organizational | 0 | 0 |
| Extra workload in the office | 5 | 11 |
| Limited power | 2 | 3 |
| Limited role models | 2 | 2 |
| Low confidence on women's decision | 2 | 2 |
| No motivation | 3 | 3 |
| Patriarchal culture | 2 | 8 |
| Poor coordination with NGO | 1 | 1 |
| Resource limitation | 3 | 3 |
| Political | 0 | 0 |
| Low number of women in politics | 3 | 3 |
| Political influence and support | 4 | 5 |
| Socio cultural | 0 | 0 |
| Cultural norms | 5 | 7 |
| HH responsibilities | 5 | 11 |
| High dependency | 2 | 3 |
| Low awarenss programmes | 1 | 1 |

Figure 6. 14 NVivo analysis - Challenges for women's empowerment in DRG within the disaster preparedness system- Kalutara district

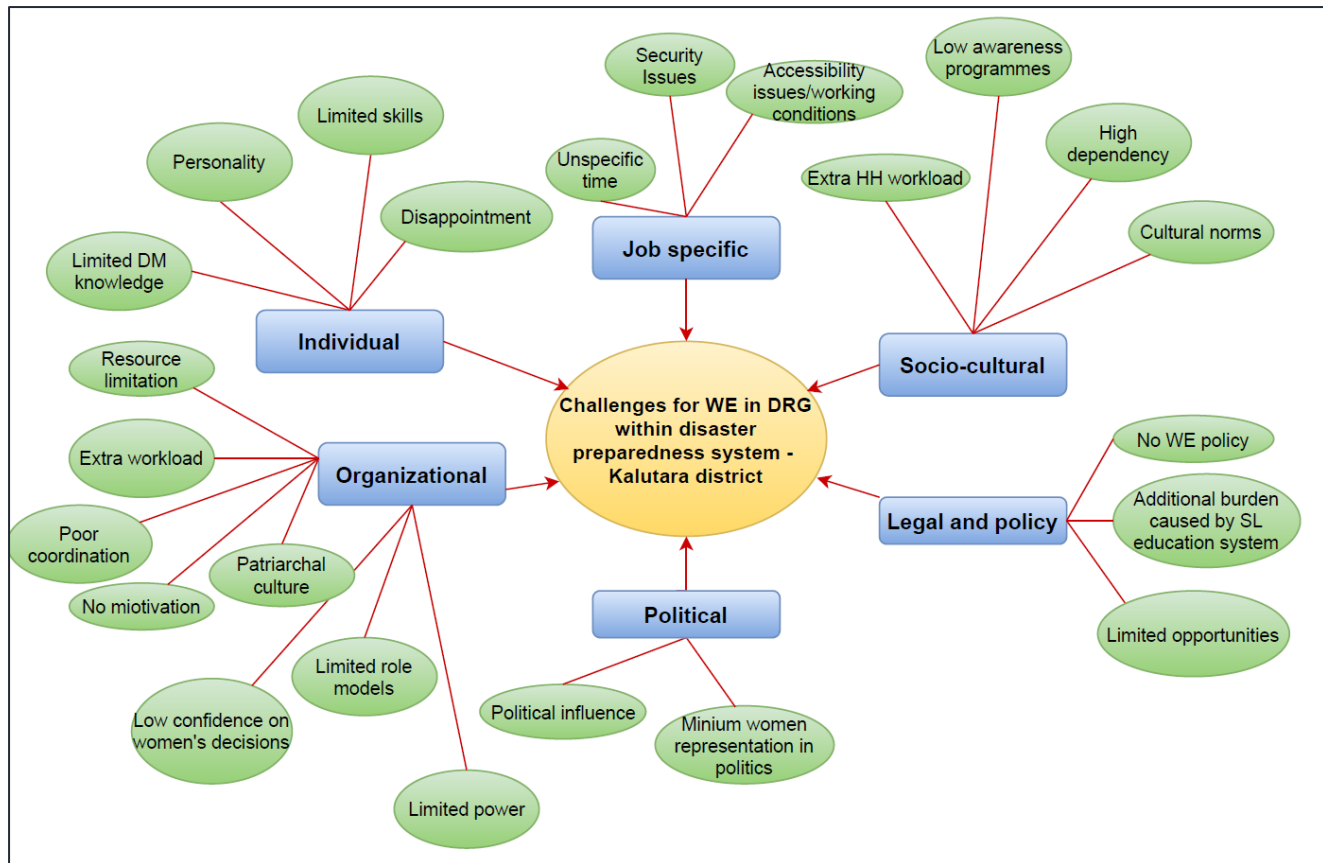


Figure 6. 15 Thematic analysis identifying key themes of challenges for women's empowerment in DRG within the disaster preparedness system- Kalutara district

Source: Prepared by the author

6.4.4.1 Job-specific challenges and suggestions

Three challenges were classified under job-specific challenges as accessibility issues, security issues and unspecific time.

6.4.4.1.1 Accessibility issues

One of the challenges for women's empowerment in DRG was identified as accessibility issues. According to KA1, if a woman officer heads the DDMCU, it would be difficult to visit the disaster-prone area due to geographical difficulties. Women officers find it difficult to travel using any sort of transportation available. KA1 further explained, *"Sometimes officers travel to mountain areas, fieldwork and travel in the water. Then it is convenient to hand over those tasks to military people."* The interviewee further explained that because of the accessibility difficulties, they provide additional assistants to women officers. KA1 added, *"For example, when travelling by boat, we made sure to send male GN officers with*

women GN officers." As explained by KA3, *"The issue is also related with some limited skills among women officers. Because when there is an incident, I go there or send some officers at any time, day or night. I can go by myself. If this is headed by a women officer, she may find it difficult to visit."* Hence, they prefer more male officers in the disaster field.

One recommendation made by KA1 was to provide some support whenever women officers find it difficult in accessing some places performing their duties. The same opinion was suggested by KA3, emphasising the necessity of providing some means of transport to address the accessibility. KA1 further added the possibility of appointing more women officers from the military service, especially to DDMCU in the district, as a strategy. KA1 also suggested adding, *"So I would recommend time flexibility or introducing a system such as work from home culture."*

6.4.4.1.2 Security issues

In addition to an accessibility issue, another challenge for women's empowerment in disaster management is the security issues. Several interviewees explained that women officers find it difficult to visit some places due to their safety issue. Personal security challenges women to be empowered in the DRG, considering as a weakness. As explained by KA1 and KA2, special arrangements were provided for women because of security issue. KA2 added, *"Recently I received a complaint because I could not make it since I am scared of being into a particular place. I asked the assistance of the police to visit there."* KA3 explained a similar experience. The interviewee justified the reason why more men have been appointed into the disaster management sector.

KA1 suggested assuring the overall security in the society as suggestions to overcome this challenge. The interviewee added, *"There, we need some measures to assure overall security of the country."*

6.4.4.1.3 Unspecific time

Another job-specific challenge identified by interviewees was unspecific time. When someone decided to work in the disaster management field, he or she needs to be ready to work at any time of the day. KA1 added, *"Especially when you are in higher positions or administrative level in the disaster management, you have to make a lot of sacrifices. You should be ready for 24 hours availability after, during and before a crisis."* Therefore, they consider this as a challenge for women because

of their household commitments. KA2 explained, *"Sometimes, we receive orders from the Divisional Secretary. When there is a disaster, the Divisional Secretary orders to stay in the office or work on Saturday and Sunday."* KA3 and KA6 agreed with the same point stating that disaster management demand officers at any level to be ready for any time, any place and under any condition.

The suggestion made by KA1 was to introduce some flexible work hours and work from home culture for women to enable them to perform their duties at any time of the day flexibly. The interviewee emphasised that this will benefit in many ways, for example, increase their commitment and motivation. Their contribution to disaster preparedness decision making will not be missed through this mechanism. Thus, more women and their contribution can be secured in the system and thereby, women's empowerment can be established. KA3 proposed raising awareness in the community to build trust and understanding among family members about the nature of the job performed by women officers in disaster management as another solution, as presented in Figure 6.16.

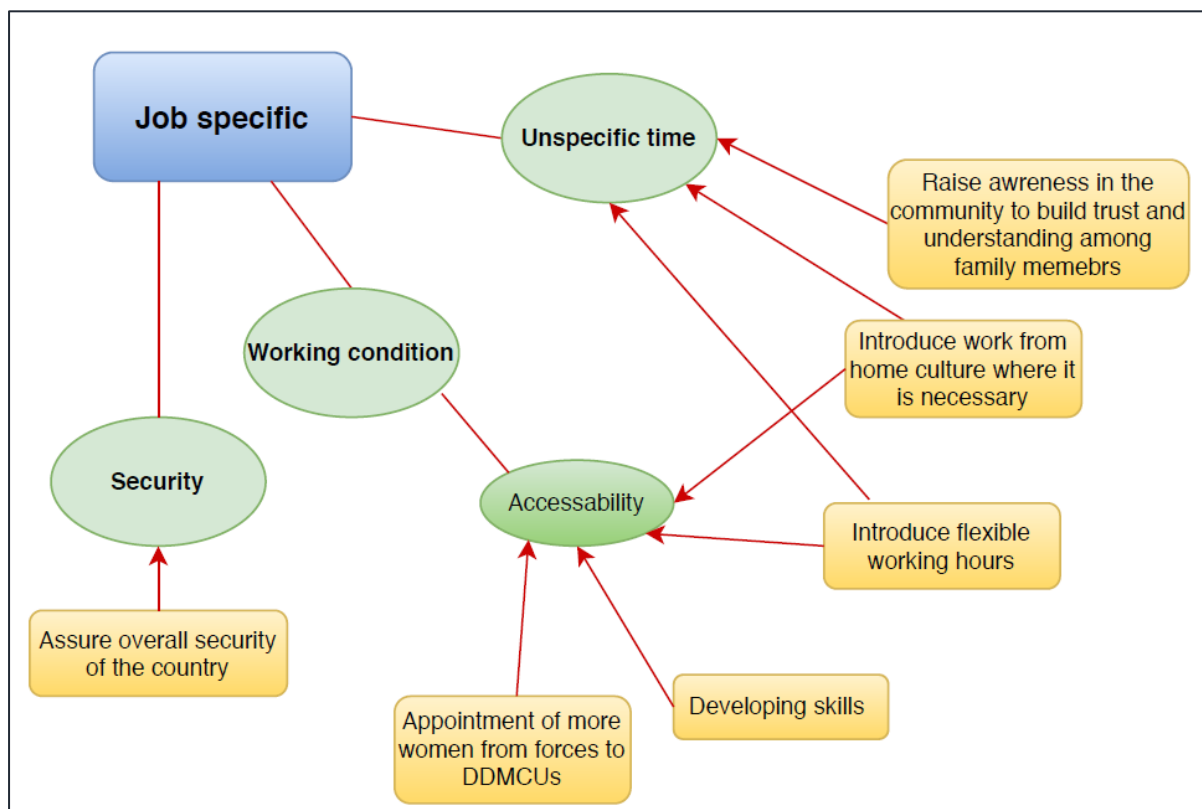


Figure 6. 16 Job-specific challenges and suggestions to overcome such challenges to assure WE in DRG within the disaster preparedness system in Kalutara district

Source: Prepared by the author

6.4.4.2 Socio-cultural challenges

Four challenges were classified under socio-cultural challenges, as presented in Figure 6.17. They are cultural norms, extra household workload, high dependency and low awareness programmes.

6.4.4.2.1 Cultural norms

Cultural norms limit women to household work and are responsible to household members. KA1 explained, *"No matter type of assistance from our families, we have some level of commitment towards household and its members."* Sole responsibility to household work is socially constructed norms for women according to KA4 and KA6. KA4 reflected, *"As women, we are expected to be the main responsible person for childcaring and caring for elders."*

KA2 explained another aspect of cultural norms, *"This is how we brought up since childhood. We were taught that as girls, there are some restrictions. We had to take precautions all the time being a woman. Our culture has made some constraints for us, making us fear to do certain things."* These norms relate to many other issues, such as self-confidence. The interviewee further explained the cultural bond between mothers and children, stating, *"As mothers, we have a fear that I cannot go and take a risk to my life since I have children."* A similar idea was expressed by KA3, stating that their children are expecting their mother at home. KA6 also explained cultural norms and practices add extra workload for women reducing their time to engage in other social activities.

Hence, KA4 and KA6 suggested to introduce some affordable childcare facilities for working women in disaster management. With the support of reliable and affordable childcare facilities, they can engage easily and confidently in DRG. In addition, KA6 proposed promoting social acceptance for women, especially women working in disaster management. Raising awareness in society is suggested in addressing the issue. KA6 added, *"They should be able to respect women, especially those who work in disaster management"*.

6.4.4.2.2 Extra household workload

Another challenge for women's empowerment in DRG was the extra burden of household workload. Several interviewees agreed that excessive household workload limits the time for women's to be empowered in DRG and to achieve some qualities and skills that help women's empowerment.

For example, KA1, KA2, KA3, and KA4 highlighted those women are committed to household duties excessively. KA1 explained how difficult it is, *"We feel very tired of doing all these unlimited workloads."* KA2, KA3, and KA4 explained the situation when they have small and young children. KA3 added, *"The only limitations or challenges I noticed among women work with is family-related issues. Probably when they have children, women officers have to handle both household side and office work alike."* KA6 confirmed, *"Hard, but managing. Women are used to working on many tasks at the same time. We balance our work and household work anyhow. But it is very tiring and hard."* KA4 also added, *"It is hard."* The interviewee further added, *"Engagement of household works limits our time to engage within the job. We do not have enough time to engage with our development or at least our own needs due to too much household workload."*

As suggestions, KA1 expressed, *"So, we need some help to balance the role of a housewife at our home."* Affordable child caring can minimize the household workload to a certain level. Nevertheless, most childcare services are expensive, and it is not affordable for lower-level women officers in the system, as explained by KA1, KA4 and KA6. KA1 recommended promoting family support to reduce the extra household workload on women and conducting awareness programmes in communities to support working women.

KA2 also proposed raising awareness in the community to support women's empowerment at the village level. According to KA6, awareness should be targeted to make the societies understand the workload performed by working women. The interviewee added, *"I strongly believe that society and families should understand this extra household workload done by women"*.

6.4.4.2.3 High dependency

KA3 and KA6 identified another challenge for women's empowerment in DRG was high dependency. Some women depend on either their families or colleagues. For example, KA3 added, *"Some women find it difficult to work independently on their*

own because many of them depend on their families. Especially the lower-level officers.” According to KA3, most lower-level officers depend on husbands and families in terms of income and support, which limit their independence.

Hence, KA2 suggested an increase in their income to empower women officers economically. KA6 also added, *“Women officers should be given an equal and adequate salary for the employees even at the lowest level”*. In addition, KA3 proposed to enhance support from families through mutual understanding among family members. Another suggestion was to acquire additional skills for women working in disaster management to support their empowerment, according to KA1 and KA6. In addition, affordable childcare services are also suggested by KA1.

6.4.4.2.4 Low community awareness programmes

KA2 identified minimum community awareness about the importance of women’s empowerment in DRG.

Accordingly, KA2 suggested conducting awareness campaigns to empower women working in disaster management and community women. KA2 stated, *“Most of these issues can be overcome by introducing some community awareness programme on the importance of empowering women in disaster governance.”* The interviewee further explained that these awareness programmes should target not only women but also the whole community. Unfortunately, most of these programmes are attended by women only. The interviewee further emphasised that these programmes should target the acceptance of women in these committees instead of being neglected. KA6 also suggested creating more acceptance and respect for women in the society who work in disaster management.

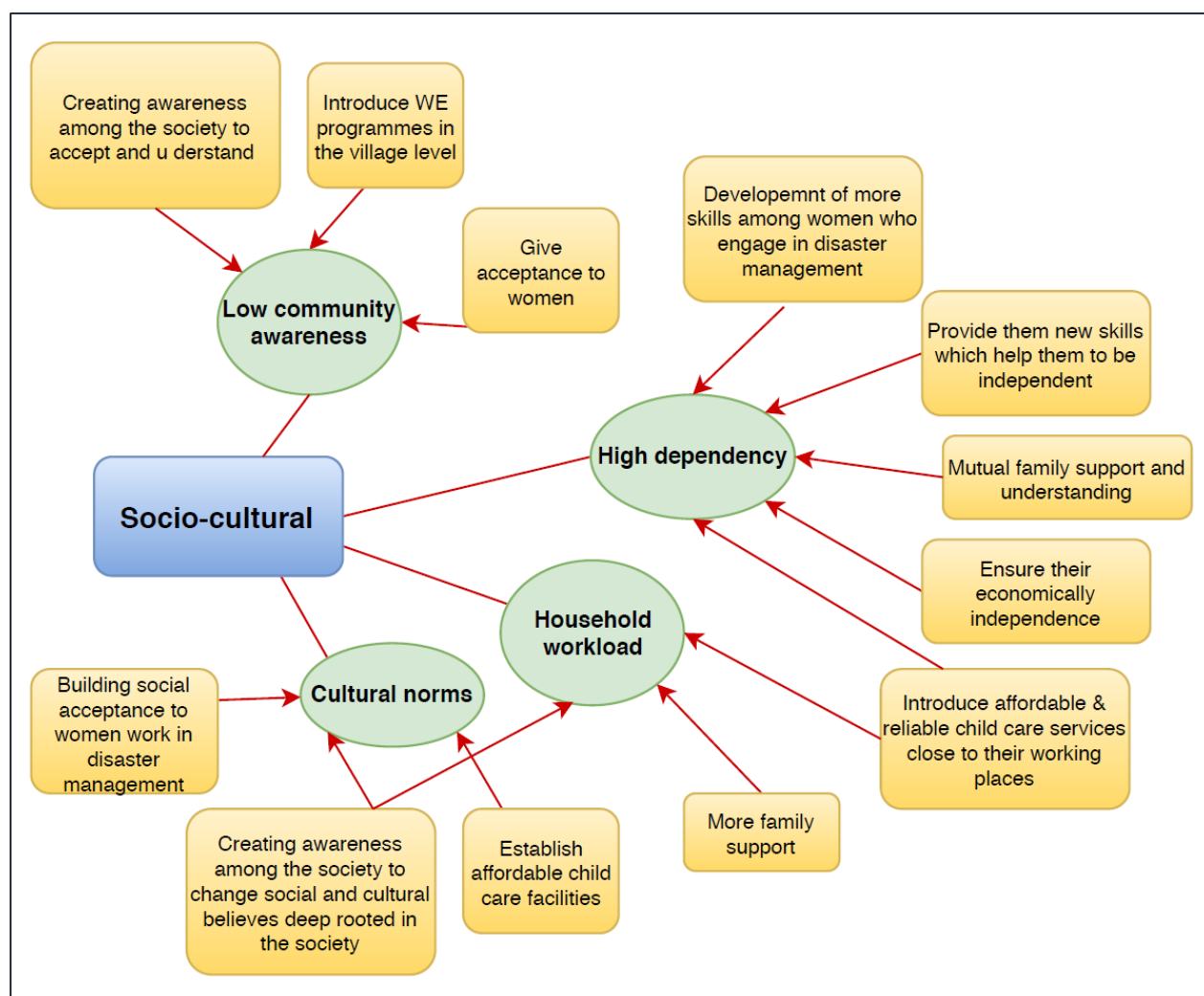


Figure 6. 17 Socio-cultural challenges and suggestions to overcome such challenges to assure WE in DRG within the disaster preparedness system in Kalutara district

Source: Prepared by the author

6.4.4.3 Individual challenges

Figure 6.18 demonstrates the four challenges grouped under this category. The challenges are; disappointment, limited skills, limited disaster management knowledge and a weak personality.

6.4.4.3.1 Disappointment

The disappointment among women officers working in the disaster preparedness system was identified as a challenge for their empowerment in DRG. One aspect of the disappointment is caused by time. Women find limited time to stay with children, according to KA1. The interviewee added, "Due to *limited time we spend*

with our children makes them stubborn or careless of ourselves. This makes us dissatisfied with our job. For example, today, when my daughter was crying, I left to work ignoring her and damaging her confidence." According to the interviewee, sometimes the disappointment ends with early retirement or transfers to other divisions without disaster management. KA4 highlighted another form of disappointment, adding, *"Because there is no benefit of engaging in disaster management other than extra workload and extra pressure from the office. No appraisal from the community. If we cannot proceed with their claims, the community is crossed."* KA5 and KA6 expressed a similar idea. KA5 further explained another source of disappointment due to the lack of opportunities for women officers to prove their capacity. The interviewee added, *"We were instructed to prepare the disaster preparedness plans. In a disaster, some other measures were suddenly implemented, restricting opportunities to show our capacities. All response agencies continue their response measures without implementing our preparedness plan."*

Interviewees made several recommendations to overcome challenges. For example, KA1 suggested, *"I would recommend some flexible time for women for their work even introducing a system such as work from home culture"* to address the disappointment caused by their motherhood. Community recognition and respect should be assured, as suggested by KA6. KA6 added, *"They should be able to respect women in the society, especially those who work in disaster management"*. One another reason for the disappointment is the minimum self-interest. Thus, the suggestion was to help women in disaster management developing self-interest to retain in the field. KA1, KA4 and KA6 emphasised that women who engage in the disaster preparedness system need some motivation and readiness to accept such challenges. KA1 suggested developing personality as another solution to overcome disappointment among women. KA6 suggested introducing a reward system and provisioning additional resources as further suggestions.

6.4.4.3.2 Lack of skills

Another challenge for women's engaged in the disaster preparedness system is a lack of skills. The disaster management field requires special skills to complete their duties without any restrictions. For example, KA1 indicated that when performing disaster risk governance related duties, it is necessary to travel to many difficult places, like hilly area, flooding situations etc. If women in disaster management

hesitate to accept these challenges, they would be questioned and challenged. KA1 further explained where some women in disaster management delegate their duties to other officers due to a lack of skills. KA4 also identified limited skills among them as a barrier to being empowered in DRG. The interviewee provided an example, *"There are language barriers among officers those who cannot read and write in Sinhala."*

Therefore, several interviewees suggested that acquiring some extra skills could benefit overcoming the identified challenges. For example, KA1 suggested acquiring swimming skills, hiking skills and driving skills as important. KA4 added some more skills necessary for women working in disaster management, such as computer skills and language skills. KA4 added, *"If we have the opportunity to learn something new, like computer skills and language skills, it would be good."* For example, knowing multiple languages will be valuable in working with multi-cultural communities to understand their real issues. KA5 also suggested acquiring computer skills, communication skills, including presentation skills to a larger audience when they engage in community awareness and higher-level officers. KA6 added that if they have some driving skills, they do not want to depend on others to facilitate their transportation needs. KA2 and KA5 suggested the importance of providing and participating in capacity building programmes to develop some additional skills and confidence. KA6 also added, *"We have a lot of paperwork, so if we know how to work with computers, our jobs would be easy"*. KA6 furthermore suggested coordinating with other organizations, especially with NGOs, to get such facilities.

6.4.4.3.3 Limited DM knowledge

Being empowered in risk governance, women face another challenge due to limited knowledge in disaster management. KA1, KA3 and KA4 highlighted that they do not have adequate knowledge in disaster management. KA1 highlighted with an example, *"We can propose to clear a lake. But we do not have the technical knowledge of how exactly to convince the higher officers how this could benefit disaster preparedness."* KA3 added, *"Especially for village level GN officers do not have much knowledge in DM. Even officers at the DivS office and District offices do not have adequate knowledge of DM. This is vital in the disaster preparedness stage. Without knowledge and experience, you cannot decide preparedness measures."* Both KA5 and KA6 too identified the gap in disaster management

knowledge among officers who work, especially at the district level, divisional level and GN level offices.

KA4 proposed, *"We prefer to have training on disaster management since none of us has learned disaster management as a subject."* KA3 added that many officers had joined disaster management after completing either advanced level of degree in some other area. When they joined the service, there were limited or no disaster management education in Sri Lanka. KA1 explained, *"Now we have some courses in disaster management. We can encourage women to follow such courses, especially those who want to work in disaster management. Furthermore, the institutions can sponsor to take part in these programmes. In addition, the background that I come from a Law Faculty benefits me in the process of decision-making. When we implement anything in the organisation, we have to follow a specific act. My qualification is an advantage for me."*

Another suggestion made by KA6 was, *"Some level of training would be very helpful, especially camp management, identifying maps, use of computers, identifying risks."* KA3 added, *"With the present disaster level I think, this knowledge is important for everyone who engages in disaster management. This can be introduced for future curricula at schools and universities. In addition, the DMC can coordinate with the DDMCUs to give some intensive training programme for women who engage in DM."* KA2's concern was to have training at a place close to them. Otherwise, training would be another challenge for women who have small children. In addition, the interviewee highlighted that some training and awareness programmes on dealing with disasters might help our women in disaster management. For example, some programmes from other countries or regions may help them. KA1 suggested encouraging women to enrol in higher education. KA1 and KA6 recommended coordinating with other organisations which provide such disaster management knowledge.

6.4.4.3.4 Weak personality

To be empowered in DRG, many emphasised that women officers need a good level of personality. However, the personality level among women who engage in disaster management is comparatively low. KA2 added, *"Some officers have issues related to personality. Some women officers work well and are brave enough to take decisions, while others find it difficult. My personality helped me a lot since I*

was not panic about the situation. I can speak louder than others. So, these qualities are advantages for me."

KA2 and KA3 suggested developing personality among women officers as a strategy to overcome some challenges. KA3 added, *"Some personality development training can be introduced for women in the system. Because if you want to be empowered specifically within the disaster management field, personality matters. Because when you see some strong women in the disaster management system, you see their personality. That matters a lot."* Engage in higher education was suggested to develop personality by KA2 and KA5 through capacity building programmes. KA5 further added that building skills among women engage in DRG can develop their personality and confidence. KA1 suggested developing self-interest as a strategy, while KA6 suggested establishing coordination with other organizations that provide such capacity-building facilities. KA2 added, *"If we can introduce some legislative protection as well as some level of capacity building programmes towards, women's empowerment, it could help our officers to deal with DM and governance. This may improve our skills as well as personality. "*

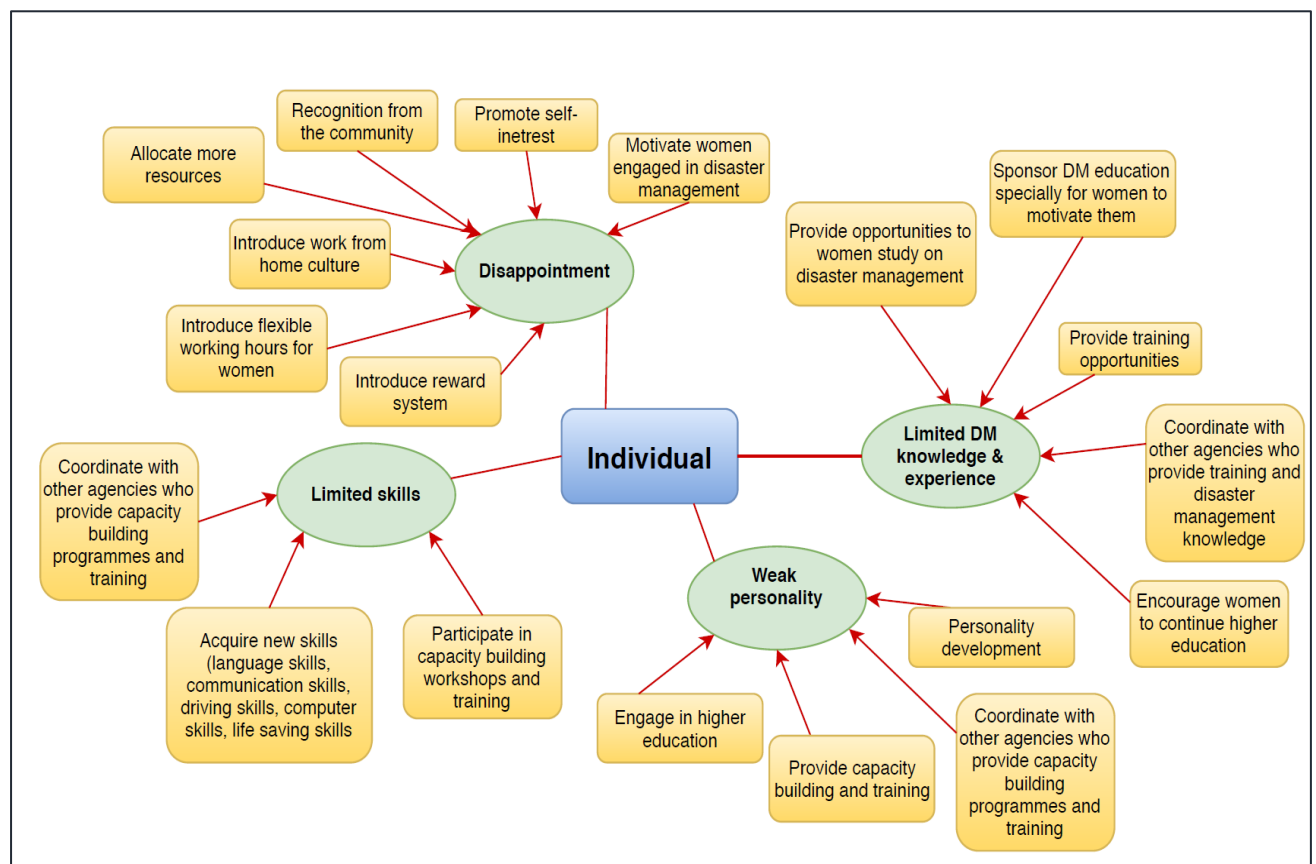


Figure 6. 18 Individual challenges and suggestions to overcome such challenges to assure WE in DRG within the disaster preparedness system in Kalutara district

Source: Prepared by the author

6.4.4.4 Organisational challenges

Limited power, limited role models, limited confidence in women's decision-making, lack of motivation, patriarchal culture, poor coordination with other agencies, limited resource availability and extra workload at the organizational level were grouped under the organisational challenge category, as presented in Figure 6.19.

6.4.4.4.1 Limited power

Several interviewees identified limited power among women officers in disaster management to challenge their empowerment in DRG. KA5 added, *"If you want to empower women, give them some power. I mean more decision-making powers at the village level."* According to KA6, *"Because we are the officers and we have some level of power. But at the divisional secretariat level, we are marginal."* Due to such limited power among officers related to disaster preparedness organizations, their empowerment in DRG could be affected.

Therefore, the suggestion was to support them gaining powers within the disaster preparedness system for their empowerment in DRG. As a strategy, KA2 and KA3 suggested appointing more women officers into higher decision-making positions in the system. KA3 added, *"In Sri Lanka, women representation in politics is also limited. That is one main issue to their overall empowerment. Their voice is not strong enough at the parliament, provincial councils, local governments etc. So, there should be some mechanism to secure women in higher positions and the parliament."*

KA2 recommended introducing rules and regulations and clearly assign roles and responsibilities for women working in disaster management. In doing so, organizational leadership can perform a significant role and impact. KA2 added, *"This may help officers to perform their duties easily and without hesitation. Therefore, clear roles and responsibilities should be established through proper legislative structures."*

6.4.4.4.2 Limited role models

Another challenge affecting women's empowerment in DRG is the availability of role models. KA2, KA3 and KA6 highlighted limited role models in the disaster management system. KA6 added, *"Most of the time, we see our Divisional Secretariat as a good role model. She is very understanding, young and supportive. We see her as a very good leader and a good model for us to develop ourselves. We would like to work with women like her."* KA3, too added that *"That matters a lot. Nevertheless, we cannot see such level from many women officers in the disaster preparedness system."*

KA2 suggested introducing more women into higher positions in the organization. KA2, KA3, KA6 suggested identifying role models. KA2 added, *"There was some period where a male Divisional Secretary in our office. He was very strict and his support to such activities were low and problematic. That is one of the advantages of being women in leadership who understand both personal and official responsibilities well. This helps to motivate staff to perform their duties."* KA3 added, *"We need to identify and promote them for fellow women officers in the system."*

6.4.4.4.3 Low confidence in women's decision-making

Most women officers engaged in disaster management find it difficult to make decisions because of a confidence issue identified by KA5 and KA6. KA5 explained, *"We were asked to prepare all the disaster management plans etc. At the disasters event, all of sudden some other measures are implemented and no any chances for us to show that our plans are implemented by us."* This underestimates the efforts and decision-making ability of women officers engaged in the disaster preparedness system. KA6 added, *"Sometimes people are harsh and not cooperative. Sometimes they do not listen to what we suggested may be we are women, and they underestimate us."*

Therefore, the suggestion made by KA6 was, *"As I said earlier, we have little opportunity to take the leadership in village-level disaster management measures. They can give us some opportunities to practice our role, trusting our capacities."* KA1 suggested to encourage women officers to continue their higher education. KA6 suggested to build trust in women's decision-making through awareness-raising in the organizational setting.

6.4.4.4.4 No motivation

Another challenge for empowering women in DRG is lack of motivation. KA4, KA5 and KA6 explained that without any benefit or no motivation for them to be engaged in DRG. The same challenge was identified by KA5 and explained, *"And there is no motivation or encouragement for our work after a disaster happens. Neither there are no personal benefit nor appreciation for our work."*

KA6 suggested giving some benefits, for example, some cash rewards or at least some appreciation to encourage and motivate them. KA4 further added, *"If we receive some payment or some resources, at least paying our telephone bills, will motivate us."* KA2 suggested the appointment of more women into higher positions as a strategy to motivate women working in disaster management. KA2 added, *"This helps to motivate staff to perform their duties."* KA1 suggested increasing self-interest towards the job they perform as a strategy, explaining, *"Regarding self-interest, we have high self-interest for engaging in DM. We all commit to our fullest level"*. KA4 and KA6 proposed to allocate more resources to motivate women to be empowered in DRG. A6 explained, *"If more resources are available, we would be motivated"*. KA1 suggested that sponsoring disaster management education or higher education in disaster management could be a better motivational strategy.

6.4.4.4.5 Patriarchal culture

Patriarchal culture is another challenge identified within the organizational setting. KA2 explained that most of the village committees are headed by men. Thereby many instances where male officers make decisions. The interviewee added, *"For example, we are officers. However, most of the decision for us is taken by men in organizations."* The interviewee explained her experience when she was invited to a training. The training is scheduled as residential training. The interviewee added, *"Then it becomes a pressure for us. Because of our household commitments especially, with small and young children. This is mainly because these decisions are taken by men in institutions."* The interviewee further explained, *"Especially men do not understand the situations similar to women in leadership. Even they do not understand their family household work as well. Leader's mutual understanding and support are very helpful."* KA3 added that some institutions prefer to appoint more men than women. The interviewee explained, *"When you*

see, most District Secretaries are male, and most Divisional Secretaries are women. That is the system. This needs to be corrected through legal measures."

KA2, KA3 suggest appointing more women officers into higher positions to reduce patriarchal culture in organizations. KA3 added that awareness-raising could be a strategy to address the issue at the organizational level.

6.4.4.4.6 Poor coordination with other institutions

Another organisational related challenge that affects women's empowerment in DRG is poor coordination with other institutions. KA6 added, *"Some NGOs conduct community-level disaster management training. As the village representative, they contact us. We have some opportunity to attend such training. However, these are not communicated with the government office."* These non-governmental organizations could cooperate reasonably in capacity building among women officers. Unfortunately, most government offices do not wish to coordinate with them, assuming they are not supportive.

Thus, KA6 suggested to establish some coordination between other institutions. *So, if the government office coordinate with them, they could help more providing more training for us like GN officers and development officers."*

6.4.4.4.7 Resource limitation

Several interviewees identified resource limitation as a challenge for empowering women in DRG. KA4 explained, *"As GN officers, we use our resources starting from pen, papers, mobile phones. We do not have a proper place at the DivS office when we report every Wednesday. No computer facilities, no printing facilities."* KA5 and KA6 too highlighted the same issues identified by KA4. The interviewee KA4 further added, *"Most of us are working with minimum facilities."* KA6 further explained the situation for the Relief officer at the DivS office, who does not have separate facilities. They share the office resources available at the DivS office.

One suggestion made by interviewees was to allocate more resources through the organizational setting. KA4 and KA5 suggested that more resources can help the officers conduct their jobs efficiently. Furthermore, the officers will be motivated.

KA3 and KA4 suggested coordination with other organizations as a strategy. KA3 added, *"We find a limited number of people at the relief service. In additions, in order to enhance the effectiveness of DM at the village level, recently, we have introduced a system with the Ministry of Samurdhi to get support from Samurdhi Officers. This is expected to establish strong coordination with the system and effective implementation of DM at the village level. This is very important and essential to use limited resources effectively and efficiently. This helps us to increase the number of the labour force in the unit."*

6.4.4.4.8 Extra workload

Another issue faced by women officers within the disaster preparedness system is the extra workload in the office due to resource limitation. KA1 pointed out, *"Especially when you reach to higher positions; your office workload becomes massive. For example, when I was the Assistant Divisional Secretary in Balangoda DivS Office, I had a habit of contacting my home to see whether my daughter had foods. However, now, I do not have such freedom being the Divisional Secretary in this office. The existing capacity is not adequate with the present workload. So, women feel exhausted when performing all these excess workloads."* The interviewee explained how they managed their extra workload, either taking home or working from home on Saturdays and Sundays.

KA2, KA4, KA5 and KA6 explained that their usual workload had increased drastically with the frequent disasters. KA2 added, *"We have a huge workload at the Div Sec office. This situation is worsened with disasters as well as the end of the year."* The interviewee further explained the workload assigned to the Sahana officer in their office. The interviewee mentioned, *"However, our Sahana officer face many difficulties since the officer is the only person available to handle all 87 GN divisions disaster relief efforts. Sahana officer needs to work in the office as well as in the field. The officer had to perform many activities due to the 2016 and 2017 floods. Distribution of funds, goods and keep records were some of her duties."* KA4 added, *"Before these disasters, we engaged with the routine jobs related to our GN duties. However, after many types of disasters, especially after tsunami incident, our duties have been increased so badly. Especially we have to work as a team in the disaster management committee at the GN level."*

KA2 suggested how mutual support could be benefitted to address the challenge stating, *"More importantly mutual support is very helpful to reduce the level of work pressure. Especially when dealing with disasters, we all work as a team*

towards most response and recovery measures.” KA3 and KA4 suggested coordinating with other related ministries to share the routine workload among other staff members. The interviewee suggested, “If we can get more support with the development officers or any other officers in allocating the work, it would be good.” KA5 too identified the same suggestion, “If we coordinate with other officers and identify each of their duties in DM, then everybody had a specific responsibility.” KA6 suggested providing affordable childcare as a suggestion, while KA1 proposed developing self-interest and family support as other mechanisms in addressing the challenge.

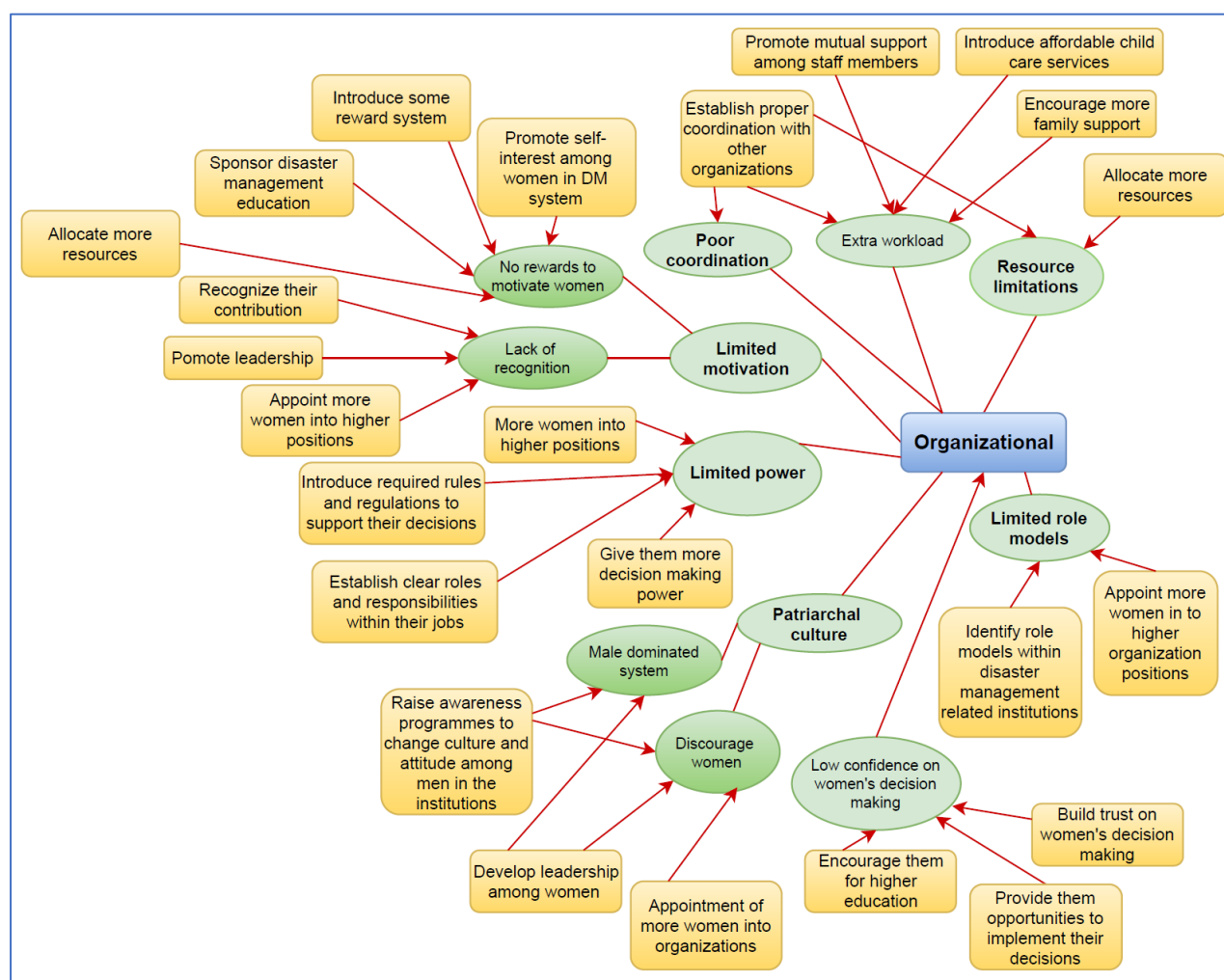


Figure 6. 19 Organizational challenges and suggestions to overcome such challenges to assure WE in DRG within the disaster preparedness system in Kalutara district

Source: Prepared by the author

6.4.4.5 Political challenges

Two related challenges were grouped under political challenges that influence women's empowerment in DRG and presented in Figure 6.20.

6.4.4.5.1 Minimum women's representation in politics

Minimum women's representation in politics was identified as a challenge for women's empowerment in DRG. According to KA1, most of the decision-making committees comprised of political authorities and administrative authorities. However, according to KA1, *"The least women representation come from the political authority. There is a huge gap for women in the political system."* Thus, minimum women representation does not support the decisions made by women administrators. A similar idea was explained by KA3, adding, *"In Sri Lanka, women's representation in politics is very limited. That is one main issue to their overall empowerment. Their voice is not strong enough at the parliament, provincial councils, local governments."* KA5 emphasised, *"I see most of the politicians in the area is men. So, we always deal with male politicians than women politicians."* Due to minimum representation in a political setting, women administrators do not receive adequate support and voices.

KA3 suggested stating, *"There should be some mechanism to secure women in higher positions and in the parliament."* KA5 suggested promoting women into politics either through some quota system or voluntary mechanisms. KA5 further added, *"If we can appoint more female politicians in the area, we can get more support from them towards women's empowerment".* KA3 stated, *"To my knowledge, there is no such national policy for ensuring women's empowerment, and it is not linked to any national strategies."*

6.4.4.5.2 Political influence

The second issue identified was excessive influence from political authorities. According to KA1, KA2 and KA4, undue political influence affects women's empowerment in decision-making across all sectors and specifically in disaster management since it is a sensitive topic. KA1 emphasised how some of her colleagues find political influences limiting their capacities at work. KA4 added, *"Sometimes people come through politicians."* KA6 too added, *"Politicians are working with us but not the top level but provincial council members, some*

members of the parliament etc. Most of the time, they do not influence our level of disaster management decision-making. But people try to influence them in accessing relief support.” KA6 emphasised that even though politicians do not directly influence the disaster preparedness system, some influences are found when planning for mitigatory measures.

One suggestion made by KA4 and KA6 was to adhere to rules and regulations when performing their duties to minimize unnecessary political pressure. KA4 further added, *“But when we follow the rules and explain them clearly what is happened and how things have happened, then we can sort out unwanted pressures.”* In addition, KA3 suggested developing personality among women officers to stand for themselves and persuade them to understand what is right. KA2 suggested establishing proper rules, regulations, and circulars related to disaster management before it happens and informing officers regarding their limits and responsibilities. Introduction of clear roles and responsibilities should be established through proper legislative structures. KA2 added, *“In our institutional setting, we have the freedom to make decisions and found limited instances where we had difficulties. We all have the legitimate powers while performing our duties. When rules and regulations mention the powers of every officer clearly, it would be easy to perform our duties.”* In addition, building confidence levels among women officers working in the disaster preparedness system was suggested. KA4 suggested raising awareness by conducting awareness programmes in society as another strategy.

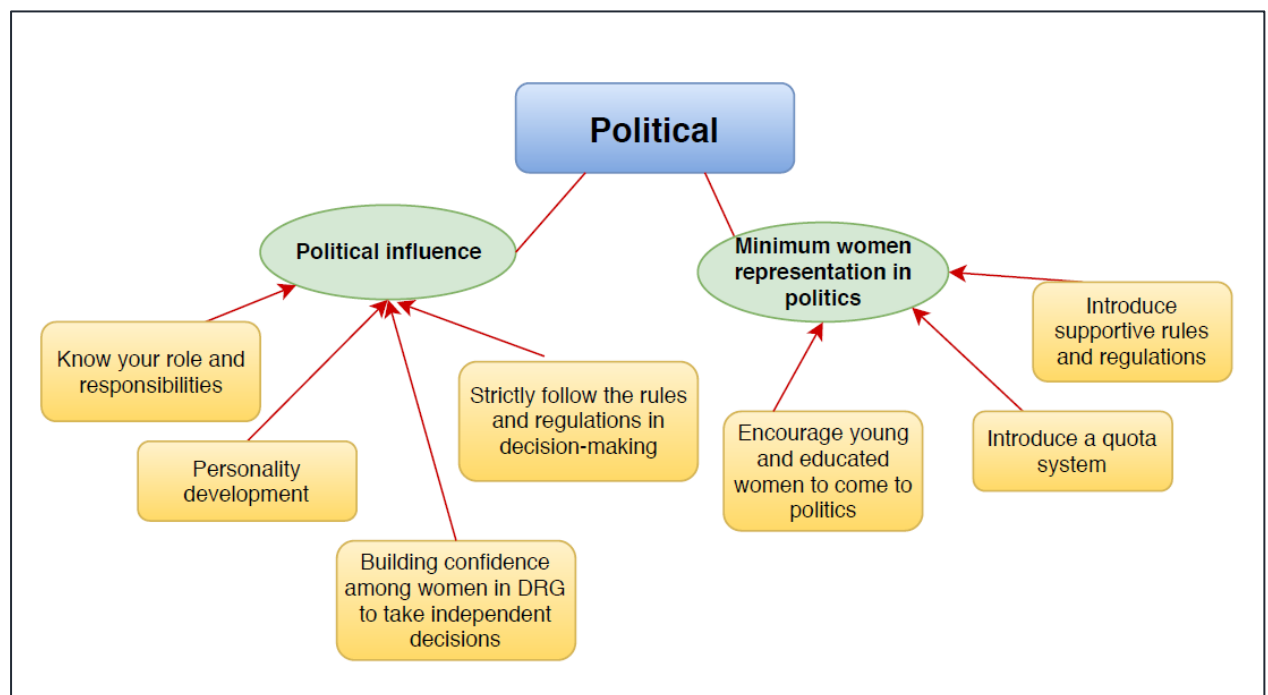


Figure 6. 20 Political challenges and suggestions to overcome such challenges to assure WE in DRG within the disaster preparedness system in Kalutara district

Source: Prepared by the author

6.4.4.6 Legal and policy challenges

The present education system, limited opportunities and no supportive policies were identified and grouped under legal and policy challenges that affect women's empowerment in DRG and presented in Figure 6.21.

6.4.4.6.1 Education system

Several interviewees identified that one of the challenges under the legal and political system was the education system. The Sri Lankan education system affects in two ways for women's empowerment. According to KA6, the present education system creates an additional burden, especially for women with children. The interviewee further identified limited disaster management education as another challenge in the present education system, directly affecting women's empowerment in DRG. Thus, KA6 suggested introducing disaster management as a subject in schools and university's curricular.

6.4.4.6.2 Limited opportunities

KA5 and KA6 identified limited opportunities for women as a challenge for their empowerment in DRG. KA6 explained, *"We have little opportunity to take the leadership in village-level disaster management measures."* KA5 explained where either man in the system or the system itself does not allow women to participate in the decision-making.

The suggestion was to ensure equal opportunities for women in DRG through some legislative measures. KA6 added, *"As I said earlier, we have little opportunity to take the leadership in village-level disaster management measures. They could provide some opportunities to practice our role, trusting our capacities. This can be done by introducing new rules and regulations."*

6.4.4.6.3 No supportive policies

Another legal and policy challenge identified by KA3 for women's empowerment in DRG is the lack of supportive policies. KA3 added, *"And to my knowledge, there is*

no such national policy for ensuring women's empowerment, and it is not linked to any national strategies. We have only Women and Child Affairs Ministry, and they work on safeguarding women and child rather their empowerment across all sectors including DM."

The suggestion made by KA2 was, *"Therefore, clear roles and responsibilities should be established through proper legislative structures. We all have the same qualifications with degrees and the same level of socio-economic background. We are ready to go anywhere at any time. But, we felt some uncertainties in the legal system. So, we can enhance our duties if we have some legal protection for any activities we perform."* KA3 also suggested, *"This needs to be corrected through legal measures to secure the selection not be biased."*

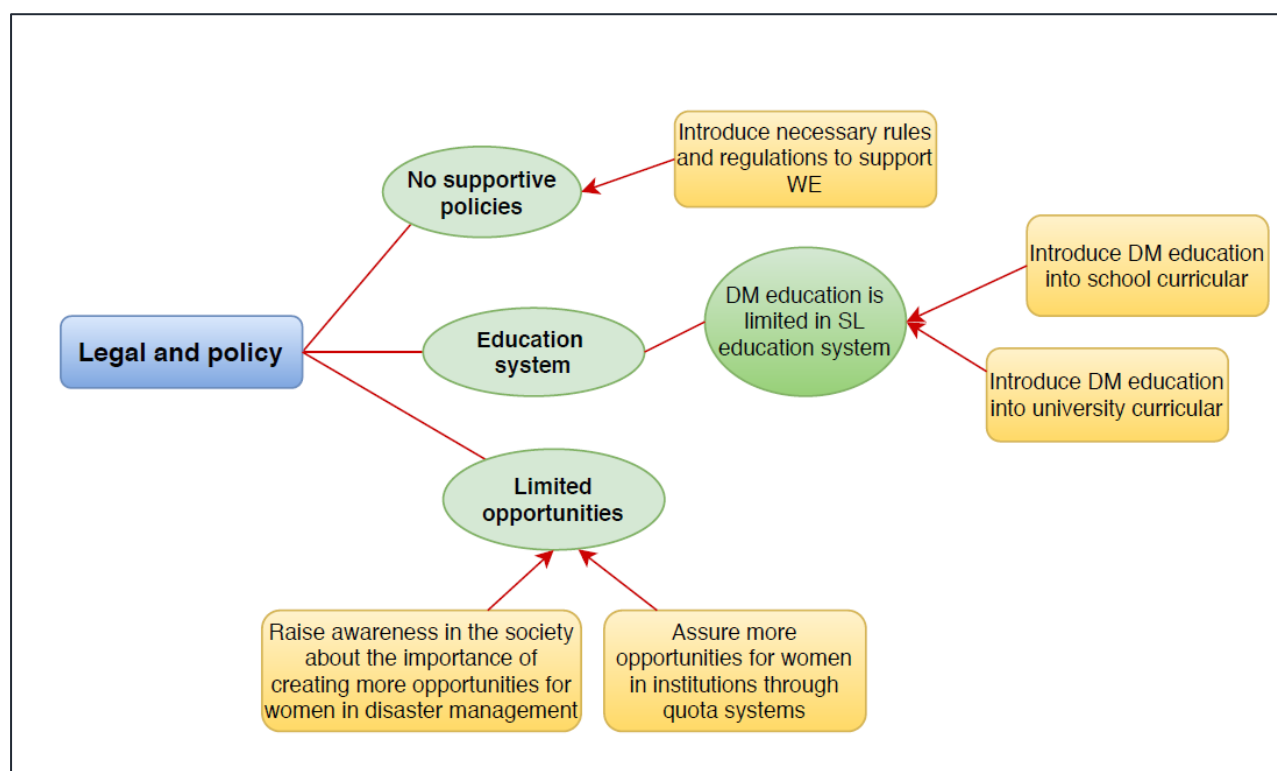


Figure 6. 21 Legal and policy challenges and suggestions to overcome such challenges to assure WE in DRG within the disaster preparedness system in Kalutara district

Source: Prepared by the author

After presenting the challenges with relevant suggestions, Figure 6.22 summarises the challenges affecting women's empowerment in DRG within the disaster preparedness system in Kalutara district.



Figure 6. 22 Summary of KalutaraDistrict case study analysis identifying the challenges affecting women's empowerment in DRG with the solutions

6.4.5 Favourable conditions for women's empowerment iDRG within the disaster preparedness system- Kalutara district case study

In addition to the challenges identified from the interviews, some favourable conditions for women's empowerment in DRG was identified. Three favourable conditions were: family support, higher education and availability of the separate ministry as described below.

Family Support: KA1, KA2 and KA4 identified family support as a favourable factor for women's empowerment in disaster decision-making. According to KA1, *"I strongly believe that family support is a key factor for our empowerment. Without enough family support, we cannot perform any of these duties. If I do not have such support from my family, I may end up losing my family or splitting up."* The interviewee further explained how crucial mutual understanding is between them and family members. KA1 further added, *"As I know, many of our staff, women, receive a great level of support for their household work."*

Higher education: Higher education qualification among women officers help towards their empowerment, as explained by KA1, KA2 and KA6. KA1 further explained that their decision-making results from their higher education had brought them to these positions in organizations.

Availability of separate ministry: In Sri Lanka, there is a separate ministry as Ministry for Women and Child Affairs. The ministry is working towards women's equality and women's rights. According to KA2, the ministry conducts some programmes targeting communities and women. One officer is appointed for each DivS office to represent this ministry. Thus, implementing specific legislative measurements will be easy for women's empowerment in all sectors through this ministry.

After presenting the Kalutara case study analysis, the following section presents the Kegalle case study analysis.

6.5 Kegalle case study

6.5.1 District disaster profile and disaster preparedness system- Kegalle district

Kegalle district profile was presented in Section 3.9.3.2. Due to its geographical locations and human interventions, the district suffers many types of natural disasters. Several interviewees identified landslides and flooding as predominant. KE1, KE2, KE3 and KE4 highlighted the Samassara landslide incident in Aranayake and Dehiowita flooding incident. According to KE4, *"In Kegalle, we face different types of natural hazards depending on the elevation. During the 2016 floods, there were 226 families live in high-risk areas. 2016 was the worst disaster with continuous flooding for four days and with the landslide in Samassara. However, in the 2017 flooding situation, there were only five families live in the high-risk zone. Because at that time, we have evacuated and resettled them in different locations."* KE3 further added the impact of human-induced hazards in the district. KE3 added, *"You can understand Kegalle is such a heavy disaster district. These are the results of some human activities. In Kegalle, we should have the forest cover 29,000 hectares. However, now, we have only 3,000 hectares. This is such a large-scale reduction of forest cover. This is one such reason for these frequent landslides in Kegalle."* KE3 further emphasised the possibility of future landslides in the district. After the Samassara incident, disaster has become a significant subject in any platform in the district. Many areas in the Kegalle district were identified as high-risk areas. Since then, disaster management has been considered a priority in the District.

The district DDMCU coordinates disaster management and disaster preparedness strategies with DS, DivS offices and other disaster management committees operated at the divisional and GN level when preparing preparedness, response and recovery measures. The Assistant Director governs the DDMCU, District Secretary and the Divisional Secretaries govern the DS and DivS offices for disaster management. Village DM committees were identified as necessary after the 2004 tsunami incident.

Nevertheless, KE1 and KE4 confirmed that for a while, however, those village level committees were not operated actively. However, after the Samassara landslide incident, the village disaster management committees were re-established. KE4 explained that these committees did not finalise the preparedness plan for the divisions. The interviewee added. *"It is finalised by the disaster management*

officers at the DS Office. At the DivS level, we have a disaster preparedness plan prepared by the DS Office. These are at the divisional level."

The GN officer mainly coordinates GN level disaster management with the village level disaster management committee. In addition, there are divisional level disaster management committees to coordinate divisional level disaster management. According to interviewees, many activities were coordinated through the village level disaster management committee. As a result, GN level disaster preparedness plans were revisited and updated. At the Divisional Secretariat level, the divisional disaster preparedness plans were initiated by the mediation of the Divisional Secretary and other representatives of related ministries.

At the lower level, village disaster management committees are operated with the support of the GN officer, Samurdhi officers and Economic Development officers, with other members representing villagers as the first mediators at the GN level. When they find any complexities, they refer to divisional and district level committees. If the issue is beyond their capacity, for example, landslides, the technical agencies, such as NBRO, are contacted. The disaster preparedness plans are initiated at the GN level. The village-level committees identify safe location/s where it is safe and accessible by communities in case of disaster. Most of these places are either a temple or a school, or a community hall.

One issue with the present disaster preparedness system in the district is that these preparedness plans have not been communicated to the public, according to KE2. According to the interviewee, *"As the planning director, I feel this is the main issue in disaster preparedness in Sri Lanka. This is the main gap, and we should take immediate action to fill the gap between the prepared disaster plan and its implementation."* KE3 further added, *"In terms of disasters in Aranayake, we cannot avoid future possibility of landslides. So our target is to avoid any loss of lives and to avoid or minimize the property losses from any future landslide disasters."* KE3 further added, *"There are people whose attitudes have not been changed. They want to live in those high-risk areas. Even yesterday, one elderly person expressed his extreme objection to evacuate from his place."*

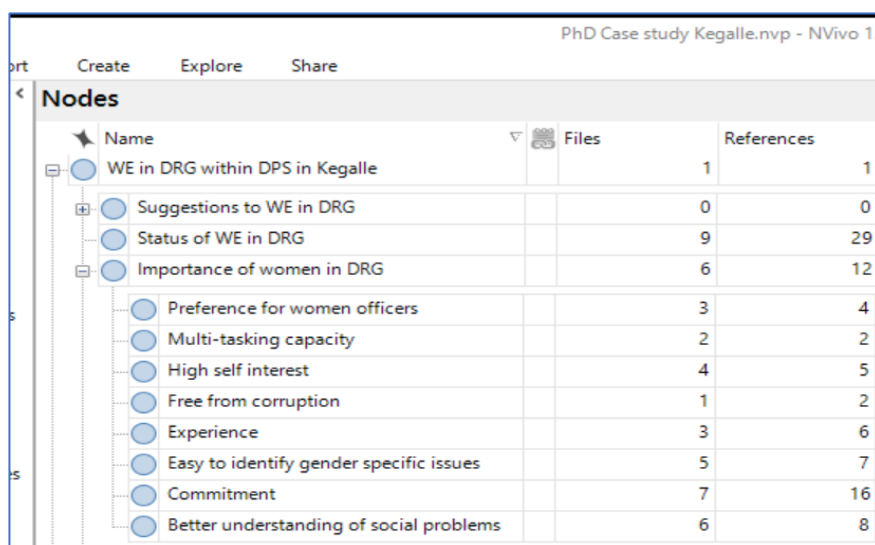
KE3 further highlighted some other issues relevant to the existing preparedness measures in the district. For example, rain gauges are fixed in the village and instructed to be concerned when more than 100 millilitres of rain. If it reaches 120 millilitres, evaluation is recommended. The rain gauges are fixed primarily in the

leader's houses or active members in the village disaster management committee. The aim is to monitor the level of rain and the level of risk. In some GN divisions, these rain gauges are fixed in the GN officers office. This is not suitable since the GN officer does not visit the office every day.

After briefing the disaster profile and the present disaster preparedness system in the district, the following section justifies how important it is to empower women in the disaster risk governance within the disaster preparedness system in the district. High disaster possibility increases women's vulnerabilities in disasters. Therefore, the disaster preparedness system should be strengthened in the district.

6.5.2 Importance of women's empowerment in DRG within the disaster preparedness system to reduce women's vulnerabilities- Kegalle district

Figure 6.23 presents the NVivo analysis, and Figure 6.24 presents the identified reasons why women's empowerment in DRG is essential within the disaster preparedness system in the Kegalle district graphically.



| Name | Files | References |
|---|-------|------------|
| WE in DRG within DPS in Kegalle | 1 | 1 |
| Suggestions to WE in DRG | 0 | 0 |
| Status of WE in DRG | 9 | 29 |
| Importance of women in DRG | 6 | 12 |
| Preference for women officers | 3 | 4 |
| Multi-tasking capacity | 2 | 2 |
| High self interest | 4 | 5 |
| Free from corruption | 1 | 2 |
| Experience | 3 | 6 |
| Easy to identify gender specific issues | 5 | 7 |
| Commitment | 7 | 16 |
| Better understanding of social problems | 6 | 8 |

Figure 6. 23 NVivo 12 analysis of the importance of WE in DRG

Source: Author prepared

6.5.2.1 Better understand the ability of social problems

Many interviewees identified that women's empowerment in DRG is essential because of their ability to understand social problems. For example, when deciding the evacuation places and evacuation routes, women officers consider many

aspects of the community, such as their difficulties and special requirements, since they have a good understanding of society.

For example, KE1 explained, *"A woman Divisional Secretary is an advantage since she can understand many aspects."* KE2 also added, *"I remember during the Samassara landslide incident, children around 7 or 8 years were running behind the bodies to see whether their mother or father was there among them. It was completely a shock. As a mother and as a wife, I felt the pain of their mind very well. There I covered the funeral ceremonies with my staff. I think this is one advantage of being a women administrative officer. We can feel the sorrow and pain of families who lost their immediate family members. So, I must say that definitely, we have to incorporate more and more women and empower them in decision making for themselves as well as for the society."*

In addition, KE3 explained that women officers directly helped in counselling facilities. KE4 also added, *"As women officers, we spent a lot of time identifying issues faced by women and children at these camps. That gave us a lot of insights for updating our plans in the future."* KE5 further added, *"In terms of disasters and normal situations, involvement of women in decision making is highly important and relevant for a sustainable decision."*

6.5.2.2 Commitment

Many interviewees expressed a high level of women's commitment as a reason for their empowerment in DRG. For example, KE4 added, *"We understood that the level of involvement and commitment of women were very high. There are many women officers in our office. Without their contribution, we cannot carry out daily activities."* KE2 explained that women in administration and community women are committed to village-level disaster management committees. The interviewee added, *"Especially in disasters, women took the leadership in all disaster management activities in the community. So I can say that women's commitment is high, especially in disaster management. Because they have a real need and interest to secure and prosper their family."*

KE4 further added, *"The present disaster management system in Kegalle, I can see the level of women's contribution is high. Engagement of community women is much higher than men's participation. Similarly, the number of women officers in the DivS office is also high. They represent from the Divisional Secretary to GN level officers. Especially the role of mother is very strong and effective."* KE5 also

added, *"Even at camps, they voluntarily help in managing the camps. I must say that they are active in camps than men."* According to KE3 and KE9, women officers are not expected to work at night. Nevertheless, during the past emergencies, they worked irrespective of the time.

KE5, KE6 and KE7 also explained how committed women officers during the post-disaster situation in the district. KE7 added, *"Especially after the disaster, we worked continuously. We did not have any basic facilities. We forgot that we are women and we did all the work at the office. We did not have transport facilities. We used to travel by any means such as by bicycle, tractors, with the help of community."*

6.5.2.3 Easy to understand gender-specific issues

Several interviewees highlighted that women's empowerment in DRG is essential since they can easily understand gender-specific issues, which could be incorporated into the disaster preparedness system. KE4 explained, *"In order to minimize issue in the future, many representatives participated and visited these camps and provided guidance to women in camps. Such consultantancies helped to minimise issues raised in these camps."* KE5 also highlighted, *"I see women officers are very important in the planning stage. Because we identified the need for special places in camps for mothers to breastfeeding, changing rooms. These are particular matters to be considered in preparing for disasters."* KE6 emphasised the importance of such input when designing future disaster preparedness strategies to overcome women's vulnerabilities. According to EX5, *"Most of the facilities at temporary sheltors are limited to basic foods and health requirements. But these types of psychological supports are very important. Because male officers cannot directly ask and involve with gender-specific issues and requirements. But with the involvement of women officers at the planning stage, we can minimize many issues."* KE1, KE6 and KE7 also highlighted the same opinion.

6.5.2.4 Experience

Interviewee KE3, KE5 and KE6 underlined another reason why women's empowerment in DRG should be strengthened within the disaster preparedness system. According to the interviewees, one of the reasons is the experience within women. For example, KE3 stated, *"Women officers are experinedced in handling these situations. They have the experience, patience and understandability."* KE5 further explained by adding, *"Practical knowledge, and experience is also another key factor for the empowerment. We should be able to take decisions correct and*

suitable according to the situation. It comes through our knowledge and experience.” KE6 further added, “It is something to be appreciated. They work with their knowledge and experience as women officers and household members.”

6.5.2.5 Free from corruption

Another reason to show how important women to be empowered in DRG is free from corruption. According to KE2, most women are free from corruption. Therefore, they can convince and deal with unnecessary political pressures when making decisions. KE2 added, *“You can reject anything which is not right. So, if you are free from corruption and bribery and have no bad history, you can build up confidence and personality. This is a difference between women and men in administration. Most women administrators are clean.”* Therefore, women administrators help to achieve good governance. The interviewee further highlighted how politicians and some officials are corrupted in the system. The interviewee emphasised how a parliamentary member in his district engaged in corruption when dealing with a project. Unfortunately, the project was not completed. The interviewee explained, *“So I strongly believe that 95% of the public servants should be responsible for all the misconduct and misuse of resources, and corruption in this country.”*

6.5.2.6 High self-interest

Women have shown high self-interest in engaging in disaster management activities, including the preparedness and response stage. Thus, many interviewees believe that it is essential to empower women in the DRG. KE5 showed two examples in the office, adding, *“Our Assistant Divisional Secretary got ready for her wedding. She went home only one day before her wedding. Her act demonstrates self-interest among women officers to work in the sector. Another example, one of an officer who got pregnant after a long waiting period. Even she worked with us during those hard days. Furthermore, many of our officers got sick working day and night without proper food and rest. However, none of us worked not because of any benefit; we all worked with our desire.”* KE7 also highlighted, *“Regarding our jobs, we are highly satisfied with what we do right now and what we did during past disasters. Our Divisional Secretary and all our staff members worked alike without considering the status of our job. Thus, we are very happy about what we do in our jobs.”* KE6 and KE7 also confirmed the same idea. KE9 also expressed, *“And we are happy, especially when working in disaster*

management since we contribute to an important thing. We feel like it is our people; they need our help. So, we are very interested in working in disaster management."

6.5.2.7 Multi-tasking capacity

Many interviewees highlighted another benefit of empowering women in DRG within the district's disaster preparedness system. For example, KE1 stated, *"My personal view is that women officers perform better than a male officer due to their special qualities and their ability to perform multi-tasking."* This unique ability helps them for effective decision-making in any situation. In addition, women have been engaged with completing multiple tasks at the same time. For example, after office women engage with many types of household work, including child caring and cooking, which is similar to handling disasters. Performing these multi-tasking and multi-faceted duties at home help them performing such multi-tasking work at the office very effectively. So, being a woman officer is not difficult in making- decisions and implementation.

6.5.2.8 Preference for women officers

Several interviewees identified another justification why women should be empowered in DRG. According to KE4 and KE8, communities prefer women officers because of their supportive nature working in disaster management. For example, KE4 explained, *"In terms of organizational culture, I feel it is supportive, especially our Divisional Secretary. She understands our issues as a women officer better than a male Divisional Secretary."* Apart from the organisational setting, even at the camps and village level, the community prefers women officers in disaster management. KE7 added, *"In the event of a disaster, we had many difficulties in supplying necessities at camps. Specially, we faced a shortage of sanitary facilities for women. Luckily, there were women officers at the camps during the daytime who communicated with us. Many women felt shy to come and talked to male officers. So they feel more comfortable working with women officers in camps to communicate their issues in person."*

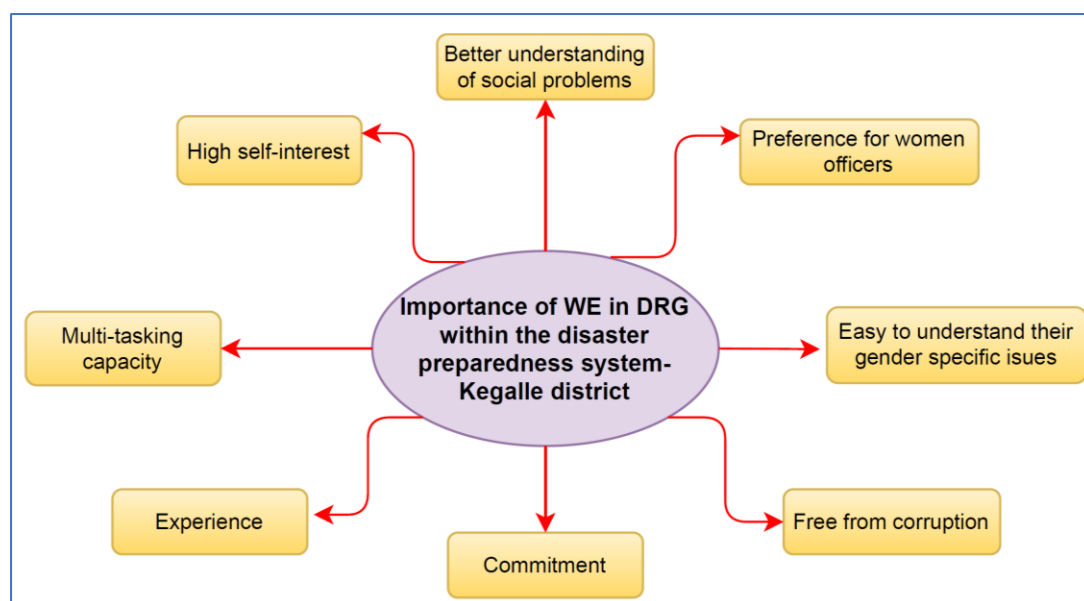


Figure 6. 24 Importance of WE in DRG within the disaster preparedness system

Source: Prepared by the author

6.5.3 Evaluation of the current contribution of women in disaster risk governance within the disaster preparedness system - Kegalle District

The contribution level of women officers in DRG was examined to measure their level of empowerment through the interviewees conducted in the district. Accordingly, the district's highest positions in the district's disaster preparedness and overall management were headed by male officers. For example, a male Assistant Director administers the DDMCU. In addition, the District Secretary position is held by a male officer. These are the two highest positions related to the disaster preparedness system in the district.

The next layer is the DivS office. According to KE1, out of 11 DivS offices, only 3 DivS offices are headed by women administrators. KE1 was the first women District Secretariat (Government Officer -GA) appointed to the Kegalle district long ago. According to the interviewee, the DS position is a high rank and a highly respectable job in Sri Lanka. At the DivS office, Sahana officers have been appointed to represent the Ministry. They were appointed to coordinate relief activities in the division. However, practically, they also engage in preparedness, disaster management efforts, and the DDMCU and the Divisional Secretariats. According to KE1, Sahana officers equally represent both men and women.

At the lower level, most officers engage in disaster response efforts. However, after the district's recent landslides and flooding incidents, a significant level of preparedness activities has been initiated and updated. Accordingly, lower-level officers now engage in both preparedness and response activities. According to KE3, GN officers are also equally represented, both men and women. KE3 further emphasised how women GN officers and Sahana officers worked during the disaster response stage in the district. They all contributed equally, irrespective of the time of the day. KE4 also emphasised where women officers were appointed camp managers during the response stage, mainly because there were no adequate male officers.

Most GN officers directly engage in disaster preparedness at the GN level disaster management committee. At these committees', community women voluntarily participate in the preparedness planning and other related disaster management activities with the GN officers. These committees are attended mainly by community women, as emphasised by KE3 and KE4. KE4 explained the reason for the high participation of women in village-level committees. The reason is that many men went to work during the daytime, and hence their participation was minimal.

According to KE4, GN officers engage in preparing the village disaster preparedness plan. The task is added to the DivS level by the mediation of the Divisional Secretariat and its officers. KE5 also commended her own experience, *"I had to cover two villages within our committee as a volunteer field officer. I am a committee member of the disaster management committee in two villages. We are responsible for reporting any incident that happens in that village. When the village people gather for any reason, I have to visit and report it."* KE5 further added, *"In case of an emergency, the GN level disaster committee has the details of the persons to be contacted. Specially in each GN division, the committee knows its resources in the event of a disaster. Such as the contact details of a three-wheeler and ambulance are available with the committee. In addition to the committee, we also have the details with us at the DivS office. We also advised the committee to find many solutions from the GN division itself. For example, if the road is blocked, they were given instructions to find a backup within the division and clear it."*

KE7, KE8 and KE 9 too explained their responsibility at the village disaster preparedness system. KE9 similarly added, *"As GN officers, we have our routine job and other than that, disaster management also. First, we prepare the village disaster preparedness plans. The plan has all the division details, safe places, key*

contact information, identified route, a map was drawn by the committee, and key assistants to be contacted. We give this plan to the divisional committee, and based on these divisional committees, they prepare the divisional plan and then the final district plan. So, we start the preparedness system. Moreover, we work in response efforts as well."

The above evidence demonstrates that male officers still hold the highest disaster-related decision-making positions in the system. Most women officers have been appointed either at the lower level or because there was no alternative at the time. KE2 added, *"I must say that we are already empowered to some extent. However, still, more to achieve. Especially the women at village-level and local community level as well as leaders must be empowered in decision-making. We can find women, community or household women, and some women officers who were not adequately empowered, including GN officers and Samurdhi officers."* Therefore, it was evidenced that still more to be done to strengthen women's empowerment in DRG in the district. Hence, the following section examined the challenges for women's empowerment in DRG with suggestions based on the interviews.

6.5.4 Factors affecting women's empowerment in DRG within the disaster preparedness system - Kegalle district

The case study interviews were analysed using NVivo 12 software and presented in Figure 6.25. The challenges were categorised thematically into five categories and presented in Figure 6.26. Each challenge was supported with suggestions as presented in Cognitive Maps.

| Name | Files | References |
|--|-------|------------|
| DPS in Kegalle | 1 | 1 |
| WE in DRG within DPS in Kegalle | 1 | 1 |
| Challenges for WE in DRG | 0 | 0 |
| Individual | 0 | 0 |
| Disappointment | 4 | 6 |
| Dominant behaviour | 2 | 2 |
| Lack of confidence | 2 | 5 |
| Lack of DM knowledge | 3 | 5 |
| Lack of experience | 4 | 4 |
| Limited skills | 4 | 5 |
| Personality | 4 | 6 |
| Job specific | 0 | 0 |
| Challenging nature | 2 | 2 |
| Security issues | 4 | 4 |
| Unspecific time | 6 | 8 |
| Working conditions or environment | 5 | 6 |
| Legal and policy | 0 | 0 |
| Organizational | 0 | 0 |
| Awareness raising | 1 | 1 |
| Excess workload | 5 | 8 |
| Issues related to role models | 3 | 3 |
| Limited power | 1 | 1 |
| Limited resources | 4 | 10 |
| No motivation | 2 | 2 |
| Patriarchal culture | 2 | 3 |
| Political | 0 | 0 |
| Low women representation in the parliament | 1 | 1 |
| Political influence | 5 | 6 |
| Socio cultural | 0 | 0 |
| Cultural norms | 6 | 9 |
| Extra HH workload | 6 | 8 |
| Family and social background | 1 | 4 |
| High dependency | 1 | 1 |
| No appraisal | 1 | 1 |

Figure 6. 25 NVivo 12 Software analysis of challenges for WE in DRG

Prepared by the author

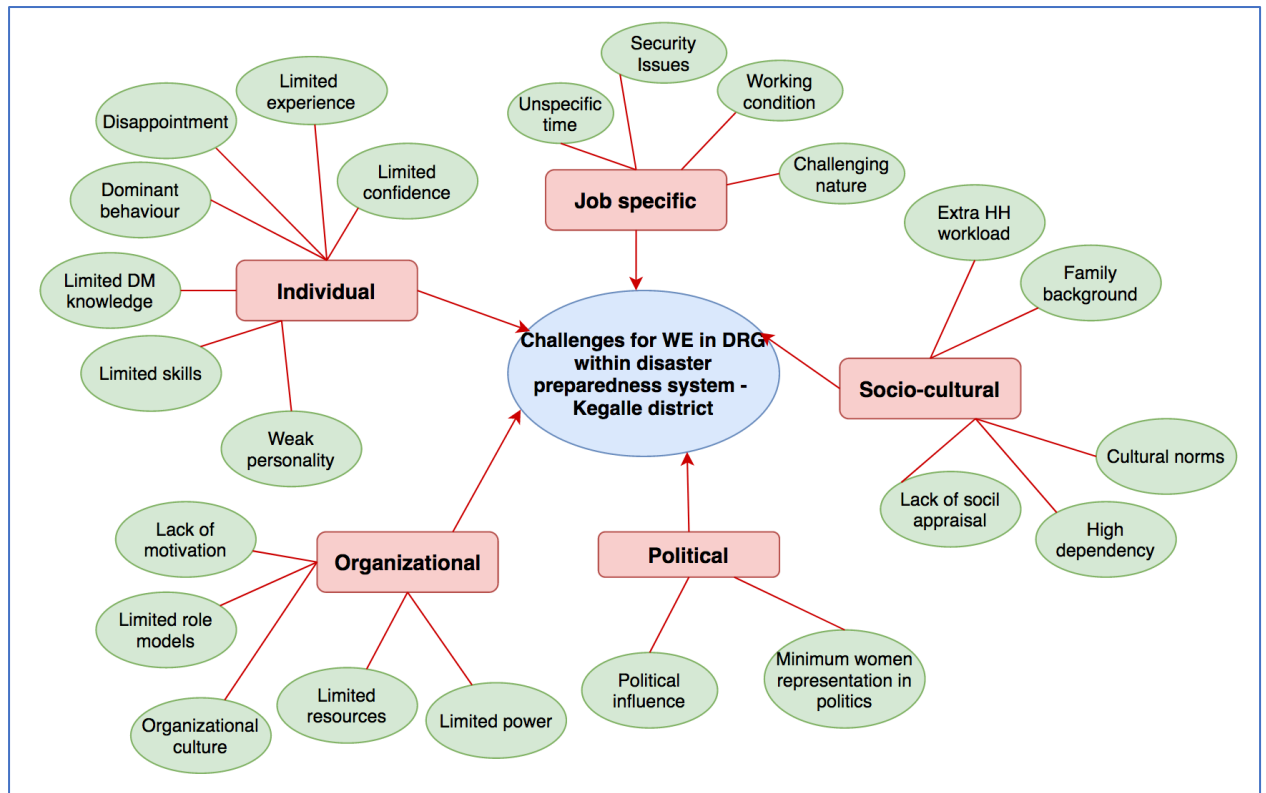


Figure 6. 26 Thematic Analysis of challenges for WE in DRG – within the disaster preparedness system in Kegalle district

Source: Prepared by the author

6.5.4.1 Job-specific challenges and suggestions

Four job-specific challenges were identified and grouped under job-specific challenges: working conditions, security issues, challenging nature and unspecific time as presented in Figure 6.27.

6.5.4.1.1 Working conditions

One of the job-related challenges identified by the interviewees was accessibility issues or working conditions. KE1 stated, *"The difficulties I see being women officers are some limitations in fieldwork. For example, working in hard locations and working in the night is difficult for women."* KE3 confirmed the same issue, highlighting the reason why they prefer to allocate office work than fieldwork. The interviewee further emphasised that especially the district is full of many complex and different landscapes. KE8 explained further challenges when working in the field, *"For a woman, it is difficult because we have to visit some places in the night or difficult places when there is a disaster. However, this is not the same for every day. Especially like heavy rains and flooding situations, we have to go by boat, or*

if there is a landslide place, we cannot reach higher places like men. Sometimes we have to go and identify some places as part of the village disaster management committee. This is somewhat difficult for a woman." KE9 also added that officers have to travel day and night, even in challenging places. Again, the interviewee emphasised that the job is challenging for women officers.

The suggestion proposed by KE8 was, *"It would be useful to develop and give them some training on some necessary skills which can help them performing their duties"*.

6.5.4.1.2 Security issues

Safety and security were identified as a challenge for women's empowerment in DRG. KE1, KE3, KE4, KE6 and KE9 identified that women engaged in disaster management must work under any circumstances. Such ability is essential to empower them in DRG. Officers are required to visit any place for better disaster decision-making to ensure risk governance. According to KE4, *"Difficulties we found was the limited staff especially when we go out in the night, we prefer to accompany a male staff officer."* KE6 emphasised that for the security of women officers in disaster management, they appointed men during the night duties. The interviewee added, *"Many women contributed coordinating activities at the office while men went to work in the field and camps. We had around more than 20 camps. Male officers stayed in the camps at night, and many women field officers were there during the day-time."*

However, women can engage within the disaster preparedness system, contributing to early warning systems, risk assessment, and data collection. These different functions require women to go and collect some data. Accessing some of these data may be dangerous due to the place they visit. Such security concerns make them keep apart from applying for disaster management jobs. KE9 too added, *"We also have to work day and night, especially in disaster period. We are the government officers at the village level. Through us, all information is requested in case of disaster. We have to travel day and night even very difficult places. So, travelling along as a lady is a bit scary with the present system in Sri Lanka."*

KE1 and KE9 suggested strengthening the overall security level in the country to avoid such situations. The interviewee highlighted how important is this for everyone in the country.

6.5.4.1.3 Unspecific time

Another challenge related to the job-specific category is the unspecific time. Disaster management related jobs are expected to be at any time. Officers engage in any type of job at the planning, implementation, or response level and anytime, especially during disasters. However, in the job advertisements, it is mentioned that 24/7 availability is an essential condition. Most women are not comfortable with this unspecific timing condition. Such unspecific time condition reduces the interest among women to engage in disaster management including disaster preparedness. Therefore, this has been identified as a challenge for their empowerment in DRG by several interviewees. KE1, KE4, KE5, KE6, KE8 and KE9 highlighted that women found it challenging to work at night.

Nevertheless, KE6 revealed that as a practice, most women were given daytime duties. KE3 also explained with an example, *"Two weeks before, there was a small-scale landslide in my division. At this time, I gave the messages and evacuated people in risk within 5 minutes. I was there until 11.30 pm."* The interviewee explained that such situations are difficult for women officers because of their inability, social commitment, and social norms. KE4 also confirmed this idea adding, *"In terms of working in the night, I do not go very late-night work in the field. Normally we finish by 7 or 8 in the night, if this is important."*

As suggestions, many interviewees identified family support as the primary solution. KE6 and KE5 explained that they worked during emergencies, day and night, at the GN level and DivS office and evacuation centres. They were able to perform their jobs without being limited to daytime, mainly with the support of their family members. KE5 and KE6 further emphasised that strong family support is a key determinant for women's empowerment in DRG. Not only their support but their mutual understanding is also beneficial. KE5 explained with their own experience, *"During the last landslide incident, we did not go home for several days. We did not concern about our family members."* Therefore, one suggestion was to raise awareness among the community to increase family support for women engaged in disaster management. According to KE5, *"Family support and understanding are very important to become an empowered woman in the society and the office."* KE8 also emphasised that women who wish to engage and empower in DRG should have the courage to work any time.

6.5.4.1.4 Challenging nature

Another job-related challenge identified was the challenging nature of the job. According to KE3, disaster management is a vital area where accurate and immediate decision-making is critical. During these events, some level of decision-making power needs to be delegated to officers. The head of the organization will be able to delegate these powers to lower-level officers. According to KE3, *"Sometimes we have to trust the officers and give them powers. Delegation of power is a bit difficult with women officers. They are scared to delegate powers or take challenging decisions in the event of disasters."* Another reason is that disaster management decisions are highly sensitive since the media can largely criticise any little mistake. Therefore, most women officers are reluctant to take such decisions, which can damage their image. KE3 explained a situation where the job will be challenging, stating, *"People were given money to build their house on a staged basis. They have to find ways to supply materials. However, when they find it difficult to provide supplies, they accused the government authorities in media."*

To address the possible threat from the media, KE3 suggested building confidence among women officers who wish to work and empower in disaster management decision-making.

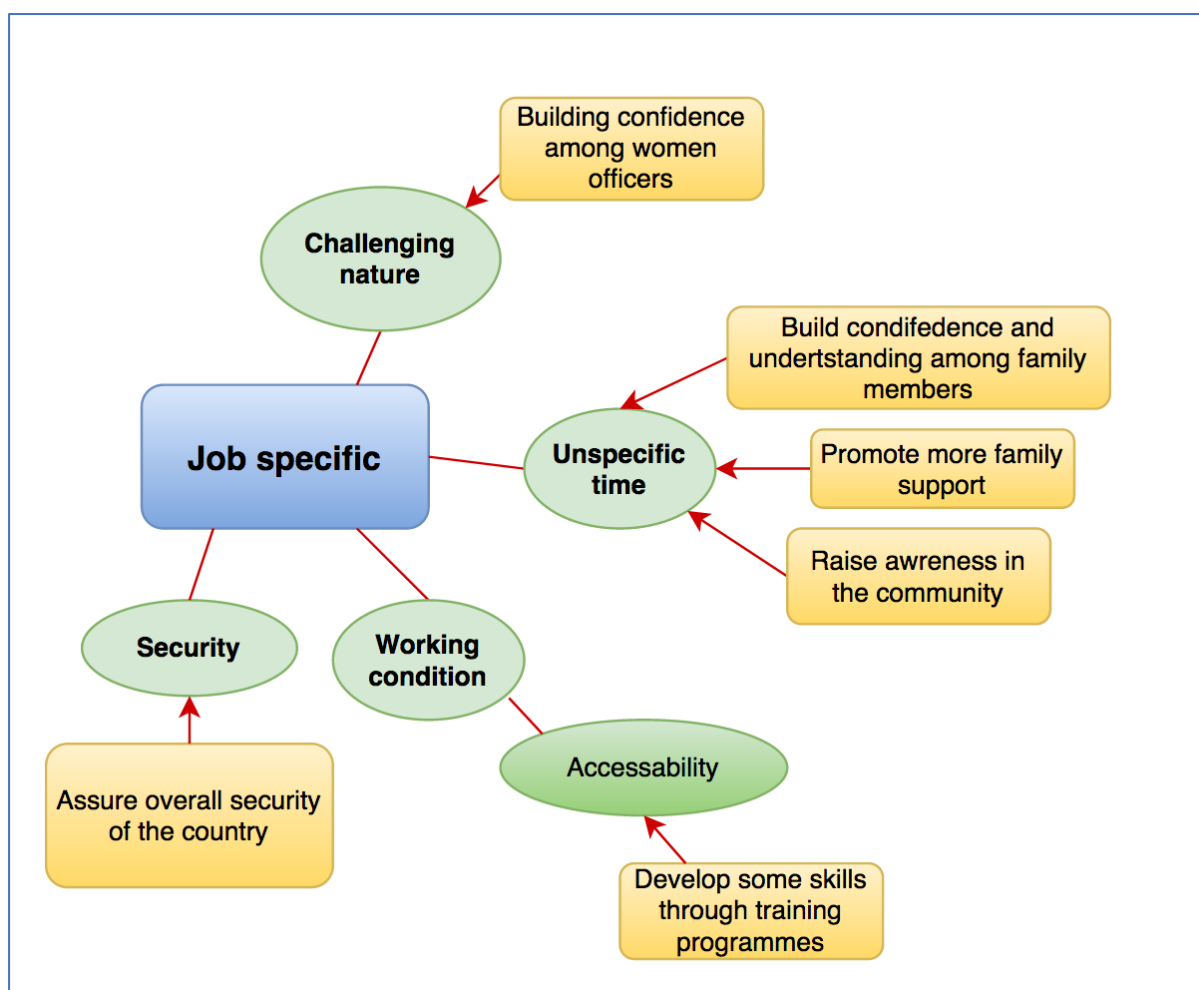


Figure 6. 27 Thematic Analysis of challenges for WE in DRG – within the disaster preparedness system in Kegalle district

Source: Prepared by the author

6.5.4.2 Socio-cultural challenges

Cultural norms, extra household workload, family and social background, higher dependency and no social appraisal were identified and grouped under socio-cultural challenges for women's empowerment in DRG and presented in Figure 6.28.

6.5.4.2.1 Cultural norms

Cultural norms have been identified as a challenge for women's empowerment in DRG by several interviewees. Because of cultural norms and beliefs, women are stereotyped with their roles, capacities and work life. According to KE2, "As a woman, I have a clear division between my professional life and personal life. It is difficult to mix these two. We should identify the difference between these two. As

a woman, I cook, feed children, look after my husband, our parents, and many more. I am responsible for socially accepted duties of a woman." These stereotype gender roles assigned by the culture limit women officers' capacity and interest in higher positions or decision-making or policymaking. Thus, most women prefer jobs that have a specific time, limited powers and a specific place. However, in disaster-related jobs, everyone is expected to be ready for work without any time or place restrictions, which is not accepted by the culture. This challenge is also related to the challenge of unspecific time, as explained by KE3. The interviewee explained, *"Normally, we do not give them night shifts as a cultural practice. This is because they have families to look after."*

KE4 further explained how marriage affects their level of freedom to work in disaster-related jobs. KE4 added, *"The job was easy before I got married. However, after marriage, there are some limitations. They expect a married woman to be at home in the evening and look after household matters. Especially, I feel like for me, after my marriage, there were some limitations in performing my duties in the office. They are not happy when we are late or working in the night."* KE1, KE5 and KE9 too agree with the same fact that women's empowerment in the DRG is limited due to cultural norms prevail in the society.

The suggestions made by the interviewees were to create awareness in the community along with strong family support. As highlighted by KE5 mutual understanding is essential for women's empowerment, which can be built by raising awareness in the community. KE2 also suggested conducting some awareness programmes to understand their power, capacity and rights for being empowered in the system.

6.5.4.2.2 Extra household workload

The household workload is another challenge for most women in decision-making, as KE2, KE3, KE4, KE5 and KE9. Several interviewees highlighted that most women in administration perform a disproportionate household workload regardless of their position and field.

KE2 added, *"When I go home after 5 or 6 o'clock, I do all household work. Because of our commitment to household work, it is not an easy thing. I find it difficult to balance both."* The interviewee highlighted a different example of a member of a parliament who came to her office. She is a doctor and a member of the parliament. The interviewee explained, *"Her husband and her only child live abroad, and she is*

in Sri Lanka. She is free from all related household work. She performs well in administration and politics.” KE4 also expressed a similar idea; *“There are some instances where we have some issues in performing both household work and office work. I do not have kids yet.”* KE9 too added, *“Most of us have to do our household workload at home like other women. We are expected to do all household-related work, childcare, cooking, cleaning, washing, looking after sick ones at home, and helping with school work. It is not an easy job. Very tiring. I receive some support from my husband but not enough.”*

One suggestion was to get more family support for women who engage in DRG to perform better in their role and be empowered in the job, as revealed by KE6, KE5, KE2. KE9 also suggested, *“If we are free from some of our household work, I can learn something new and spend more time with my work.”* KE1 and KE9 further highlighted that if women have more time to learn something related to disaster management, their empowerment could be established in DRG. Therefore, one strategy would be to reduce the household workload and supporting them.

6.5.4.2.3 Family and social background

Family and social background were identified as a factor for women’s empowerment in decision-making. For example, KE2 highlighted how a woman officer could be empowered in governance when her family and social background support her. KE2 highlighted with an example of the only women parliamentary member from Kegalle and how has she been supported by her family background, securing her position. KE2 added, *“She is a doctor, and her husband is an engineer. Furthermore, her father was also a provincial council member. So, she had that background from her family. That was supportive for her. Because of that, she had that capacity and experience.”* This example shows how family background supports women to acquire power and support in the system. At the same time, the family background also helps to be independent and work leisurely. KE2 also explained personal experience highlighting, *“My mother was a principal. We are Buddhist. So we never expect to go to hell. I never steal and never teach my children to steal. We learnt from our parents. So, I do the same thing with my job and children.”* The interviewee also emphasised that family background is essential to encourage women to lead and be transparent. Thus, governance could be achieved through women representation. However, most women do not have the same family and social background that encourages and supports their empowerment in governance.

Accordingly, KE2 suggested strengthening family background through overall social improvement or development.

6.5.4.2.4 High dependency

Another challenge identified by KE8 was high dependency among women. As a result, women accept and adapt to family commitments. One reason identified by KE8 for women's high dependency is the lack of childcare facilities. KE8 added, *"Because we cannot afford childcare facilities or we cannot hire housemaids. Childcare facilities are very expensive. With the present salary, we cannot afford such facilities."*

The suggestion was to establish some affordable childcare facilities for women who work in governance. Alternatively, provision of some extra support of income as payments for these services are also suggested by KE8.

6.5.4.2.5 No social appraisal

Lack of social appraisal was identified as a challenge for women's empowerment in DRG by KE5 and KE9. KE9 added, *"And sometimes we were disappointed because there are no motivation or promotion for our contribution. We never received any monetary benefits for extra work on disaster management. It is sometimes complaints only. We coordinate with the relief officer at the DivS office. People become angry if they do not receive any assistance."* KE5 explained that media damage and demoralise people in the system. An appraisal is especially crucial for women since they contribute willingly and genuinely without any return. Therefore, once they are criticised, instead of appraisal, their empowerment in the system is damaged.

The suggestion was to promote morale, especially women's morale, towards more engagement in disaster risk governance to establish an effective disaster management system in the country. KE5 added, *"My opinion is they should encourage staff, especially women who took a major role in the last disaster in Kegalle."* KE9 also confirmed the importance of high acceptance from society towards for women's empowerment in the DRG.

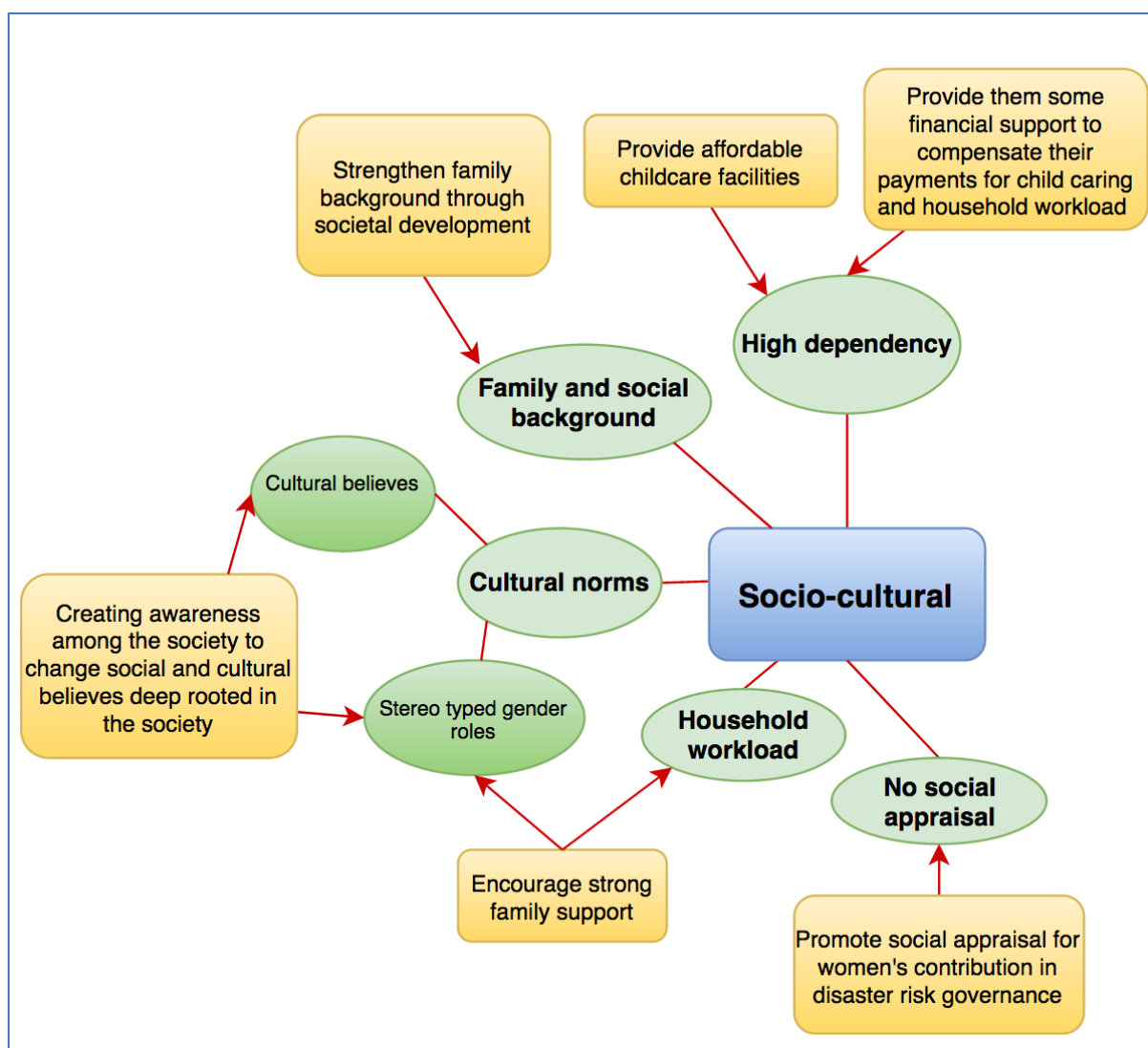


Figure 6. 28 Socio-cultural challenges and suggestions to support WE in DRG within the disaster preparedness system in Kegalle district

Source: Prepared by the author

6.5.4.3 Political challenges

Two political-related challenges were identified and grouped under political challenge and presented in Figure 6.29 with respective suggestions.

6.5.4.3.1 Limited women representation in the parliament

Another challenge identified was political challenges for womens' empowerment in DRG. According to KE2, the number of women in parliament is minimal. Minimum political representation of women in parliament affects women's empowerment in governance structure directly and indirectly. The interviewee explained, "There are many women administrators in Sri Lanka. However, due to some reasons, women

representation in the parliament has become very low. I believe that women do not like to represent the parliament because of their hesitancy about the parliamentary system and politics." Specifically, this affects the firm policy towards women's empowerment within the disaster risk governance structure. In addition, this is also related to the workload performed by women. As indicated by KE2, if women have to represent parliament, how can they balance household work without the necessary support.

KE2 suggested encouraging women's representation in politics and the parliament. KE2 further added, *"So, some women who want to be in the parliament hence mostly come from the higher tier. Most women represent a high social status. They have all sorts of support for all HH work, money, power. Then my suggestion is to appoint some middle class and the lowest group of women in the society to make a voice for them."*

6.5.4.3.2 Political influence

Many interviewees identified political influence as a challenge for women's empowerment in disaster risk governance. KE1 added, *"There are some situations where political influences can be seen as a barrier."* KE4, KE2, KE5, KE8 and KE9 revealed a mixed attitude towards the political influence. According to KE8, *"Because when we engage in preparedness and planning, we do not find any difficulty. But when it comes to relief distribution and there is some level of influence from politicians."* KE9 also added, *"Politicians expect us to listen to them, assuming they are the heads."* KE5 explained another aspect of political affairs, stating, *"In terms of political influences, we have not yet received any undue influences. We should not be prejudiced."*

The suggestion made by KE5 was, *"We should be able to cooperate with them rather than being influenced. According to my experience, some politicians help and encourage our activities. Especially, our minister was the former minister for the Ministry of Disaster Management. Thus, he has the knowledge and experience in this subject. Sometimes they ask many questions at the meeting because they represent the community. It is good to have such questions to assure accountability. As public servants, we should not have any party politics."* KE6 highlighted how important this political support or recognition is, adding, *"We received huge support from political leaders in post-disaster situations. They helped to the provision of basic facilities."* KE2 highlighted how important personality is to

deal with political influence. The interviewee explained, *"You can reject anything, which is not right. For that, you should build up your personality."*

Similarly, the interviewee suggested that the officers should provide evidence or data for what they claim. Being free from corruption is also essential when dealing with undue political influences, according to KE2. KE5 also highlighted how important to be cooperative with the politicians somewhat being influenced. KE2 added, *"Public services cannot perform their duties without the political support."* *We should be able to convince them with our experience and knowledge on the subject, especially as a representation of the DS office."*

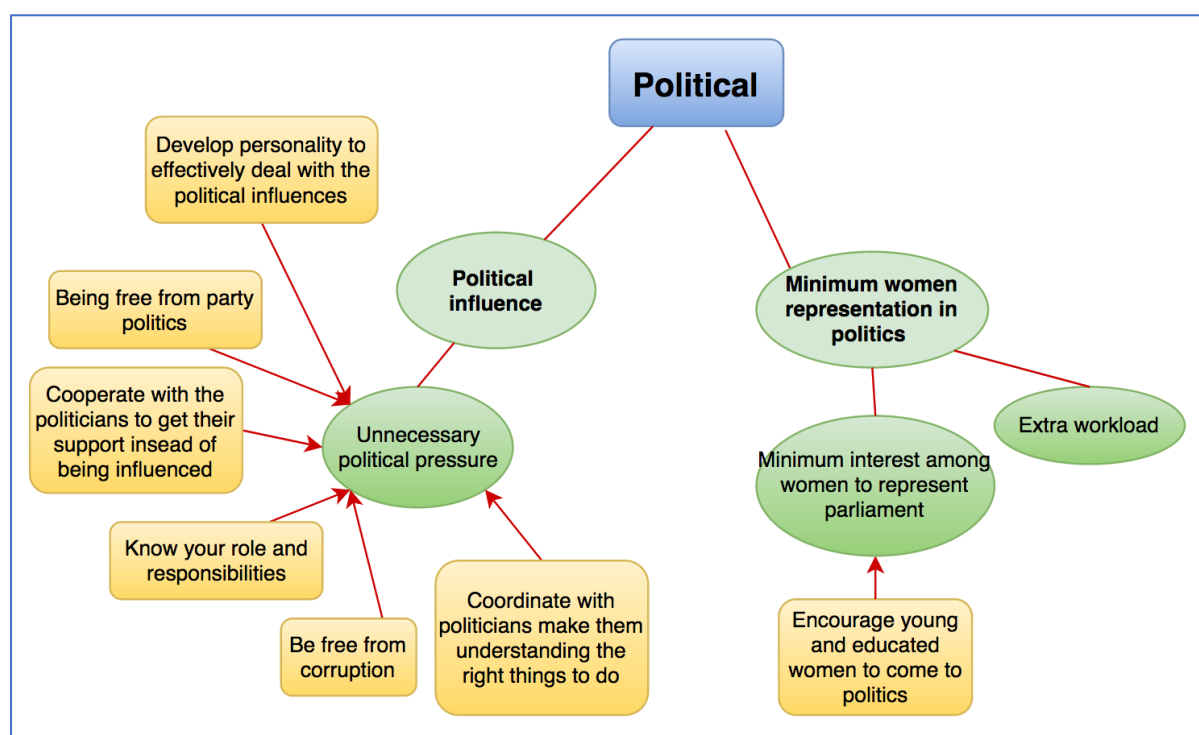


Figure 6. 29 Political challenges and suggestions to support WE in DRG within the disaster preparedness system in Kegalle district

Source: Prepared by the author

6.5.4.4 Individual challenges

Disappointment, dominant behaviour, lack of confidence and limited disaster management knowledge, limited experience, limited skills, and personality issues were identified and grouped under individual challenges for women's empowerment in DRG. The challenges and the relevant suggestions were summarised and presented in a cognitive map in Figure 6.30.

6.5.4.4.1 Disappointment

Interviewees identified many aspects of individual challenges that affect women's empowerment in DRG. Among these factors, disappointment was identified as a challenge by several interviewees. The disappointment was arisen due to many reasons. As explained by KE3, *"So, once I decided to leave from the office. Especially this is hard for women in the system. Because the way we contributed and the appreciation we receive make us disappointed."* KE3 explained how they received an audit query because of their commitment and engagement in disaster management. KE5 also added, *"We are disappointed because of media publicise some wrong information."* The interviewees highlighted their disappointment due to lack of appreciation either by media or community. Such disappointment leads many women officers to leave their job. KE5 explained that media play a prominent role in building or destroying morale and motivation among officers. KE5 added, *"Media write something criticising the system rather than admiring the services. Especially, there is a team of media who tried to build their image with such incidents."*

KE5 explained another reason for their disappointment, stating, *"We did not expect any additional payment for working in such conditions. We did not receive any benefits for our continuous commitment and duties. However, our Divisional Secretary always appreciates our commitment. We are happy with it."* KE8 and KE9 explained resource inadequacy as another reason for their disappointment. KE8 added, *"We do not have enough resources; no telephone facilities, no stationary facilities, no computer or fax machine."*

Several suggestions were identified from interviewees. KE2 and KE5 suggested increasing self-interest among women officers engaged in DRG and making them aware of the importance of their contribution to secure vulnerable women in disasters and the benefits to society. In addition, KE5 explained how media could build morale among officers in disaster risk governance by appreciating or promoting their dedicated service. KE5 suggested an appreciation of officers at the organisational level to reduce disappointment and increasing morale. KE6 also commended the idea adding, *"It is something to be appreciated."*

6.5.4.4.2 Dominant behaviour

Another challenge identified by interviewees is the dominant behaviour among women officers working in disaster management. According to KE2 and KE7, women officers often try to dominate other officers. KE2 explained, *"In most of these committees, the empowered woman take the lead and sometimes tries to dominate others."* KE2 further explained that this is also related to low personality and confidence levels among some women officers in disaster management.

Thus, KE2 suggested conducting an awareness programme to let them know their power, capacity, and rights in making organisational decisions. In addition, conducting training programmes could help them develop their personality and confidence level.

6.5.4.4.3 Lack of confidence

Another individual factor that becomes a challenge for women's empowerment is the confidence level. The confidence level is related to many other challenges. As explained above, the lack of confidence among many women officers in disaster management made them difficult to be empowered, specifically in the disaster management system. Even the dominant nature explained above is related to a lack of confidence among most women in the system, as explained by KE2. The interviewee explained, *"Some women officers engage in disaster management do not have the confidence to enter our office and fear to talk to higher-level officers. This is due to lack of confidence and personality issues."* The interviewee emphasised the same situation even within the higher-level officers who engaged in disaster preparedness. KE2 explained, *"Even some women Divisional Secretaries do not have the power or confidence to talk to higher-level officers because of lack of confidence and some type of social fear. I think when you operate backstage, you feel comfortable."*

KE2 highlights the importance of improving confidence among women officers in disaster management. Unfortunately, the opportunities for women are limited in the disaster management system. KE2 and KE1 recommended some training programmes targeting personality development as a solution. KE1 further added, *"They can be given some training on personality development and more skills. For example, presentation skills and communication skills. The interviewee further suggested introducing some role models to these officers."* KE5, KE7 and KE8 further suggested the use of NGOs for training officers. KE8 explained, *"We received some*

training from some NGOs. They trained our personality development and presentation skills. Those trainings are helpful and motivate us to perform better."

6.5.4.4.4 Lack of disaster management knowledge

Many interviewees identified a lack of disaster management knowledge among women officers working in disaster management as a challenge for their empowerment in the system. KE8 stated, *"We know the disasters in our area. We use our knowledge in managing disasters due to lack of proper knowledge in disaster management."* KE9 similarly stated, *"Sometimes we realise that we do not have adequate knowledge on disaster management. Even though we prepare village level plans, we do not have formal disaster management knowledge because we never studied disaster management as a subject."* KE5 and KE2 highlighted how difficult them to engage in DRG without adequate knowledge. KE2 also emphasised the importance of disaster management knowledge to convince the politicians and other higher officers regarding effective disaster preparedness systems.

The suggestions were to introduce disaster management as a subject in school curricular and give them training. KE9 proposed, *"If schools can introduce disaster management as a subject, we can get good understanding on disaster management. I think at present they teach. Especially, the education could be targeted to identify risk, using maps, selecting safe places and how to communicate would be covered."* KE7 acknowledged the value of the training given by the NGO, including the Red Cross. Their training covered many aspects of disaster management, which helped them acquire a substantial level of knowledge on disaster management. KE5 and KE6 also suggested introducing some training and programmes to get more knowledge and experience to empower women in disaster management.

6.5.4.4.5 Lack of experience

Another challenge was the lack of experience. KE2, KE3 and KE7 recognised that officers have minimum opportunities to get disaster management experience in Sri Lanka. KE2 and KE7 explained that the Sri Lankan disaster profile is limited to frequent floods and droughts. KE3 emphasised, *"In terms of landslides, we did not have any prior experience before this Samassara in Kegalle."* As a result, the officers have limited experience dealing with tsunami and landslides compared to other natural hazards. KE2 explained, adding, *"We have not experienced or faced such types of disasters in history. For example, Japan and Australia are always engaged with disasters, and they have hence officers experienced."* KE7 explained

their recent experience of landslide incidents in Aranayake and how it expands their knowledge in dealing with future disaster preparedness measures. Such experience is essential for women officers since most GN level disaster management committees are coordinated through women officers.

Thus, KE5, KE7 and KE8 proposed introducing some training in disaster management, especially for women officers directly involved in village-level disaster management committees and other disaster management activities. KE8 added, *"We like to have a good training for us at least once a year as in-house training for at least a couple of days."* KE5 and KE7 emphasised the role of NGOs sharing their knowledge and experience to overcome this challenge.

6.5.4.4.6 Limited skills

Limited skill was identified as a challenge under the individual category. Many interviewees identified limited skills availability among women officers in disaster management. KE2 identified limited communication skills, which affect many women officers when communicating with the higher level and the public, as essential skills.

The suggestion was to train on developing many types of skills, specifically KE1, KE2 KE8, and KE9, added presentation skills and communication skills to be developed among women officers in DRG. KE5 and KE7 suggested that NGOs can provide such necessary training for community women and administrative women in DRG.

6.5.4.4.7 Personality issues

Many interviewees identified personality as a challenge, and it further relates to other challenges. For example, KE1 and KE2 identified personality issues among many officers working as administrators and politicians. KE2 revealed, *"We should be able to get other support at the right time. Here personality matters."*

KE1, KE2, KE5 and KE8 proposed several strategies to develop personality among women officers for their empowerment in DRG. KE8 suggested, *"They can be given some training on personality development, acquiring some additional skills. For example, communication skills. Developing their personality can benefit them being empowered in the disaster management system."*

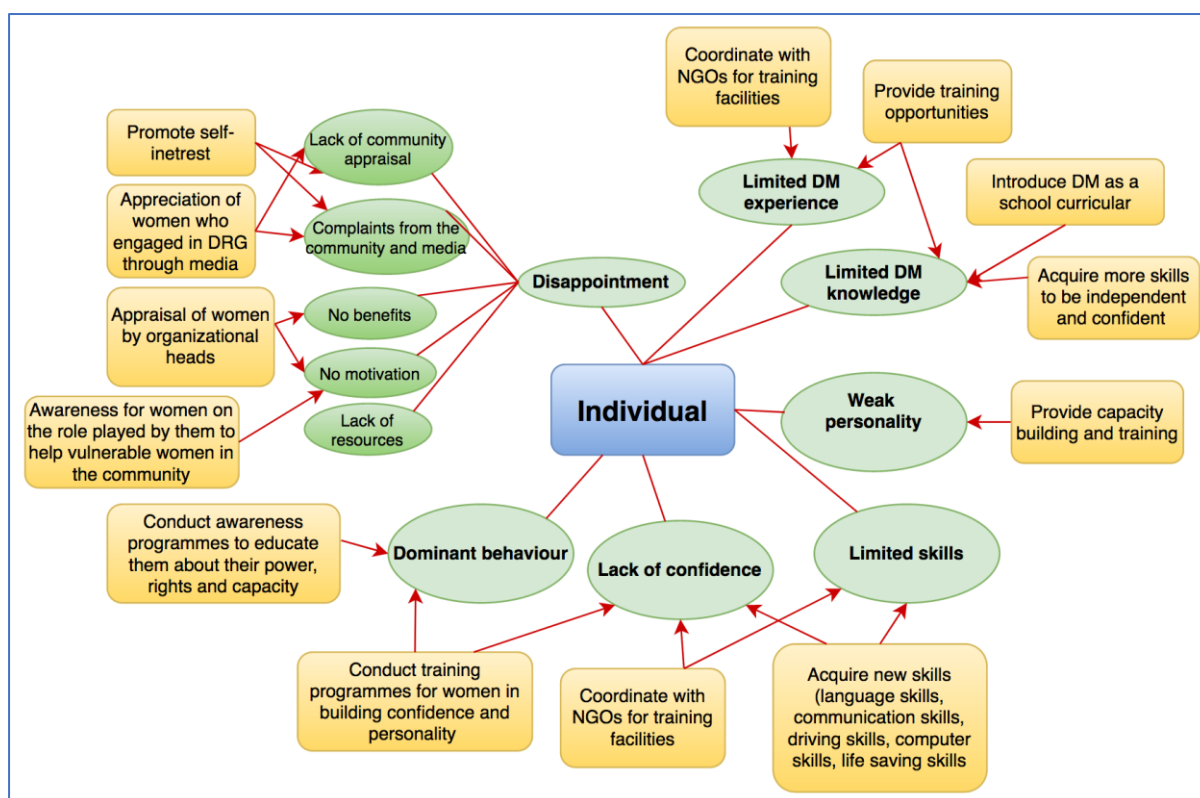


Figure 6. 30 Individual challenges and suggestions to support WE in DRG within the disaster preparedness system in the Kegalle district

Source: Prepared by the author

6.5.4.5 Organisational challenges

Six challenges were classified within organisational challenges: excess workload, limited role models, limited power, limited resources, no motivation and patriarchal culture. The challenges and relevant suggestions are presented in a cognitive map in Figure 6.31.

6.5.4.5.1 Excess workload

Many interviewees identified the excessive workload assigned to disaster management officers as another challenge they face. The situation is further complicated when it comes to women officers who engage in disaster management. Thus, many of them identified this extra workload as a challenge for women's empowerment in DRG. KE2 and KE4 explained that women officers work in the office and the field. KE4 added, "As a challenge, I see time management with the heavy workload due to limited human resources. Especially when a disaster hits, the workload becomes heavy. Due to limited human resources, we work day and

night and even during weekends.” KE8 explained how this situation would be further increased when the district is prone to frequent disasters in the future. KE8 explained, “After Samassara landslide, we have to work more in disaster management related duties. I mean more planning for the next disaster. In addition, the district has been subjected to frequent floods over the years. Due to increasing disasters, our duties are overloaded.” Such extra workload resulted in limiting their level of involvement in decision-making and try to complete routine work.

As a solution, KE4 suggested increasing cadres to the disaster management system at the district and divisional offices. KE4 explained, *“As a solution, we recommend appointing at least two officers on behalf of the Relief Service representing the Ministry of Disaster Management. In addition, more human resources should be allocated, especially for high-risk districts with multiple and frequent disasters.”* KE5 suggested raising awareness in the society to get family support and create an understanding among family members about their job. KE8 and KE9 proposed to receive support from the development officers and Samurdhi officers in performing overloaded duties in the village as another solution to reduce the workload.

6.5.4.5.2 Limited role models

According to KE1, KE2, and KE5, role models are essential to strengthen women’s empowerment in any field. However, limited role models are identified in disaster management. KE2 explained, *“In terms of role model, it as an influential thing for their empowerment. I can say that women in the lower level and the community perceive us as role models. However, that is not adequate.”* KE1 also added, *“Powerful role models are limited in the disaster management field since men occupy most disaster management jobs.”* KE2 further added that officers have limited time to spend with role models as another related challenge in addition to limited role models. The interviewee emphasised that what is needed is to spend some time with them to learn or develop them as role models in the system. The interviewee explained the reason as, *“Because we have much other work at the District Secretariat office.”*

One of the suggestions made by KE2 was to identify women who perform well in the disaster management system and regard them as role models. In addition, introduce them to women in the system, allowing more time to work with these

role models. The interviewee further proposed, *"We should find a mechanism through our development officers to encourage these backward groups of officers through some empowerment programme to empower them in the future. Either through training or allowing them to spend more time with the officers so that they can get the experience and learning from each other and seeing them as role models for them."* KE2 added, *"I believe that as a woman, if I can come this far, I have a responsibility to take others as well to be more empowered in the society. So, there is a change in the social system."*

6.5.4.5.3 Limited power

One of the critical factors for being empowered in the system is power. However, several interviewees, KE3, KE5 and KE9, identified limited power among women in disaster management or disaster-related decision-making to challenge their empowerment.

Interviewees made multiple suggestions to address the challenge of limited power issue among women officers working in disaster management. KE9 suggested allocating more powers to officers at each level. KE5 added that this could be achieved by introducing necessary acts, rules, and regulations in the system. KE3 explained, *"When I give them duties, I made sure to give them powers to take decisions, and confirmed them that I would take the responsibility if you have any issue with taking such decisions. I allow them to contact me only if they really need my permission. Otherwise, they were given the right and power to take decisions."*

6.5.4.5.4 Limited resources

The limited resource was identified as a challenge for women's empowerment in disaster risk governance. KE4 explained, *"When performing duties in the Ministry of Disaster Management, the main challenge was human resources. In each DivS Office, we have only one officer. Because in a division, especially with a high level of hazards, one officer is not adequate. Because we do not limit our duty only to response stage, but also we work all stages of the disaster cycle."*

In addition, KE6 explained limited physical resources as a challenge for women's empowerment in DRG. The interviewee explained, *"One main limitation in the organisation where I work is limited access to internet facilities. In the event of a disaster, internet facilities would be very helpful for disseminating risk alerts and*

getting updates about the situation. At the Divisional Secretariat office, for each division, there is no internet facility." KE8 and KE9 identified several other physical resource limitations, for example, lack of telephone facilities and lack of stationary facilities. According to KE8, *"As GN officers, we have to work in the office and the field. We visit the DivS office every Wednesday and whenever necessary. So, at the office, minimum facilities are available for us. No any allocated space for GN officers. Most of us either stand in a small hall and do our work. Even at the GN office in the village, we have minimum facilities. Most of the resources are our resources like mobile phones and papers."*

KE4 strongly proposed the necessity of more resources, including human and other physical resources, for women officers to be empowered in DRG. Another suggestion made by KE6 is to coordinate with other relevant ministries to share resources with them. The interviewee explained how they cooperated with other DivS Office relief officers during the previous disasters. KE8 also suggested allocating more resources to lower-level officers to support their duties, for example, stationery, telephone facilities, computers, and training on how to use them.

6.5.4.5.5 No motivation

KE5, KE8 and KE9 identified minimal motivation among some women officers in disaster management as a barrier to their empowerment in DRG. KE9 added, *"Sometimes we are disappointed because there are no motivation or promotion for our contribution."* However, without such motivation, women's empowerment in DRG would be difficult and impractical.

As suggestions, KE9 proposed to provide more support, which will encourage them to perform well in the system. KE5 explained how their institutional head motivates their fellow officers, adding, *"WE appreciate our Divisional Secretary since at least he appreciates the service rendered by our officers at the office."* KE6 also commended the suggestion made by KE5.

6.5.4.5.6 Organizational/ patriarchal culture

The patriarchal culture within organisations affects women's empowerment in DRG, as identified by KE5 and KE9. KE5 explained, *"This depends on the leadership in the office and the office culture."* KE9 explained how their organisational head supports and encourages everyone in the organization and how it is different. The

interviewee added, “Our Divisional Secretary is helpful and very understanding. He supports and encourages everyone to express their ideas. Thus our organisational setting becomes supportive. However, some of our friends find it difficult and not supportive to work with some Divisional Secretaries.”

The suggestion was to raise organisational awareness to let the staff know their power, capacity, and importance in disaster management decision-making as proposed by KE5. Furthermore, KE9 proposed to promote supportive organisational heads.

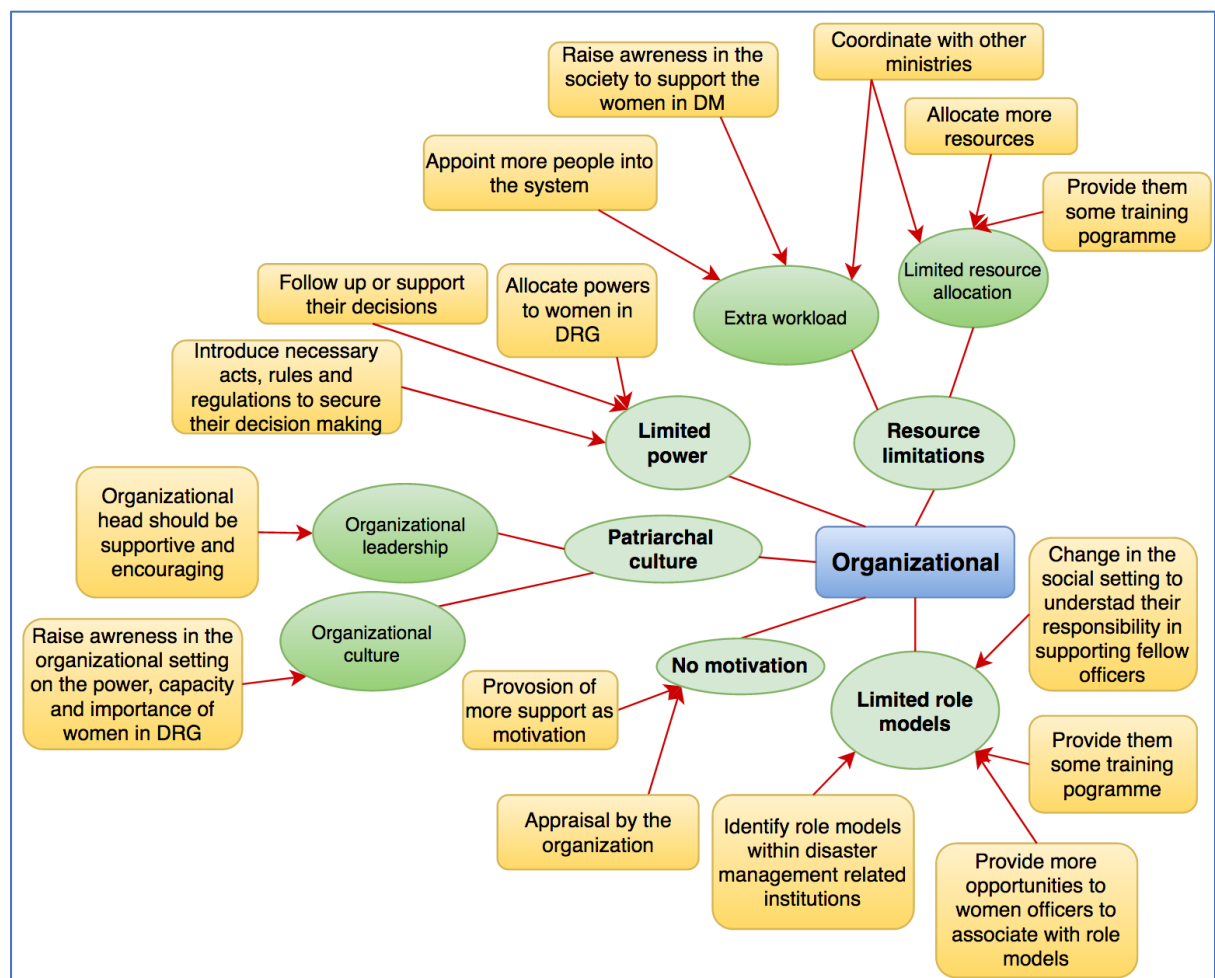


Figure 6. 31 Organizational challenges and suggestions to support WE in DRG within the disaster preparedness system in Kegalle district

Source: Prepared by the author

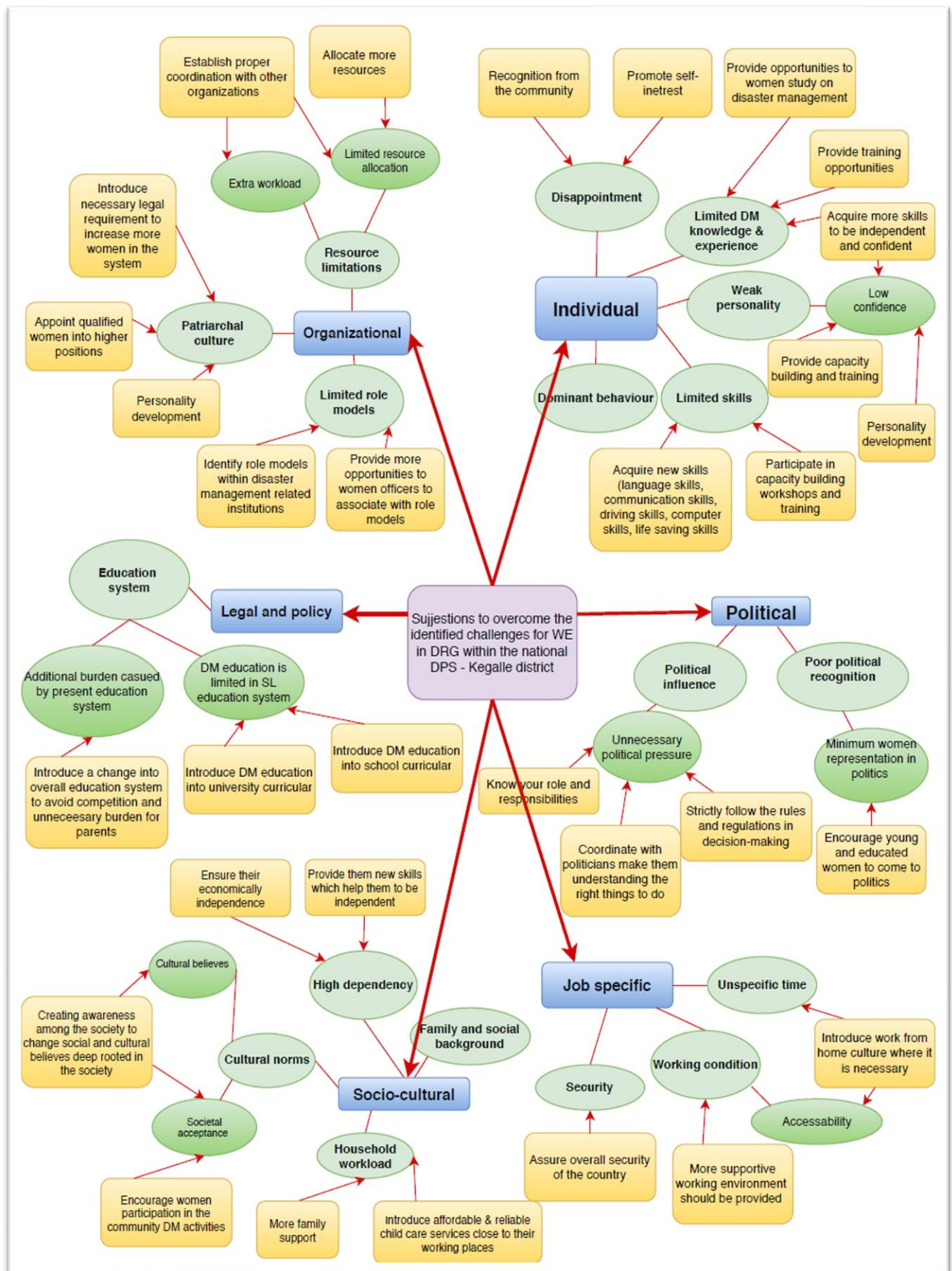


Figure 6.32 demonstrate the summary of the Kegalle district case study analysis.

6.5.5 Favourable factors for women's empowerment in disaster risk governance within the disaster preparedness system – Kegalle District

In addition to the identified challenges identified above, three supportive factors were identified.

Family support: KE2, KE5 and KE8, highlighted the family support affect performing disaster management duties. For example, KE5 added, *"One reason to commit our whole time is the support received from our families. They gave their fullest support to look after our families and help perform our duties."* KE8 also mentioned, *"My family support is the main strength I have."* Accordingly, they proposed encouraging families and family members to support women with a complete understanding of their empowerment in risk governance.

Higher education among women: Another favourable factor for women's empowerment identified by KE1, KE2, KE6, KE8 was education. Most women working in disaster management are academically qualified. KE1 explained, *"A rising number of women representation can be identified in offices. More women and girls continue their higher education while more men joined in the forces and police. "*

Minimum interest among men to join the government jobs: Another favourable condition for women's empowerment in DRG is the minimum interest among men to engage in government jobs. Disaster management is mainly operated within the government sector except for NGOs. KE1 stated that the vacuum provides an opportunity to appoint women candidates in government disaster management services.

6.6 Summary and the link

This chapter presented three case studies conducted based on three selected districts in Sri Lanka. An introduction to each district, its disaster profile and disaster preparedness system were briefly presented at the beginning of each case study. In addition, the importance of women's empowerment in DRG and the present status of women's empowerment in DRG were presented. Next, the challenges that affect their empowerment in DRG were presented with the suggestions under each case study analysis. Accordingly, the next chapter presents a cross-case analysis to provide more meaningful findings based on the case study analysis.

CHAPTER 7 Cross-case Analysis

7.1 Introduction

After presenting individual case study analysis and their findings in Chapter 6, this chapter presents a cross-case analysis according to the study objectives. Next, section 7.2 provides a cross-case study analysis across the research objectives from 2-5, and Section 7.3 summarises and presents the link to the next chapter.

7.2 Cross-case analysis

The cross-case analysis was conducted to compare the findings of the three cases according to study objectives. A cross-case analysis provides an understanding of individual cases (Yin, 2018) and a systematic way of comparing cases to identify similarities and differences across cases. Hence, cross-case analysis is used in theory building since it produces diverse evidence across case studies (Miles et al., 2014; Yin, 2018).

First, the cross-case analysis compares the importance of women's empowerment in DRG, then presents the current women's empowerment in DRG within the disaster preparedness system. Finally, the challenges identified for their empowerment in DRG and the suggestions found across case studies are presented.

7.2.1 Importance of women's empowerment in DRG within the disaster preparedness system to reduce women's vulnerabilities- Cross-case analysis

Section 6.3.2, 6.4.2 and 6.5.2 presented the importance of women's empowerment in DRG within the disaster preparedness system to reduce women's vulnerabilities caused by disasters, independently within each district's disaster preparedness system. Table 7.1 presents the summary of each case study findings. Some common reasons were found across all cases and could be considered the most highlighted reasons women should be empowered in DRG.

Accordingly, six reasons were confirmed by all three cases as the importance of women's empowerment in DRG. Accordingly, women are better positioned to understand women-specific issues in disasters was a strong argument for enhancing women's empowerment in DRG. In addition, women's ability to

incorporate their experiences working with family members and communities, women's high commitment to disaster management efforts and their multi-tasking capacity were also found as solid justifications. Furthermore, fellow officers and the community prefer to work with women officers than male officers in disaster management activities were identified as another common justification. Finally, the sixth most highlighted reason for women's empowerment in DRG is the benefits for vulnerable women and society.

In addition, Colombo and Kalutara case studies confirmed that women's ability to be good listeners is a reason for their empowerment in DRG. Similarly, high self-satisfaction working in disaster management was found in Colombo and Kegalle cases. Kalutara and Kegalle case studies also confirmed that women should be empowered in DRG because they are free from corruption. According to the Colombo case study, women's empowerment supports ensuring accountability and transparency. Besides, the Kalutara case study added two more reasons: achieving equality and creating a friendly environment as two more reasons women should be empowered in DRG within the preparedness system.

Table 7. 1 Importance of WE in DRG within the disaster preparedness system - cross-case analysis

| Importance | Case study 1 Colombo | Case study 2 Kalutara | Case study 3 Kegalle |
|--|-------------------------------------|--------------------------------------|-------------------------------------|
| Accountability | X | | |
| Better position to understand women specific issues in disasters | X | X | X |
| Experience | X | X | X |
| Good listeners | X | X | |
| Transparency | X | | |
| Commitment | X | X | X |
| Mental stability | X | | |
| Multi-tasking capacity | X | X | X |
| Preference for women officers | X | X | X |
| Self-satisfaction | X | | X |
| Societal benefit | X | X | X |
| Friendly environment | | X | |
| Free from corruption | | X | X |
| Equality | | X | |

Source: Prepared by the author

7.2.2 Current contribution of women in DRG within the disaster preparedness system- cross-case analysis

Sections 6.3.3, 6.4.3 and 6.5.3 presented the present contribution level of women in DRG within the disaster preparedness systems in each selected case district. According to three case studies, the highest positions in the disaster preparedness system have been assigned to the District Secretaries and Assistant Directors at the DDMCUs. Across the three case studies, male represented the above positions in each district. Next, the Divisional Secretariats represent the second layer of the preparedness system in each district. Accordingly, more women representation in DRG was identified within the second layer of the disaster preparedness system in Sri Lanka. Across three case studies, the number of women Divisional Secretariats: 9 out of 13 in Colombo district, 8 out of 14 in Kalutara district and 3 out of 14 in Kegalle district. Sahana officers, the next layer of officers related to disaster preparedness in the district boundary, represent mixed results across cases. The lowest officers engaged in the disaster preparedness system, the GN officers, are represented by women officers except for the Kegalle district.

According to case results, women officers involved in both preparedness as well as in response measures. Before 2016, most disaster management measures focused on disaster response measures than preparedness in Sri Lanka, as evident from the three case studies. However, the 2016 nationwide floods and landslide incident in the Kegalle district changed the disaster management system in Sri Lanka. Accordingly, all previous disaster preparedness plans were subjected to revisions indicating more attention was given to disaster preparedness. Colombo, Kalutara and Kegalle cases confirmed that their preparedness systems and plans were revisited.

Accordingly, the DMC distributed the format of the disaster preparedness plan to DSs and DDMCUs. The formats were filled with the support of divisional and village disaster management committees. Accordingly, all GN officers were assigned to revisit their village disaster preparedness plans with the village disaster management committee's support and inform the divisional disaster management committees at the DivS office. They updated their divisional preparedness plans and sent them to the DDMCU and the DS office. After combining all data from the village, divisional, and district levels, the national disaster preparedness plan was updated. In this process, women officers have contributed to assuring disaster risk governance within the disaster preparedness system. Their contributions were; preparedness planning, identifying disaster risks in the area, identifying evacuation

routes for different disasters, identifying safety locations, preparing lists of emergency contact and assigning duties to village disaster management committees.

In addition, women officers have contributed to the disaster response stage irrespective of day and night during the past disasters. They have shown their full capacity during the response, which is much harder than preparedness measures. They have been involved in all sorts of response measures across all three cases. Higher-level officers primarily engage in coordinating activities with other ministries and institutions related to disaster management, while lower-level officers engage in coordinating and implementing disaster response activities. Nevertheless, three case studies found that women officers working in the disaster preparedness system face many difficulties and challenges in their empowerment in DRG, as presented in Sections 6.3.4, 6.4.4 and 6.5.4.

The following section presents the cross-case analysis identifying the challenges of women's empowerment in DRG within the preparedness system.

7.2.3 Challenges for women's empowerment in DRG within the disaster preparedness system and associated suggestions to overcome the challenges

After identifying the present status of women's empowerment in DRG within the disaster preparedness system, the study investigated the challenges they face when empowering women in DRG within the preparedness system. Accordingly, Table 7.2 summarises the challenges across the three cases and is classified into main themes based on the thematic analyses conducted. The categories are; job-specific, socio-cultural, individual, organisational, political and legal and policy. Next, Table 7.3 compares solutions based on the case study analyses to address each challenge presented in the above categories.

Across 3 case studies, common challenges were identified within the job-specific category. The security of the women officers was identified as a common challenge when empowering them in DRG. Security is also related to working conditions. Some specific working conditions in disaster management are challenging for women officers. Across all case studies, disaster management officers are requested to be ready for work at any time of the day. Most male officers and communities perceive unspecific time or 24-hour availability as a challenge for women officers.

Nevertheless, in reality, women officers have demonstrated their commitment, availability, and capacity to work day and night during past disasters across three case studies. Therefore, this unspecific time could be considered as an articulated challenge by the social system, restricting women's empowerment in DRG.

Women's empowerment is further challenged by the district disaster profile and also due to community pressure. For example, the Kegalle district's high disaster risks added complexities to women's empowerment in DRG within their preparedness system. Similarly, additional pressure from the community was found in the Colombo district, which represents multi-cultural, multi-ethnic communities with different socio-economic and socio-cultural backgrounds. Thus, working in the Colombo district generates additional pressure for women's empowerment in DRG.

In terms of individual challenges, limited skills, limited disaster management knowledge and experience were highlighted in all three cases as challenges for women's empowerment in DRG. Inadequate skills and disaster management knowledge among women officers have affected their empowerment in DRG. The study further found how disappointment affects women's empowerment in DRG across three cases. Weak personality was also identified as a challenge in Kalutara and Kegalle districts which demonstrate districts' attributes. For example, women officers from the Colombo district do not find personality-related issues while engaging in DRG, while the other two districts show a clear difference. For example, women officers representing the Kegalle district are challenged by confidence issue. The finding is compatible with the present status of women's empowerment in DRG within the district disaster preparedness system.

Table 7. 2 Cross-case comparison of challenges identified for women's empowerment in DRG within the disaster preparedness system

| Challenge | Case1 Colombo | Case 2 Kalutara | Case 3 Kegalle |
|-----------------------------------|------------------|--------------------|-------------------|
| Job-specific | | | |
| Security | X | X | X |
| Working condition | X | X | X |
| Unspecific time | X | X | X |
| Challenging nature of the job | | | X |
| Extra pressure from the community | X | | |
| Individual | | | |

| | | | |
|--|---|---|---|
| Disappointment | X | X | X |
| Dominant behaviour | | | X |
| Lack of confidence | | | X |
| Limited skills | X | X | X |
| Weak personality | | X | X |
| Limited DM knowledge | X | X | X |
| Limited DM experience | X | X | X |
| Organisational | | | |
| Resource limitation | X | X | X |
| Limited power | | X | X |
| Patriarchal culture | | X | X |
| Lack of motivation | X | X | X |
| Limited role models | | X | X |
| Poor coordination | | X | |
| Limited opportunities | X | | |
| Leave related issues | X | | |
| Extra workload | X | X | X |
| Job security | X | | |
| Lack of confidence in women's decisions | | | X |
| Political | | | |
| Political influence | X | X | X |
| Lack of women representation in politics | | X | X |
| Socio-cultural | | | |
| High dependency | | X | X |
| Family and social background | | | X |
| Cultural norms | X | X | X |
| Household workload | X | X | X |
| No social recognition | | | X |
| No community awareness | | X | |
| Lack of support from the community | X | | |
| Legal and policy | | | |
| Education system | X | X | X |
| No supportive policies | X | X | |
| Limited opportunities | | X | |

Source: Prepared by the author

Organisational challenges are dominant among all other categories of challenges across three case studies. Resource limitation, extra workload and lack of motivation were highlighted from all three case studies as challenges for women's empowerment in DRG. Organisational challenges were significantly identified among lower-level officers, for example, Sahana officers and GN officers. Women officers contribute to disaster preparedness and response measures significantly with resources, affecting motivation, disappointment and extra workload at the office. Limited power, patriarchal culture and limited role models were identified as challenges from Kalutara and Kegalle districts. One possible reason identified from the Kegalle district was that a limited number of women engage in higher positions within the district disaster management system, demonstrating a patriarchal culture operated within the disaster management system. Women officers working in the Colombo district disaster preparedness system show some level of power and confidence compared to the other two cases. Patriarchal culture affected to lower their confidence in their decision-making in the Kegalle district. Job security is identified as a challenge for women officers' empowerment in DRG in Colombo district, which also related to creating competition among officers who engage in disaster management system in the district.

Political influence was identified as a challenge under political challenges in all three cases. Three case studies explained how communities approached politicians. For example, when claiming disaster relief, some interferences to some preparedness and mitigation measures across districts. Interviewees across the three districts revealed that disaster management is a sensitive subject and needs political support and recognition. However, most of the political interferences were identified as undue influence instead of as support. The lack of women's representation in political positions was highlighted in Kalutara and Kegalle district.

In addition to the above challenges, socio-cultural challenges were identified as a challenge for women's empowerment in DRG across three case studies. Cultural norms and the extra burden of household workload represent deep-rooted cultural norms prevalent in Sri Lanka. Irrespective of their positions, culturally women are bound to household responsibilities or chores across the country. Another cultural concern is that women are not expected to work at night or in distant areas. Such cultural challenges demand high dependency among women officers, as found in the Kalutara and Kegalle districts. Such high dependence did not support women to be economically independent in rural districts. The situation also minimises social recognition for women officers, which was found in the Kegalle district.

Unfortunately, there is minimum or no community awareness that support women's empowerment in the Kalutara districts.

Finally, the education system was identified as a challenge posed by legislative and policy background across all three cases. The present education system affects increasing additional workload for women officers because of their children's education. Another issue within the education system is limited disaster management education, as identified from the three case studies. Another aspect of the legislative and policy background is that minimum policies are available to strengthen overall women's empowerment.

After presenting the challenges across cases, a summary of suggestions for enhancing women's empowerment in DRG within the disaster preparedness system is presented in Table 7.3.

The identified challenges across the three case studies will be compared with the expert interviews outcome. This will provide a clear understanding of the need to empower women in DRG within the overall disaster preparedness system in Sri Lanka to reduce women's vulnerabilities caused by disasters. In addition, the expert interviews revealed the national preparedness system, while case study interviews revealed the district level disaster preparedness system. Therefore, the study will cover all layers of the disaster preparedness system in Sri Lanka. Due to this compatibility across expert and case study interviews, the next chapter provides the study's overall findings across the objectives from two to five. This is because the first objective was achieved and delivered in Sections 2.3. and 2.4.3.

Table 7. 3 Summary of suggestions for enhancing women's empowerment in DRG within the disaster preparedness system, across three case studies

| Case 1 - Colombo | | Case 2 - Kalutara | Case 3 – Kegalle |
|-------------------|--|---|--|
| Challenges | Suggestions | Suggestions | Suggestions |
| Job-specific | | | |
| Security | <ul style="list-style-type: none"> • Appointment of experienced officers to fieldwork • Coordination with related organisations to get support from peer officers • Provide security support where necessary • Encourage family members' additional support • Encourage support from community-level committees | <ul style="list-style-type: none"> • Assure overall security of the country | <ul style="list-style-type: none"> • Assure overall security of the country |
| Working condition | <ul style="list-style-type: none"> • Develop personality & strong characters • Raising community awareness • Establish a supportive working environment • Allocate adequate resources | <ul style="list-style-type: none"> • Appoint more women from forces to DDMCUs • Develop additional skills • Introduce flexible working hours • Introduce work from home culture | <ul style="list-style-type: none"> • Develop additional skills |

| | | | |
|-----------------------------------|---|--|--|
| | <ul style="list-style-type: none"> • Acquire additional skills • Appoint officers from their area • Introduce work from home culture | | |
| Unspecific time | <ul style="list-style-type: none"> • Introduce work from home culture | <ul style="list-style-type: none"> • Introduce work from home culture • Introduce flexible working hours • Raise awareness in the community to build trust and understanding among family members | <ul style="list-style-type: none"> • Build confidence and understanding among family members • Encourage additional family support • Raise awareness in the community |
| Challenging nature of the job | | | <ul style="list-style-type: none"> • Build confidence among women officers to take responsibilities in disaster management |
| Extra pressure from the community | <ul style="list-style-type: none"> • Introduce rules and regulations to secure officers who face community pressure • Provision of training • A clear understanding of duties and responsibilities • Provision of disaster management education to women officers | | |
| Individual | | | |

| | | | |
|--------------------|--|---|--|
| Disappointment | <ul style="list-style-type: none"> • Appreciate or recognize women's capacities and commitment • Identify and use role models • Allocate more resources | <ul style="list-style-type: none"> • Motivate women engaged in disaster management • Promote self-interest to work in disaster management and engage in disaster risk governance • Promote recognition from the community on the service they provide • Allocate more resources for women who engage in disaster management • Introduce work from home culture • Introduce flexible working hours for women • Introduce reward systems | <ul style="list-style-type: none"> • Promote self-interest to work in disaster • Appreciation of women who engaged in disaster risk governance through media • Appraisal of women officers within the organizational settings • Awareness for women on the role played by them to help vulnerable women in the community |
| Dominant behavior | | | <ul style="list-style-type: none"> • Conduct awareness programmes to educate them about their power, rights and capacity • Conduct training programmes for women in building confidence and personality |
| Lack of confidence | | | <ul style="list-style-type: none"> • Conduct training programmes for women in building confidence and personality |

| | | | |
|------------------|--|--|---|
| | | | <ul style="list-style-type: none"> • Coordinate with NGOs for training facilities • Acquire new skills (language skills, communication skills, driving skills, computer skills, life-saving skills) |
| Limited skills | <ul style="list-style-type: none"> • Acquire new skills (language skills, communication skills, driving skills, computer skills, life-saving skills) • Provide training and capacity development | <ul style="list-style-type: none"> • Acquire new skills (language skills, communication skills, driving skills, computer skills, life-saving skills) • Coordinate with other agencies which provide capacity building programmes and training to get access to women officers to be trained • Participate in capacity-building workshops and training | <ul style="list-style-type: none"> • Acquire new skills (language skills, communication skills, driving skills, computer skills, life-saving skills) • Coordinate with NGOs for training facilities |
| Weak personality | | <ul style="list-style-type: none"> • Personality development • Promote women to engage in higher education • Provide opportunities for taking capacity building and training | <ul style="list-style-type: none"> • Provide capacity building and training |

| | | | |
|-----------------------|--|--|--|
| | | <ul style="list-style-type: none"> • Coordinate with other agencies which provide capacity building programmes and training | |
| Limited DM knowledge | <ul style="list-style-type: none"> • Promote women for further education • Provide opportunities to women study disaster management • Provide training on disaster management | <ul style="list-style-type: none"> • Provide opportunities to women officers to further study disaster management • Sponsor disaster management education • Coordinate with other agencies which provide capacity building programmes and training • Promote women to engage in higher education | <ul style="list-style-type: none"> • Introduce disaster management as a school curricular • Provide training opportunities |
| Limited DM experience | <ul style="list-style-type: none"> • Provide training on disaster management | <ul style="list-style-type: none"> • Provide training on disaster management • Coordinate with other agencies which provide capacity building programmes and training • Promote women to engage in higher education | <ul style="list-style-type: none"> • Coordinate with NGOs for training facilities • Provide training opportunities |
| Organisational | | | |

| | | | |
|---------------------|---|--|---|
| Resource limitation | <ul style="list-style-type: none"> • Allocate more resources • Establish proper coordination with other organisations | <ul style="list-style-type: none"> • Allocate more resources • Establish proper coordination with other organisations | <ul style="list-style-type: none"> • Allocate more resources • Coordinate with other ministries |
| Limited power | <ul style="list-style-type: none"> • | <ul style="list-style-type: none"> • Appoint women officers into higher positions in organisations involved in disaster management • Introduce more supportive rules and regulations to support their decisions • Allocate them more decision making powers | <ul style="list-style-type: none"> • Allocate more powers to women officers in disaster risk governance • Follow up or support their decisions • Introduce necessary acts, rules and regulations to secure their decision making |
| Patriarchal culture | | <ul style="list-style-type: none"> • Raise awareness programmes to change culture and attitude among men in the institutions • Develop leadership among women • Appointment of more women into disaster management related organisations • Encourage them for higher education • Provide them more opportunities to implement their decisions | <ul style="list-style-type: none"> • Organisational heads should be supportive and encouraging • Raise awareness in the organisational setting on the power, capacity and importance of women in DRG |

| | | | |
|---------------------|---|---|--|
| | | <ul style="list-style-type: none"> • Build trust on women's decision making | |
| Lack of motivation | <ul style="list-style-type: none"> • Organisational level appreciation • Promote and identify role models • Provide some reward system • Raise awareness among institutional members • Introduce some supportive rules and regulations to motivate them • Provision of training as motivation to engage more in disaster management | <ul style="list-style-type: none"> • Promote self-interest among women in disaster management • Introduce some reward system • Sponsor disaster management education • Allocate more resources for women work in disaster management • Recognise their contribution at the organisational level • Promote leadership among women officers in disaster management • Appoint more women officers into high positions | <ul style="list-style-type: none"> • Provision of more support as motivation • Appraisal by the organisation |
| Limited role models | | <ul style="list-style-type: none"> • Appoint more women into higher positions in disaster management related organisations • Identify role models within disaster management related organisations | <ul style="list-style-type: none"> • Identify role models within disaster management related institutions • Provide more opportunities to women officers to associate with role models |

| | | | |
|-----------------------|---|--|--|
| | | | <ul style="list-style-type: none"> • Provide them with some training programme • Change in the social setting to understand their responsibility in supporting fellow officers |
| Poor coordination | | <ul style="list-style-type: none"> • Establish proper coordination with other organisations | |
| Limited opportunities | <ul style="list-style-type: none"> • Provide more training (national and international level) opportunities for women | | |
| Leave related issues | <ul style="list-style-type: none"> • Raise awareness among the staff in the organisation • Introduce supportive rules and regulations to promote more women working in the system to ensure a flexible leave system for women | | |
| Extra workload | <ul style="list-style-type: none"> • Establish proper coordination with other organisations | <ul style="list-style-type: none"> • Establish proper coordination with other organisations • Promote mutual support among staff members • Introduce affordable childcare services • Encourage more family support | <ul style="list-style-type: none"> • Establish proper coordination with other organisations • Raise awareness in the community to support women officers in dealing with disaster management |

| | | | |
|--|---|--|---|
| | | | <ul style="list-style-type: none"> • Appoint more people into the system |
| Job security | <ul style="list-style-type: none"> • Introduce rules and regulation to establish job security | | |
| Political | | | |
| Political influence | <ul style="list-style-type: none"> • Understand role and responsibilities related to the job performed by women • Develop personality • Develop courage and confidence among women • Strictly follow the rules and regulations in decision-making • Develop rational decision making | <ul style="list-style-type: none"> • Know their roles and responsibilities in disaster management • Personality development • Building confidence among women in disaster risk governance to take independent decisions • Strictly follow the rules and regulations in decision-making | <ul style="list-style-type: none"> • Know their roles and responsibilities in disaster management • Be free from corruption • Coordinate with politicians and make them understand the right thing to do • Cooperate with politicians to get their support instead of being influenced • Being free from party politics • Develop personality to deal with the political influences effectively |
| Lack of women representation in politics | | <ul style="list-style-type: none"> • Introduce supportive rules and regulations to attract women into politics • Introduce some quota system • Encourage young and educated women to enter into politics | <ul style="list-style-type: none"> • Encourage young and educated women to enter into politics |

| Socio-cultural | | | |
|------------------------------|--|---|--|
| High dependency | | <ul style="list-style-type: none"> • Development of more skills among women who engage in disaster management • Provide them new skills which help them to be independent • Mutual family support and understanding • Ensure their economic independence • Introduce affordable & reliable child care services close to their working places | <ul style="list-style-type: none"> • Provide them with some financial support to compensate their payments for child caring and household workload • Provide affordable childcare facilities |
| Family and social background | | | <ul style="list-style-type: none"> • Strengthen family background through societal development |
| Cultural norms | <ul style="list-style-type: none"> • Creating awareness among the society to understand the importance of the work done by women in disaster risk governance • Introduce affordable and reliable child care services close to their working places | <ul style="list-style-type: none"> • Building social acceptance to women work in disaster management • Creating awareness among the society to change social and cultural believes deep-rooted in the society • Establish affordable child care facilities | <ul style="list-style-type: none"> • Creating awareness among the society to change social and cultural believes deep-rooted in the society |

| | | | |
|------------------------|--|--|---|
| | <ul style="list-style-type: none"> • Creating awareness among the society to change social and cultural beliefs deep-rooted in the society | | |
| Household workload | <ul style="list-style-type: none"> • More family supports • Creating awareness among the society to change social and cultural beliefs • Introduce affordable and reliable childcare services close to their working places • Provision of extra payment to support childcare payments or facilitating household work or for ready meals | <ul style="list-style-type: none"> • Introduce affordable and reliable childcare facilities close to their working places • More family support • | <ul style="list-style-type: none"> • Encourage strong family support |
| No social recognition | | | <ul style="list-style-type: none"> • Promote social appraisal for women's contribution in disaster risk governance |
| No community awareness | | <ul style="list-style-type: none"> • Creating awareness among the community to accept and understand the role played by women officers in disaster risk governance • Introduce women empowerment programmes at the village level | |

| | | | |
|------------------------------------|---|--|---|
| | | <ul style="list-style-type: none"> • Give acceptance to women in the society | |
| Lack of support from the community | <ul style="list-style-type: none"> • Develop and identify role models in the community • Promote schools to support a behavioural change in the society • Raise awareness in the community to make them aware of the role women officers play in disaster management | | |
| Legal and policy | | | |
| Education system | <ul style="list-style-type: none"> • Get more family support for children's education and schooling matters • Introduce a change into the overall education system to reduce unnecessary burden for parents | <ul style="list-style-type: none"> • Introduce disaster management education in school curricular • Introduce disaster management education in university curricular • | <ul style="list-style-type: none"> • Introduce a change into the overall education system to reduce unnecessary burden for parents • Introduce disaster management education in school curricular • Introduce disaster management education in university curricular |
| No supportive policies | <ul style="list-style-type: none"> • Introduce supportive legal provisions to secure women's empowerment in the country through leaves and quota systems | <ul style="list-style-type: none"> • Introduce necessary rules and regulations to support women's empowerment | |

| | | | |
|-----------------------|--|--|--|
| | <ul style="list-style-type: none"> • Involvement of ministries related to women's empowerment | | |
| Limited opportunities | | <ul style="list-style-type: none"> • Raise awareness in the society about the importance of creating more opportunities for women in disaster management • Assure more opportunities for women in institutions through quota systems | |

7.3 Summary and the link

The chapter presented the summary of the three case studies conducted to achieve study objectives. Accordingly, common challenges were identified under six categories across all three case studies. In addition, novel challenges were identified from individual case studies showing a new knowledge creation through cross-case study. The next chapter presents the findings of the comprehensive study with a discussion.

CHAPTER 8 Findings, Discussions and the Framework

8.1 Introduction

After presenting the cross-case analysis in Chapter 7, this chapter presents the overall findings of the study, followed by a discussion on the study findings and presenting the proposed framework. The study findings based on expert interviews and cross-case analysis are discussed in relation to the available literature. Finally, the validated framework provides recommendations on empowering women in DRG within the disaster preparedness system in Sri Lanka.

Section 8.2 presents the importance of women's empowerment in DRG within the disaster preparedness system in Sri Lanka to reduce women's vulnerabilities to disasters, followed by Section 8.3 summarising the present contribution of women in DRG within the disaster preparedness system in Sri Lanka. Next, Section 8.4 provides the identified factors that affect women's empowerment in DRG within the disaster preparedness system. Finally, section 8.5 presents the proposed framework, its validation and the final validated framework for enhancing women's empowerment in DRG within the disaster preparedness system in Sri Lanka.

8.2 Importance of women's empowerment in DRG within the disaster preparedness system to reduce women's vulnerabilities

This section presents the empirical evidence collected through expert and case study interviewees. In addition, the empirical findings are discussed with available literature. Figure 8.1 presents the importance of women's empowerment in DRG within the disaster preparedness system to reduce women's vulnerabilities caused by disasters.

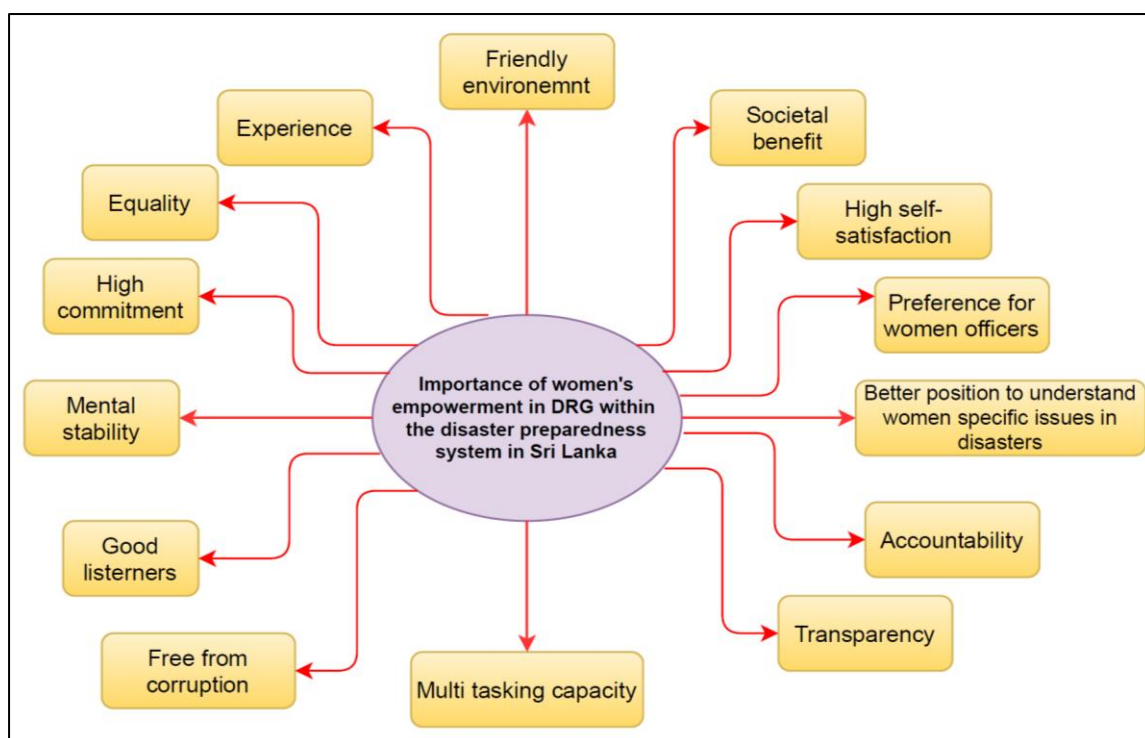


Figure 8.1 Importance of WE in DRG within the disaster preparedness system in Sri Lanka

Source: Prepared by the author

Fourteen reasons were identified demonstrating the importance of women's empowerment in DRG within the disaster preparedness system based on the findings presented in Section 5.3.1, 6.3.2, 6.4.2 and 6.5.2 and 7.2.1 in detail. Some of the study findings are supported by available empirical evidence, which was presented in Section 2.4.3.

For example, experts and case study interviews revealed that women's empowerment in DRG is important for reducing vulnerabilities and strengthening the overall society. A similar finding was confirmed by Burnet (2008), explaining the situation of Rwanda and women's empowerment in decision-making and political representation after Rwanda's genocide incident. Thapa and Pathranarakul (2019) also highlighted the importance of women and other socially excluded groups for designing and planning better disaster response and recovery measures in Nepal after the 2015 earthquake incident. Moreno and Shaw (2018) concluded the benefits of empowering women in the Chilean disaster management system and explained how this initiative had made a structural transformation in the community, moving women from low to high community-level involvement.

Another importance of empowering women in DRG is women's attitude and engagement in corruption. The study found that women officers are free from corruption in their decision-making within the disaster preparedness system. A similar justification was found by Rezazadeh (2011) based on the study conducted in Iran. Rezazadeh (2011) has demonstrated how Iranian women's contribution helped improve Iran's urban governance system minimising corruption. DiRienzo and Das (2019) explained how increasing women's representation in politics had reduced corruption and enhanced environmental outcomes. Kabir et al. (2018) also confirmed that women are not in favour of corruption and always raise their voices against corruption, injustice or any wrong decisions made by the system.

Another reason found from the study to justify why women should be empowered in DRG was transparency and accountability. Similar findings were found from the literature with the work by Kaur (2016), demonstrating how society could develop a more transparent, participatory and accountable disaster management system through women's participation in decision-making. Interestingly, countries governed under women leadership have demonstrated transparency and accountability, which led to effective COVID-19 response measures by van Daalen et al. (2020).

Women's unique knowledge and experience of handling family needs, interests, and their weaknesses bring important input for disaster preparedness decision-making, as found by the study. Several researchers found a similar justification that highlighted women's empowerment in DRG as necessary (Ariyabandu, 2009; S. Kottegoda, 2011; Mulyasari & Shaw, 2013; Reyes & Lu, 2016). For example, Reyes and Lu (2016) stated that gender should be incorporated in disaster planning with more women's contribution based on the study conducted in Metro Manila, the Philippines.

Another substantial justification for women's empowerment in DRG is their level of commitment to any disaster-related activities. The study found how women officers have committed before, during, and post-disaster events to better society. Similar evidence was found by Enarson and Morrow (1998b). They highlighted how women committed during the post-disaster recovery efforts in the USA after the 1992 hurricane incident in Miami.

The study provided another justification, better understanding of women's specific issues, similar to several other researchers (E. P. Enarson, 2012; Ginige et al.,

2014b; Saito, 2012; Thapa & Pathranarakul, 2019; van Daalen et al., 2020). For example, van Daalen et al. (2020) explained how the present COVID-19 pandemic decision-making was done at the international level without adequate women's representation at the top-level decision-making. Their suggestion was to strengthen women's representation to understand the situation and women's representation in the disaster decision-making context.

The study also found the necessity of assuring equality as another reason women should be empowered in DRG, as already confirmed by several researchers (Bradshaw, 2013; Davies et al., 2019; Khan & Ara, 2006). For example, Davies et al. (2019) explained how the global health policies had ignored equality in the decision-making and the necessity of establishing equality in decision-making.

Ariyabandu (2009), Baten and Khan (2010), and Drolet et al. (2015) explained women's capacity to engage in disaster risk reduction decision-making as similar to the present study findings. For example, Drolet et al. (2015) found how women have contributed to rebuilding the community after disasters using case studies from Pakistan and the USA.

In addition, several global initiatives have demonstrated the necessity of empowering women in DRG during the past two decades, as presented in Figure 2.2. The present study added a couple of additional reasons why women's empowerment in DRG should be strengthened within the disaster preparedness system based on the experts and case study analysis. Accordingly, the study found high commitment among women officers engaged in disaster management decision-making as a reason for their empowerment in DRG.

According to the study, women's mental stability and good listening ability were identified as additional reasons for their empowerment in DRG. These factors are vital for effective decision-making, especially in disaster risk reduction. Primary data also revealed two additional reasons based on expert and case study analysis. According to the study findings, women officers create a pleasant environment within the disaster management system. Experts and case study interviewees found that self-satisfaction among women officers is high. The study identified another justification for women's empowerment in DRG as the preference for women officers. The affected women, community, and officers working in the disaster management system prefer to communicate with women officers

irrespective of their hierarchy. The above-stated findings reveal the contribution of this study to the literature.

During the validation process, the experts agreed with the study findings. For example, V2 stated how important women's participation in disaster decision-making is in the present system since most women suffer from disasters. Thus their representation and their opinion would be essential for preparing for next disasters.

8.3 The present contribution of women in DRG within the preparedness system in Sri Lanka

After justifying why women should be empowered in DRG within the disaster preparedness system to reduce women's vulnerabilities, the study examined the level of their contribution in DRG within the disaster preparedness system based on expert and case study interviews, as presented in Sections 5.4, 6.3.3, 6.4.3 and 6.5.3.

Both experts and case study findings highlighted that women officers participate in the preparedness and response stages. Before 2016, most women officers have involved in disaster response activities. However, after island-wide floods in 2016 and onwards, disaster preparedness measures have been recognised as necessary towards effective risk reduction. Therefore, women have been contributed at different levels in designing, providing inputs, implementing, assessing, and communicating and so on within the disaster preparedness system. However, experts and case studies evidence emphasise that male officers represent the highest layer in the disaster preparedness related decision-making in the system. Women represent the second layer and below positions. Therefore, a satisfactory level of women's empowerment in DRG was not achieved, as expected. The study also found several challenges for the unsatisfactory level of women's empowerment in DRG within the disaster preparedness system in Sri Lanka.

Similar findings were found from the literature as presented in Section 2.3. and 2.4. Several researchers confirmed that women's contribution in disaster risk reduction related decision-making is crucial, and their presence is, however, not evident in most disaster management policies and programmes (Chanthy & Samchan, 2014); Ginige et al. (2015); (Le Masson et al., 2016; Saito, 2012; Thurairajah et al., 2010). Hence, their needs and interests have been excluded in disaster management programmes, increasing their vulnerabilities to disasters (UNISDR, 2015b).

Accordingly, the following section summarises the challenges found through expert and case study interviews and the empirical evidence supported by literature findings.

8.4 Challenges for women's empowerment in DRG within the disaster preparedness system in Sri Lanka

All identified challenges were presented under six categories based on their similarities as presented in Sections 5.3.3, 6.3.4, 6.4.4 and 6.5.4. Table 8.1. presents the summary of these challenges under each category.

Table 8. 1 Challenges identified for women's empowerment in DRG within the disaster preparedness system

| Challenge | Specific issue |
|-----------------------|--|
| Legal | Existence of a gender gap within disaster management agencies/ institutes |
| | Lack of gender-specific data in national statistics |
| | Women's empowerment has not been integrated into the national strategic plan |
| | Minimum legislative provisions/ policies to support women's empowerment |
| | Limited disaster management education in the Sri Lankan education system |
| | The additional burden of children's education due to the present education system |
| | The demand for disaster management education has not been recognised within the education system |
| Socio-cultural | Deep-rooted cultural norms and beliefs |
| | Deep-rooted gender inequality in the society |
| | A disproportionate burden of household workload on women |
| | Minimum acceptance to women's empowerment in the society |
| | Jealousy among household members |
| | Social bonding: marriage and child-caring |
| | Limited support from family members |
| | Poor social status and family background |
| | Religious believes that limit women's rights |
| | Lack of cultural awareness programmes in the communities |
| Job-specific | Unspecific time applicable to disaster management jobs |
| | No specific locations for disaster management related jobs |

| | |
|-----------------------|--|
| | Personal safety issues while working in the field or in the night |
| | Hard-working conditions |
| | Unnecessary pressure from the community |
| | |
| Individual | Limited disaster management knowledge among officers |
| | Little or no preference or interest to study disaster management |
| | Higher dependency among family members or supporters |
| | Personality and confidence issues |
| | Limited skills |
| | Do not encourage peers |
| | Do not like to decentralise power |
| | Easy going attitude / do not like to take unnecessary pressure |
| | Institutional rivalry |
| | Disappointment on the job |
| | No motivation to engage in disaster management |
| | Dominant behaviour |
| | |
| Organisational | Appointment bias prevalent in organisations/ institutions |
| | Minimum training opportunities in the disaster management field |
| | Appointment of wrong women into higher positions |
| | Patriarchal culture in organisations |
| | Hierarchical rivalry among men and women |
| | Limited opportunities to execute power and authority |
| | Harassments faced by women officers |
| | Male-dominated disaster management system |
| | Poor coordination with NGOs, which provides capacity building programmes |
| | Limited availability and recognition of role models |
| | Institutional resource constraints |
| | The extra workload in the institutions |
| | No rewarding, appraisal or motivation for their commitment |
| | Limited power among women officers in the system |
| | Low confidence in women's decision-making ability |
| | Leave related issues |
| | |
| Political | Negative attitude on political authorities and the system |
| | Unnecessary political pressure |
| | Misuse of rules and regulations |

| | |
|--|--|
| | Minimum women's representation in politics |
| | Poor political recognition towards women's empowerment |

Based on the experts and case study interview findings, Table 8.1 summarises the challenges identified for women's empowerment in disaster risk governance. Most of these challenges were supported by the literature review presented in Section 2.4.5. The challenges identified through the literature review are patriarchal culture, religious beliefs, family status, household workload, level of education, self-interest, policies and legislations, organisational culture, political culture, economic status, socio-cultural beliefs and norms, lack of role models and security issues. However, the study results presented in Table 8.1 presents a comprehensive list of challenges applicable to women's empowerment in DRG within the disaster preparedness system in Sri Lanka. The table demonstrates the contribution of the study, adding a comprehensive list of challenges for empowering women in DRG.

8.5 Strategies to overcome the challenges identified for women's empowerment in DRG within the disaster preparedness system in Sri Lanka

According to the challenges identified based on empirical evidence, the following strategies were presented in Table 8.2 based on the expert and case study interviews.

Even though Section 2.4.4 presented several women's empowerment theories, none of the approaches fit into the study objective. Since the study aims to achieve women's empowerment in DRG within the disaster preparedness system, the study was conducted at the institutional level. Most previous theories were related to women's empowerment at the community level. Therefore, this study identified and presented a novel approach to women's empowerment introducing four intervention mechanisms. These interventions were identified based on the parties involved in the intervention. Accordingly, individual, community, organisational and legislative interventions were identified as the strategy to achieve women's empowerment in DRG within the disaster preparedness system in Sri Lanka.

Accordingly, the actions to be taken by the women officers themselves are named as individual interventions. The measures to be taken by the community were named as community interventions. Third interventions should be introduced by

organisations involved in the disaster management system and named as organisational interventions. Finally, legislative mechanisms to be introduced were named as legislative interventions. For easy and clear understanding, a colour code was used and described in the following grid.

Table 8.2 presented all the suggestions under each challenge and identified under four intervention categories with the colour code. Accordingly, Table 8.3 presents the final table of strategies under four main intervention categories.

| | | | |
|--------------------------|-------------------------|------------------------------|---------------------------|
| Individual interventions | Community interventions | Organizational interventions | Legislative interventions |
|--------------------------|-------------------------|------------------------------|---------------------------|

Table 8. 2 Suggestions to overcome the identified challenges based on the expert and case study interview outcomes

| Challenge | Dimension | Mechanisms or measures to overcome |
|--------------|-------------------------|--|
| Job-specific | Unspecific time | • Women engaged in disaster management should develop self-interest to work in disaster management through developing self-motivation and willingness to accept challenges |
| | | • Provide resources, equipment and training to work from a remote place at any time |
| | | • Introduce work from home culture where it is necessary |
| | | • Introduce flexible working hours |
| | | • Raise community awareness to build trust and understanding among family members |
| | | • Encourage family members to give additional support |
| | Personal safety issues | • Appoint more experienced officers to fieldwork |
| | | • Provide security support where necessary |
| | | • Coordination with related organisations getting the support of peer officers |
| | | • Assure overall security of the country |
| | | • Encourage family members to give additional support |
| | | • More support from the community level committees |
| | Hard-working conditions | • Raise community awareness to build trust and understanding among family members |
| | | • Provision of supportive working environment |
| | | • Appointment of officers from the area they represent, if possible |
| | | • Allocate an adequate level of resources and equipment |
| | | • Appoint women officers representing forces to disaster management institutions |
| | | • Introduce work from home culture where it is necessary |
| | | • Introduce new technologies to minimise physical visiting requirements |
| | | • Introduce flexible working hours |

| | | |
|--|---|--|
| | | <ul style="list-style-type: none"> Acquire additional skills (language skills, communication skills, driving skills, computer skills, life-saving skills) |
| | | <ul style="list-style-type: none"> Develop personality to be strong characters |
| | <ul style="list-style-type: none"> Extra pressure from the community | <ul style="list-style-type: none"> Introduce necessary rules and regulations handling community pressure |
| | | <ul style="list-style-type: none"> Provision of training and knowledge on disaster management |
| | | <ul style="list-style-type: none"> Clear understanding of duties and responsibilities |
| | <ul style="list-style-type: none"> Challenging nature of the job | <ul style="list-style-type: none"> Build self-confidence among women officers to take responsibilities in disaster management |
| | | |
| <ul style="list-style-type: none"> Individual | <ul style="list-style-type: none"> Lack of self-interest/ Disappointment | <ul style="list-style-type: none"> Appreciate or recognise women's capacities and commitment in disaster management organisations |
| | | <ul style="list-style-type: none"> Identify and use role models |
| | | <ul style="list-style-type: none"> Allocate adequate resources for women who engage in disaster management |
| | | <ul style="list-style-type: none"> Introduce work from home culture |
| | | <ul style="list-style-type: none"> Introduce reward systems |
| | | <ul style="list-style-type: none"> Community motivation towards women engagement in DRG |
| | | <ul style="list-style-type: none"> Community recognition for women's contribution in disaster management |
| | | <ul style="list-style-type: none"> Appreciation of women who engaged in disaster risk governance through media |
| | | <ul style="list-style-type: none"> Develop self-interest to work in disaster management and disaster risk governance |
| | | <ul style="list-style-type: none"> Introduce flexible working hours for women |
| | <ul style="list-style-type: none"> Lack of commitment | <ul style="list-style-type: none"> Clear instruction and awareness-raising of roles and responsibilities of their job |
| | | <ul style="list-style-type: none"> Make them understandable about the importance of their contribution |
| | <ul style="list-style-type: none"> Dominant behaviour | <ul style="list-style-type: none"> Awareness programmes to describe power, rights and capacity within the job |
| | | <ul style="list-style-type: none"> Conduct training programmes for women building confidence and personality |
| | <ul style="list-style-type: none"> Lack of confidence | <ul style="list-style-type: none"> Coordinate with NGOs for training facilities |
| | | <ul style="list-style-type: none"> Conduct training programmes for women in building confidence and personality |

| | | |
|--|---|---|
| | | <ul style="list-style-type: none">Acquire new skills (language skills, communication skills, driving skills, computer skills, life-saving skills) |
| | <ul style="list-style-type: none">Limited skills | <ul style="list-style-type: none">Acquire new skills (language skills, communication skills, driving skills, computer skills, life-saving skills) |
| | | <ul style="list-style-type: none">Provision of training and capacity development |
| | | <ul style="list-style-type: none">Coordinate with NGOs for training facilities |
| | <ul style="list-style-type: none">Weak personality | <ul style="list-style-type: none">Promote women and girls to excel in higher education |
| | | <ul style="list-style-type: none">Provide opportunities for capacity building and training |
| | | <ul style="list-style-type: none">Coordinate with other agencies and NGOs accessing capacity building programmes and training |
| | <ul style="list-style-type: none">Limited DM knowledge | <ul style="list-style-type: none">Provide training on disaster management (national and international) |
| | | <ul style="list-style-type: none">Provide opportunities for women to attend training (national and international) on disaster management |
| | | <ul style="list-style-type: none">Sponsor disaster management education |
| | | <ul style="list-style-type: none">Coordinate with other agencies and NGOs accessing capacity building programmes and training |
| | | <ul style="list-style-type: none">Introduce disaster management as a curricular in schools |
| | | <ul style="list-style-type: none">Encourage women and girls for science and technological education |
| | <ul style="list-style-type: none">Limited DM experience | <ul style="list-style-type: none">Provide training on disaster management (national and international) |
| | | <ul style="list-style-type: none">Coordinate with other agencies and NGOs accessing capacity building programmes and training |
| <ul style="list-style-type: none">Provide opportunities for women to attend training (national and international) on disaster management | | |
| <ul style="list-style-type: none">Promote women and girls to excel in higher education | | |
| | | |
| Organisational | | <ul style="list-style-type: none">Allocate adequate resources |

| | | |
|--|-----------------------|--|
| | • Resource limitation | • Establish coordination with related organisations and institutions on resource sharing |
| | • Limited power | • Appoint women officers into higher positions in organisations involved in disaster management |
| | | • Introduce more supportive acts, rules and regulations to support independent decision making |
| | | • Allocate more decision-making powers |
| | • Patriarchal culture | • Raise awareness programmes within the organisations: to change culture and attitude among men in the institutions and to make them aware of the power, capacity and importance of women in DRG |
| | | • Support developing leadership among women |
| | | • Provide them more opportunities to implement their decisions |
| | | • Build trust in women's decision-making |
| | | • Organisational heads should be supportive and encouraging |
| | | • Encourage women for higher education |
| | | • Appointment of more women into disaster management related organisations |
| | • Lack of motivation | • Organisational level appreciation and recognition |
| | | • Promote and identify role models |
| | | • Raise awareness among institutional members about the contribution of women in risk governance |
| | | • Introduce organisational level motivation through provision of training, some reward system, sponsor disaster management education |
| | | • Allocate adequate resources for women work in disaster management |
| | | • Promote leadership among women officers in disaster management |
| | | • Appoint more women officers into higher positions |
| | | • Develop self-interest among women in disaster management |

| | | |
|------------------|--|--|
| | | <ul style="list-style-type: none"> Introduce some supportive rules and regulations to motivate them |
| | <ul style="list-style-type: none"> Limited role models | <ul style="list-style-type: none"> Appoint more women into higher positions in disaster management related organisations |
| | | <ul style="list-style-type: none"> Identify role models within disaster management related organisations |
| | | <ul style="list-style-type: none"> Provide more opportunities to women officers to associate with role models |
| | | <ul style="list-style-type: none"> Provide training programme |
| | | <ul style="list-style-type: none"> Cultural change in supporting fellow officers |
| | <ul style="list-style-type: none"> Poor coordination | <ul style="list-style-type: none"> Establish coordination with related organisations |
| | <ul style="list-style-type: none"> Leave related issues | <ul style="list-style-type: none"> Raise awareness among staff in organisations |
| | | <ul style="list-style-type: none"> Introduce supportive rules and regulations to promote more women working in the system to ensure a flexible leave system for women |
| | <ul style="list-style-type: none"> Extra workload | <ul style="list-style-type: none"> Establish coordination with related organisations |
| | | <ul style="list-style-type: none"> Promote mutual support among staff members |
| | | <ul style="list-style-type: none"> Appoint more people into disaster management related institutions |
| | | <ul style="list-style-type: none"> Introduce affordable and reliable child care services |
| | | <ul style="list-style-type: none"> Encourage further family support |
| | | <ul style="list-style-type: none"> Raise awareness in the community to support women officers |
| | <ul style="list-style-type: none"> Job security | <ul style="list-style-type: none"> Introduce rules and regulation to establish job security |
| | | |
| Political | <ul style="list-style-type: none"> Political influence | <ul style="list-style-type: none"> Clear understanding of duties and responsibilities related to the job |
| | | <ul style="list-style-type: none"> Develop personality and confidence level taking independent decisions and dealing with the political influences |
| | | <ul style="list-style-type: none"> Develop rational decision-making skills |
| | | <ul style="list-style-type: none"> Strictly follow the rules and regulations in decision-making |
| | | <ul style="list-style-type: none"> Be free from corruption |
| | | <ul style="list-style-type: none"> Being free from party politics |

| | | |
|----------------|--|--|
| | | • Cooperate with politicians instead of being influenced |
| | | • Awareness-raising among politicians about the importance of women’s empowerment in all sectors |
| | | • Create a discourse between politicians and organisations that are responsible for women rights and women empowerment |
| | • Lack of women representation in politics | • Introduce supportive rules and regulations to attract educated and qualified women into politics (introduce some quota system) |
| | | • Raise awareness among the broader community about the importance of increasing women representation in parliament and other higher positions to establish governance and the importance of political systems free from violence and corruption |
| | | • Encourage young and educated women to enter into politics |
| | | |
| Socio-cultural | • High dependency | • Acquire new skills (language skills, communication skills, driving skills, computer skills, life-saving skills) |
| | | • Raise awareness in the community to build trust and understanding among family members |
| | | • Support women in disaster management to be economically independent |
| | | • Introduce affordable & reliable childcare services close to their workplaces |
| | | • Provide some financial support to compensate their payments for child-caring and household workload |
| | • Family and social background | • Strengthen family background through societal development |
| | • Cultural norms | • Create awareness within societies to understand the importance of women in disaster risk governance |
| | | • Creating awareness among the society to change social and cultural believes deep-rooted in the society |
| | | • Introduce affordable and reliable childcare services close to their working places |

| | | |
|------------------|-------------------------------------|---|
| | Household work-load | Promote more family support |
| | | Creating awareness among the society to change social and cultural believes deep-rooted in the society |
| | | Introduce affordable and reliable childcare services close to their working places |
| | | Provision of extra payment to either to support childcare or facilitating household work or for ready meals |
| | No social recogni-tion | Promote social appraisal for women’s contribution in disaster risk governance |
| | No community awareness | Creating awareness among the community to accept and understand the role played by women officers in disaster risk governance |
| | | Introduce women empowerment programmes at the village level |
| | Lack of support from the commu-nity | Develop and identify role models within the community |
| | | Raise awareness in the community to make them aware of the role women officers play in disaster management |
| | | Promote schools to support a behavioural and attitude change in the society |
| | | |
| Legal and policy | Education system | Get more family support for children’s education and schooling matters |
| | | Introduce a change into the overall education system to reduce unnecessary burden for parents |
| | | Introduce disaster management education in school and university curricular |
| | No supportive policies | Introduce supportive legal provisions to secure women’s empowerment in the country through leaves and quota systems |
| | | Involvement of ministries related to women’s empowerment |
| | Limited opportu-nities | Raise awareness in the society about the importance of creating more opportunities for women in disaster management |

| | | |
|--|---|---|
| | <ul style="list-style-type: none">• | <ul style="list-style-type: none">• Assure more opportunities for women in institutions through quota systems |
|--|---|---|

Table 8. 3 Proposed strategies under four types of interventions to achieve women's empowerment in disaster risk governance within the disaster preparedness system in Sri Lanka

| Individual | Community | Organisational | Legislative |
|--|---|---|--|
| <ul style="list-style-type: none"> • Develop self-interest • Acquire additional skills: <ul style="list-style-type: none"> ◦ Language skills, communication skills, driving skills, computer skills, life-saving skills, rational decision-making skills • Develop personality to be strong characters • Understand clearly: <ul style="list-style-type: none"> ◦ Duties and responsibilities ◦ Rules and regulations • Build self-confidence • Strictly follow the rules & regulations in decision-making • Be free from corruption • Being free from party politics | <ul style="list-style-type: none"> • Raise community awareness: <ul style="list-style-type: none"> ◦ Build trust & understanding among family members ◦ To support women officers ◦ To understand the importance of women in DRG ◦ Importance of increasing women representation in parliament & other higher positions to establish governance ◦ Importance of political systems free from violence & corruption ◦ To change social & cultural believes deep-rooted in the society | <ul style="list-style-type: none"> • Provision of adequate resources & equipment • Introduce work from home culture • Appointments: <ul style="list-style-type: none"> ◦ Experienced officers in fieldwork ◦ Area they represent ◦ Women officers representing forces ◦ More women to higher positions • Provide security support where necessary • Coordinate with: <ul style="list-style-type: none"> ◦ Related organisations getting the support of peer officers & resource sharing ◦ NGOs for getting training & capacity building facilities | <ul style="list-style-type: none"> • Introduce flexible working hours • Assure overall security of the country • Introduce necessary & supportive rules and regulations: <ul style="list-style-type: none"> ◦ Facilitating handling community pressure ◦ Supporting independent decision making ◦ Motivating women through a flexible leave system ◦ To establish job security ◦ To attract educated and qualified women into politics ◦ More opportunities for women in organisations through quota systems • Change education system: |

| | | | |
|--|--|---|---|
| | <ul style="list-style-type: none"> ○ Promote social appraisal for women's contribution to DRG • Encourage family members: <ul style="list-style-type: none"> ○ To additional support ○ For children's education & schooling • More support from the community level committees • Community motivation: <ul style="list-style-type: none"> ○ On WE in DRG • Community recognition for women's contribution to DM • Media appreciation • Promote women & girls: <ul style="list-style-type: none"> ○ For higher education ○ For science & technological education • Cultural change in supporting fellow or peer officers • Encourage young & educated women to enter into politics • Strengthen family background through societal development • Develop & identify role models within the community | <ul style="list-style-type: none"> • Provision of supportive working environment • Introduce new technologies • Provision of training on: <ul style="list-style-type: none"> ○ Disaster management Knowledge (national and international) ○ For building confidence & personality ○ Capacity development • Identify & use of role models • Organisational level motivation: <ul style="list-style-type: none"> ○ Provision of training ○ Reward system ○ Sponsor DM education ○ Appreciation or recognition of women's contribution to DRG • Clear instructions & awareness on duties & responsibilities • Organisational level awareness: <ul style="list-style-type: none"> ○ To make women understandable about the importance of women's contribution ○ To make women understandable on power, | <ul style="list-style-type: none"> ○ To reduce unnecessary burden for parents ○ Introduce disaster management as a curricular in schools & universities ○ Promote schools to support a behavioural & attitude change in the society • Appoint: <ul style="list-style-type: none"> ○ More women officers into higher positions in DM organisations ○ More women into DM organisations ○ More staff to DM related organisations • Introduce affordable & reliable child care services close to their workplaces • Support women in DM to be economically independent • Provide some financial support to compensate their payments for child caring & household workload |
|--|--|---|---|

| | | | |
|--|--|---|--|
| | | <p>rights and capacity within the job</p> <ul style="list-style-type: none"> ○ Change culture & attitude among staff ○ To describe the power, capacity & importance of women in DRG ○ To promote mutual support among staff <ul style="list-style-type: none"> • Provide opportunities: <ul style="list-style-type: none"> ○ Access to capacity building & training (national & international) ○ Implement their decisions ○ Women officers to associate with role models closely • Allocate more decision-making powers • Support developing leadership among women • Build trust in women's decision-making • Support & encouragements from organisational heads' | <ul style="list-style-type: none"> • Introduce women empowerment programmes at the village level • Involvement of ministries related to WE |
|--|--|---|--|

| | | | |
|--|--|---|--|
| | | <ul style="list-style-type: none"> • Cooperate with politicians instead of being influenced • Awareness-raising among politicians highlighting the importance of WE • Create a discourse between politicians & organisations (responsible for women rights & WE) | |
|--|--|---|--|

8.6 The conceptual framework for the study

The overall study is summarised and presented in the finalised conceptual framework presented in Figure 8.1. The updated conceptual framework identifies and presents the categories of challenges for women's empowerment in DRG within the disaster preparedness system in Sri Lanka. Further, the updated CF presents the recommendations under four interventions. Finally, the framework further explains how the study contributes to theory, practice and policy.

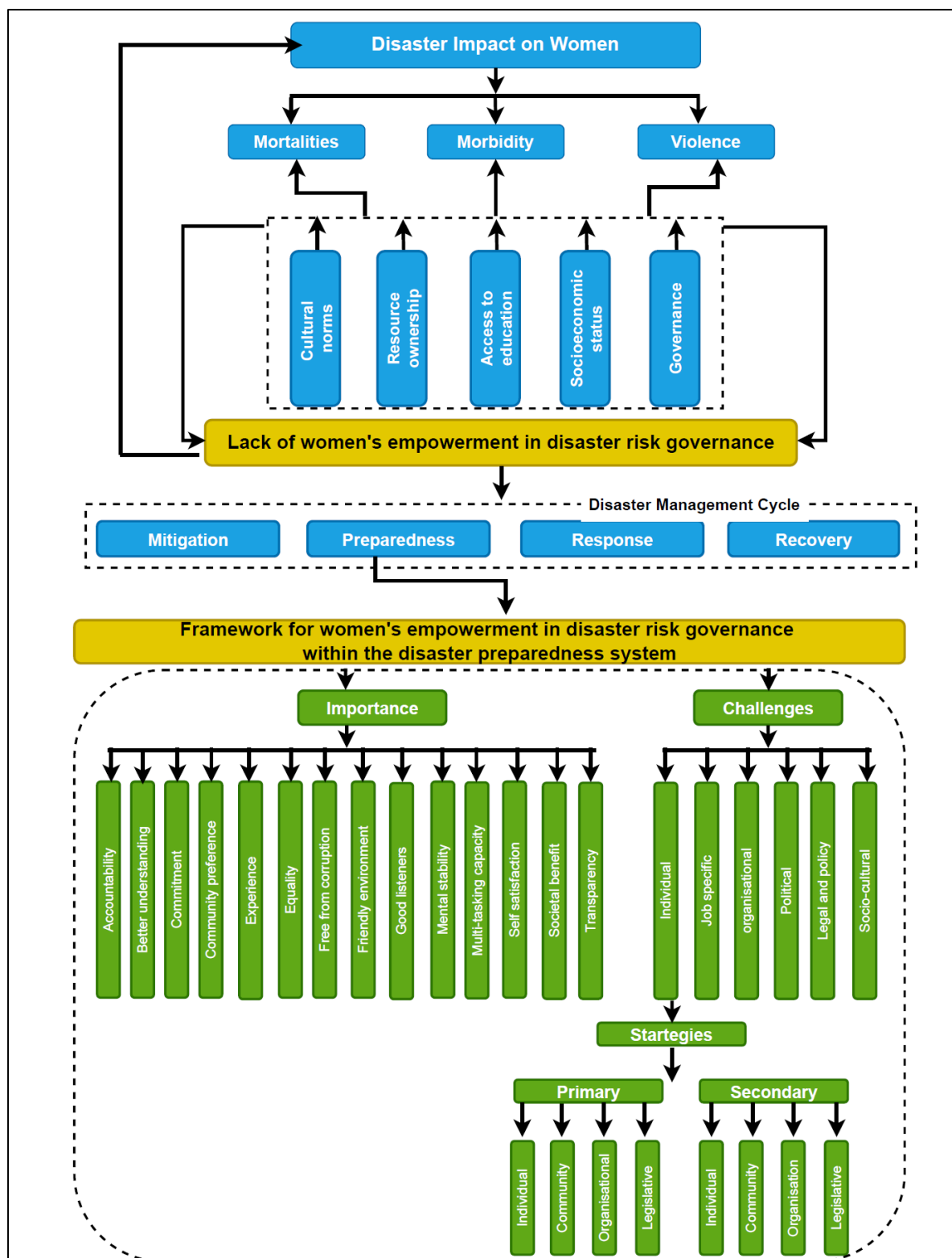


Figure 8 2 A conceptual framework for women's empowerment in disaster risk governance within the disaster preparedness system in Sri Lanka

Source: Prepared by the author

8.7 The framework to achieve women's empowerment in disaster risk governance within the disaster preparedness system in Sri Lanka

The framework was developed based on the challenges identified by experts and case study interviewees and matched with their suggestions. After careful analysis, strategies were categorised into four types of interventions. Each intervention is categorised based on the parties responsible for taking action. Accordingly, four interventions were identified: Individual, Community, Organisational and Legislative.

Women officers should take individual interventions to enhance their empowerment in DRG within the disaster preparedness system in Sri Lanka. Community interventions are the proposed activities that communities should initiate to strengthen women's empowerment in DRG within the disaster preparedness system. Organisational interventions are the proposed actions by organisations involved in disaster preparedness systems to support women's empowerment in DRG within the disaster preparedness system. Finally, legislative interventions are the proposed actions that the legislative system should implement to strengthen women's empowerment in DRG within the disaster preparedness system in Sri Lanka.

The initial framework is presented in Appendix 7. In addition, the framework was validated by conducting a focus group discussion, as explained in Section 3.14. Accordingly, the final framework was updated and presented in the following section. At the FGD, the researcher presented the study to the participants and presented the initial framework. After their discussions and suggestions, the framework was further refined to increase its implementation. The participants were interested in identifying the direct and indirect recommendations to enhance the practicality. The participants invited the author to do a presentation at the ministry level and were interested in getting published this document.

In addition to the conceptual framework presented in Figure 8.2, the overall Framework for empowering women in DRG within the disaster preparedness system in Sri Lanka is presented in Figure 8.3 graphically.

Proposed framework for women's empowerment in disaster risk governance within the disaster preparedness system in Sri Lanka

Section 1: Importance of women's empowerment in disaster risk governance within the disaster preparedness system in Sri Lanka to reduce women's vulnerabilities

Based on the study findings, 14 reasons were identified to highlight the importance of women's empowerment in disaster risk governance (DRG) within the disaster preparedness system in Sri Lanka to reduce women's vulnerabilities caused by disasters.

1. **Accountability:** women officers are accountable for assigned responsibilities
2. **Better understanding:** women officers are in a better position to understand gender-specific issues in disaster management
3. **Commitment:** women officers have a high commitment to the assigned duties
4. **Experience:** women officers contribute through their experience
5. **Equality:** women officers represent fifty per cent of the population
6. **Free from corruption:** women officers hesitant to engage in corruption
7. **Friendly environment:** women officers create a friendly environment
8. **Good listeners:** women officers have good patience and listening capacity
9. **Mental stability:** women officers are psychologically powerful
10. **Multi-tasking capacity:** women officers have multi-tasking capacity
11. **Preference for women officers:** women officers have a high social preference
12. **Self-satisfaction:** women officers are easily satisfied with the minimum benefits
13. **Societal benefit:** women officers enhance overall societal resilience
14. **Transparency:** women officers are transparent in decision-making

Section 2: Challenges for women's empowerment in disaster risk governance within the disaster preparedness system in Sri Lanka

Based on the study results, six categories of challenges were identified as challenges for women's empowerment in DRG within the disaster preparedness system in Sri Lanka.

1. Job-specific challenges:

- a. Unspecific time applicable to disaster management related jobs
- b. No specific locations for disaster management related jobs
- c. Personal safety issues while working in the field or at the night
- d. Hard-working conditions
- e. Unnecessary pressure from the community

2. Individual challenges

- a. Limited disaster management knowledge among officers
- b. Little or no interest to study disaster management
- c. Minimum training opportunities in the disaster management field
- d. Higher dependency on family members or colleagues
- e. Personality and confidence issues
- f. Some technical, communication and other relevant skills are limited
- g. Reluctant to encourage peers
- h. Reluctant to decentralise power and dominant behaviour
- i. Easy going attitude / do not like to take unnecessary pressure
- j. Institutional rivalry
- k. Disappointment on the job
- l. No motivation to engage in disaster management

3. Socio-cultural challenges

- a. Deep-rooted cultural norms and beliefs
- b. Deep-rooted gender inequality in the society
- c. A disproportionate burden of household workload on women
- d. Minimum acceptance to women's empowerment in the society
- e. Jealousy among household members
- f. Limited support from family members
- g. Poor social status and family background
- h. Religious believes that limit women's rights
- i. Lack of cultural awareness programmes in the communities

4. Legal challenges

- a. Existence of a gender gap within disaster management agencies/ institutes
- b. Lack of gender-specific data in national statistics
- c. Women's empowerment - not integrated into the national strategic plan
- d. Minimum legislative provisions/ policies to support women's empowerment
- e. Issues related to the Sri Lankan education system (extra burden on women, limited disaster management programmes, and unrecognised demand for disaster management education)

5. Organisational challenges

- a. Appointment related issues (appointment bias and the appointment of wrong candidates into higher positions)
- b. Patriarchal culture in organisations- (male-dominated disaster management system)
- c. Hierarchical rivalry among men and women
- d. Limited opportunities to exercise power and authority
- e. Harassments faced by women officers
- f. Poor coordination with NGOs, which provides capacity building programmes for women
- g. Limited availability and poor recognition of role models
- h. Institutional resource constraints
- i. Disproportionate workload in some institutions
- j. No rewarding, appraisal or motivation for their commitment
- k. Low confidence in women's decision making
- l. Leave related issues

6. Political challenges

- a. Negative attitude on women's empowerment among political authorities
- b. Unnecessary political pressure
- c. Misuse of rules and regulations
- d. Minimum women representation in politics

Section 3: Proposed strategies for women's empowerment in disaster risk governance within the disaster preparedness system in Sri Lanka

Following strategies were derived based on the suggestions identified through interviews' outcomes. All interventions were based on the stakeholders who should be taken the recommended actions.

3.1 Individual interventions

Primary

1. Understand clearly:
 - a. Duties and responsibilities
 - b. Rules and regulations related to the job
2. Strictly follow the rules and regulations in decision-making
3. Acquire additional skills:
 - a. Language skills
 - b. Communication and presentation skills
 - c. Driving skills
 - d. Computer skills
 - e. Life-saving skills
 - f. Interpersonal skills
 - g. Rational decision-making skills

Secondary

4. Develop self-interest to work in disaster-related jobs
5. Develop personality and confidence to perform their duties
6. Be free from corruption
7. Being free from party politics

3.2 Community interventions

Primary

1. Raise community awareness:
 - a. To build trust & understanding among family members
 - b. To support women officers working in disaster management
 - c. To understand & appraise women's contribution in disaster risk governance
 - d. Importance of increasing women's representation in parliament & other higher positions to establish governance
 - e. Importance of political systems free from violence & corruption
 - f. To change social & cultural believes deep-rooted in the society
2. Develop & identify women role models within the community

Secondary

1. Encourage family members:
 - a. To provide additional support towards household work
 - b. For children's education & schooling matters
2. Coordinate with the community level committees to share the additional workload
3. Use of the media to appreciate the role of women in disaster risk governance and their contributions
4. Promote women & girls to continue
 - a. Higher education
 - b. Science & technological education
5. Encourage young & educated women to enter into politics
6. Strengthen family background through societal development

3.3 Organisational interventions

Primary

1. Provision of adequate resources & equipment and supportive working environment
2. Promote work-from-home culture with necessary facilities (equipment, internet facilities, and necessary technical knowledge)
3. Provide security support where necessary
4. Appointment of women into disaster-related organisations:
 - a. Experienced officers into fieldwork, if possible, the area they represent
 - b. Women officers representing forces
 - c. More women officers into higher positions
5. Provide equal opportunities to:
 - a. Accessing capacity building & training
 - b. Attending training (national & international)
 - c. Implementing their decisions
 - d. Women officers to associate with role models closely
6. Coordinate with:
 - a. Related organisations getting peer officers' support and resource sharing
 - b. NGOs for accessing training & capacity building facilities
7. Provision of training on:
 - a. Disaster management Knowledge (national and international)
 - b. Capacity development for building confidence & personality

Secondary

1. Organisational level awareness:
 - a. Clear instructions on duties & responsibilities
 - b. To make women understandable about the importance of women's contribution, their power, rights and capacity within the job
 - c. Change organisational culture & attitude among staff members
 - d. To promote mutual support among staff members
2. Allocate more decision-making powers trusting women's decision-making
3. Support developing and identifying leadership and role models
4. Create a discourse between politicians & organisations
 - a. To raise awareness among politicians
 - b. To reduce undue political pressure
5. Support organisational level motivation through:
 - a. Provision of training
 - b. Reward system or appreciation of women's contribution
 - c. Sponsoring disaster management education

3.4 Legislative interventions

Primary

1. Introduce necessary & supportive rules and regulations:
 - a. Introduce a more flexible leave system
 - b. To establish job security
 - c. To attract educated and qualified women into politics
 - d. More opportunities for women in organisations through quota systems
 - e. Introduce flexible working hours, especially for women officers with children
2. Appoint:
 - a. More women officers into disaster-related organisations & higher positions
 - b. Appoint more staff to disaster-related organisations
3. Introduce affordable & reliable childcare services close to workplaces
4. Financial support to compensate child-caring & household workload

Secondary

1. Change education system:
 - a. To reduce unnecessary burden for parents
 - b. Introduce disaster management as a curricular in schools & universities
 - c. Promote schools for behavioural & attitude change in the society
2. Assure overall security in the country
3. Support women in disaster-related to be economically independent
4. Introduce women's empowerment programmes at the village level
5. Coordinate with ministries related to women's empowerment

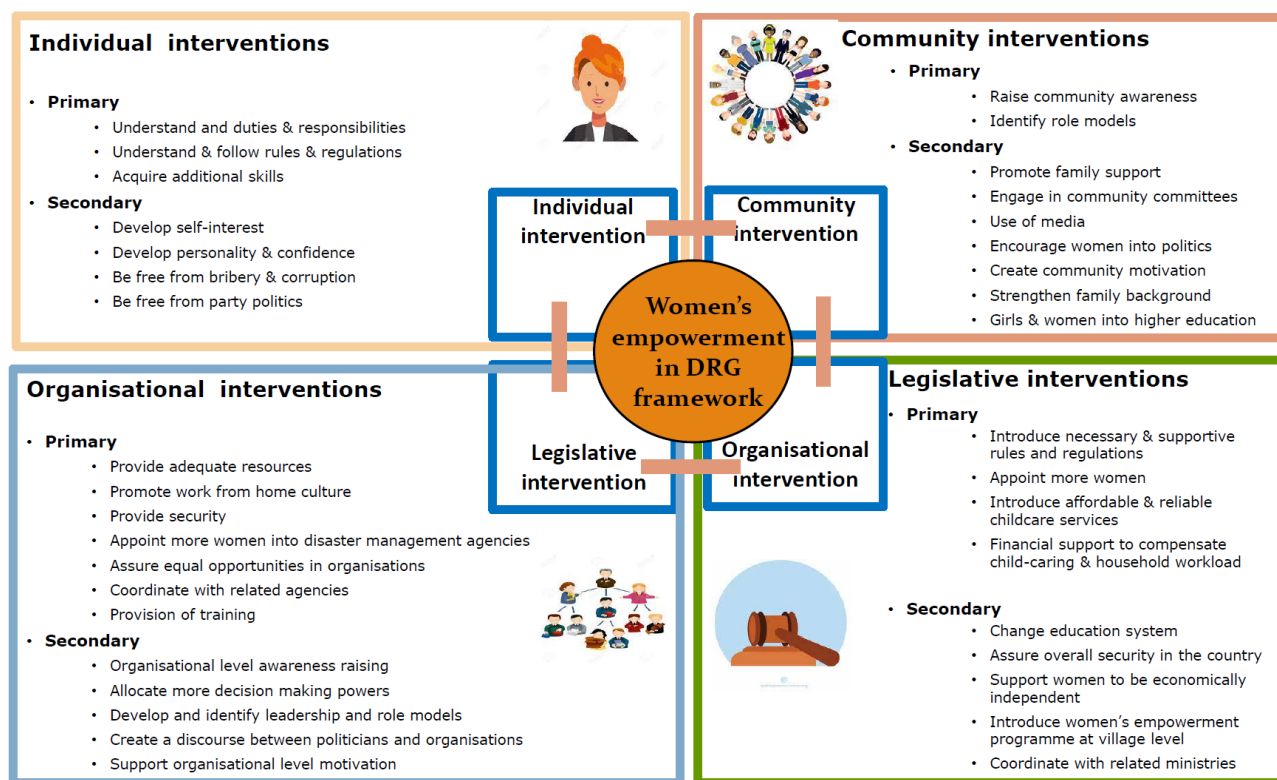


Figure 8 4 Strategies for women's empowerment in disaster risk governance within the disaster preparedness system in Sri Lanka

Authors generated

8.8 Summary and the link

The chapter presents the study findings across the objectives from two to five. In addition, the chapter presents the final validated framework as the overall contribution of the study. Accordingly, four interventions were suggested as strategies to achieve women's empowerment in disaster risk governance within the disaster preparedness system. Finally, chapter 9 will conclude the comprehensive study drawing future directions in the field of the study.

CHAPTER 9 Conclusions

9.1 Introduction

After presenting the findings, discussion and the validated framework in Chapter 8, this chapter presents the conclusions. First, Chapter 1 of the study presented the background, research problem, research aim and objectives and the introduction to the rest of the chapters. Next, Chapter 2 presented the synthesised literature review supporting the research problem and related concepts to the study objectives. Chapter 3 explained the research methodology adopted in the study and justified each step adopted following the research onion model.

Next, Chapter 4 presented the conceptual framework of the study based on the synthesised literature. Chapter 5 presented the outcome of the expert interviews following the research objectives. The case study analysis was presented in Chapter 6 and followed by the cross-case analysis in Chapter 7. Chapter 8 presented the study findings, discussion and the validated framework. Finally, this chapter concludes the overall study with the following sub-sections.

Section 9.2 presents a brief identification of the research problem and follows Section 9.3, presenting the research findings across five research objectives. Next, section 9.4 presents the study's contribution to theory, practice and policy, while Section 9.5 presents the study's limitations. Finally, further research avenues within the field of the study are presented in Section 9.6.

9.2 Research problem

Increasing disaster occurrence and their complexities affect individuals, communities and countries irrespective of the level of development. Among the victims of disasters, women have been affected significantly for many reasons, as explained in Section 2.3. Those reasons affected to lack of women's empowerment in DRG which increased their vulnerabilities to disasters as explained in Section 2.3.3. Hence, the literature review suggested empowering women in disaster risk governance as a solution to reduce their vulnerabilities to disasters, as presented in Section 2.4.3.

Nevertheless, the present level of women's empowerment in disaster risk governance has not been satisfactorily achieved. Furthermore, the study found how important the disaster preparedness stage as explained in Section 2.6. Disaster preparedness enables societies and communities to reduce the impact and enhance resilience to future disasters. After understanding the current literature availability, the author identified the research gap and

accordingly articulated the problem statement as, *"How to empower women in disaster risk governance within the disaster preparedness system?"*.

In order to propose a more specific solution, the study was conducted in Sri Lanka. Sri Lanka was selected based on several reasons, as presented in Section 2.7. For decades, Sri Lanka has been affected by disasters, and hence women have been disproportionately affected, similar to other countries. Women's empowerment has been suggested at several global platforms and by researchers to minimise their vulnerabilities and enhance resilience among women and society. Sri Lankan women stand in better positions in terms of education and health indicators. However, their level of empowerment has not been achieved to the expected level or on par with the region. Therefore, the study reframed the problem statement as ***"How to empower women in disaster risk governance within the disaster preparedness system in Sri Lanka?"***.

9.3 A summary of meeting research objectives

The study aimed to propose a framework for empowering women in disaster risk governance within the disaster preparedness system in Sri Lanka. The aim was achieved through answering four research objectives as stated in Section 1.5. The following subsections explain how each objective was achieved.

9.3.1 Objective 1: To explore the impact and the role of women in disasters

The study's first objective, to explore the impact of disasters on women, was achieved through the literature review as stated in Section 2.3.1. In addition, the role of women in disasters was also achieved through the literature review as stated in Sections 2.3.3 and 2.4.3. This objective is purely achieved through the literature review and can be considered as the background for the study.

9.3.2 Objective 2: To explore the importance of women's empowerment in disaster risk governance within the disaster preparedness system in Sri Lanka to reduce women's vulnerabilities

The second objective of the study is to explore the importance of women's empowerment in DRG within the disaster preparedness system to reduce women's vulnerabilities caused by disasters. In several ways, the objective was achieved, conducting a literature review as stated in Section 2.4.3 and conducting expert and case study interviews as stated in Sections 5.3.1. and 7.2.1. The literature review revealed the importance of women's

empowerment in DRG as; women's capacities, experience, a better understandability of gender-specific issues, assuring equality, societal benefit, free from corruption, transparency, and accountability. Similar reasons were found from the expert interviews. In addition to these reasons, additional reasons were revealed from case study interviews as presented in the cross-case analysis presented in Section 7.2.1. Case study interviews added; good listening ability, mental stability, multi-tasking capacity, preference for women officers, self-satisfaction, and friendly environment as additional reasons to justify the importance of women's empowerment in DRG. Accordingly, both the literature review and interviews outcome confirmed the significance of empowering women in DRG with theoretical and empirical evidence.

9.3.3 Objective 3: To explore the current contribution of women in disaster risk governance within the disaster preparedness system in Sri Lanka

The study's third objective was to explore the present contribution of women in DRG within the disaster preparedness system in Sri Lanka. The literature review has already revealed that the present contribution of women's engagement in disaster management has been limited to the implementation level rather than the policy or decision-making level, and their role has been largely untapped. Hence, by conducting expert and case study interviews, the study explored the present status of women's contribution in DRG as stated in Section 5.3.2 and 7.2.2, respectively. According to expert and case study interviews, women officers are employed in DRG at the second layer of the disaster preparedness system in Sri Lanka. Male officers hold the highest level at disaster preparedness decision-making. In the middle and lower levels, more women officers engage in disaster preparedness decision-making. The interviewees highlighted that most officers face challenges when performing their duties within the disaster preparedness system instead of being empowered. Hence, they emphasised the necessity of proposing strategies to overcome their challenges empowering in DRG.

9.3.4 Objective 4: To investigate the challenges for women's empowerment in disaster risk governance within the disaster preparedness system in Sri Lanka

The study explored the present contribution of women in DRG within the disaster preparedness system in Sri Lanka as a minimum and the necessity of introducing strategies to overcome the problem. The strategic framework would depend on the challenges and the relevant suggestions. Accordingly, the study explored challenges based on the literature review. The literature review identified patriarchal culture, religious

beliefs, family background, household workload, level of education, self-interest, policies and legislation, organisational culture, political environment, economic status, socio-cultural beliefs, role models, and security issues as challenges for women's empowerment in DRG. After conducting expert and case study interviews, more challenges were identified for women's empowerment in DRG. Appointment related challenges, structural issues, lack of integration of women's empowerment into the country's strategic plan, hierarchical rivalry, influence in decision-making, job security, limited role models, patriarchal culture, poor coordination with stakeholders, commitment issues, lack of self-interest, weak personality, unspecific time and availability, limited knowledge and experience in disaster management, cultural beliefs and norms, excessive household workloads and poor recognition for the work performed by women officers were recognised based on the expert interviews and presented in Section 5.3.3. Based on similarities and relatedness around the concepts, these challenges were grouped into six categories; legislative and policy-related challenges, organisational challenges, individual constraints, socio-cultural factors, and political challenges. A similar approach was followed for the case study interviews and found more challenges. Thirty-four challenges were found from the case study interviews and grouped into the pre-identified categories. After combining both expert and case study interviews, a comprehensive list of challenges for women's empowerment in DRG was presented in Section 8.4, following the previous method. Identification of more factors could contribute to the theory related to women's empowerment in disaster risk governance. The expert suggestions were presented in Section 5.3.4, and suggestions revealed through case studies were presented in Section 7.2.3.

9.3.5 Objective 5: To propose strategies for empowering women in disaster risk governance within the disaster preparedness system in Sri Lanka

The final objective of the study is to propose strategies for empowering women in disaster risk governance within the disaster preparedness system in Sri Lanka. The objective was achieved by exploring the challenges affecting women's empowerment in DRG and matching them with the suggestions given by interviewees. Finally, all identified suggestions were categorised based on the parties who should implement these suggestions, as presented in Section 8.5. Accordingly, the framework for achieving women's empowerment in DRG within the disaster preparedness system in Sri Lanka was proposed. The validated framework consists of four interventions; individual, community, organisational, and legislative, as presented in Section 8.7. After conducting the FGD, the suggestions were further refined and identified as primary and secondary strategies under each intervention. Primary interventions can be implemented as direct actions in the short

term. The secondary interventions can be implemented in the long term with the development agendas in the country.

Understanding duties and responsibilities, familiarising with rules and regulations and acquiring additional skills related to the job were proposed as primary individual interventions. In addition, developing self-interest to work in disaster-related jobs, developing personality and confidence, being free from corruption and free from party politics were proposed under individual secondary interventions.

Two primary community interventions were proposed; raising community awareness and identifying role models from the community. In addition, seven community interventions were proposed as secondary interventions. They are: encourage family members' support, engage in community-level committees, encourage young & educated women to enter into politics, create community recognition and motivation for women's contribution in disaster management, strengthen family background through societal development and promote women and girls to continue in higher education and science & technological education.

Several organisational interventions were proposed as primary interventions. They are the provision of adequate resources, promotion of work from home culture, allocation of security support where necessary and appointment of more women into disaster management agencies. In addition, coordination with related agencies, assuring equal opportunities in organisations and provision of training were further proposed as primary organisational interventions. The secondary interventions are raising organisational awareness, delegating decision-making powers, developing and identifying leaders and role models within organisations, creating a discourse between politicians and organisations, and creating organisational level motivation.

Finally, four legislative interventions were proposed as primary interventions. They are: introducing necessary and supportive rules and regulations, the appointment of more women into organisations, introducing reliable and affordable child care facilities, and providing financial support to compensate child-caring and household workload. In addition, several secondary interventions were also proposed. Changing the present education system, assuring overall security in the country, supporting women to be economically independent, introducing women's empowerment programmes at the village level and coordinating with related ministries were the secondary legislative interventions.

9.4 Contribution of the study

The novel study contributes to literature, practice and policy as described in the following subsections.

9.4.1 Contribution to the theory

The study contributed to the existing literature in several ways. First, the study explored the importance of women's empowerment in disaster risk governance by conducting expert and case study interviews, adding several new justifications.

Further, the study identified the factors that affect women's empowerment in DRG within the disaster preparedness system and the suggestions. The available literature identified several challenges that affect women's empowerment in disaster-related decision-making. Thus, this study has presented an extensive list of challenges affecting women's empowerment and systematically classified them into six key categories as a significant contribution to the literature for future studies.

Through the final framework presented in Chapter 8, the study provides a clear strategy for achieving women's empowerment in DRG. Furthermore, the study findings complement the existing theories on women's empowerment, providing a novel approach identifying four interventions; individuals, community, organisational and legal and policies. Hence, this novel approach would significantly contribute to theory development in the field of women's empowerment.

9.4.2 Contribution to the practice

Many practitioners work on women's empowerment, including non-government organisations and disaster management agencies. The study results would assist them in reshaping their activities or strategies when empowering women in disaster-related decision-making. Several elements of the framework would be their priority when designing their programmes and strategies. Therefore, The study presented the strategies to be implemented by respective parties to achieve women's empowerment in DRG.

9.4.3 Contribution to the policy

Several global initiatives have emphasised the necessity of assuring women's empowerment as part of the development goals and agendas during the last decades. However, most evidence does not suggest a clear strategy for supporting women's empowerment in DRG. Hence, this study contributes to strengthening women's

empowerment in disaster risk governance within the Sri Lankan disaster preparedness system, which facilitates the national level policymakers to reshape or introduce policies related to women's empowerment in Sri Lanka.

In addition, the study also contributes to the global policy frameworks by supporting women's empowerment as a priority highlighting the importance of their empowerment found from the study. In addition, the framework proposed by the study could be a guideline that can be replicated in other countries within their national context.

Broadly, the study contributes to the fifth goal of the Sustainable Development Goals, supporting gender equality and empowerment and the second priority of the Sendai Framework for Disaster Risk Reduction, strengthening disaster risk governance to manage disaster risk. Furthermore, since the study was conducted within the disaster preparedness stage, the study also contributed to the fourth priority of the SFDRR, enhancing disaster preparedness through empowering women in DRG within the disaster preparedness system.

9.5 Limitations of the study

In any study, limitations are a common issue faced by authors. Nevertheless, several measures were taken to reduce the possible limitations in the study. First, several measures were introduced to assure the validity and reliability of study findings. Section 3.12 explained the reliability and validity checks conducted during the study. Construct validity, internal validity and reliability checks were assured in several ways, conducting experts interviews, case study interviews and validation focus group discussion as explained in Section 3.14. The possible challenge of conducting case studies would affect the external validity of the study. Hence, the study adopted the replication logic principle when conducting case studies. In addition, the expert interviews and the validation focus group discussion helped to generalise the study findings across Sri Lanka. Another limitation of the study is that the final validated framework has not been implemented due to time constraints. Hence, future research could be conducted as stated in the following section.

9.6 Directions for future research

9.6.1 Testing and evaluating the developed framework nationally

As stated above, the framework has not been implemented and evaluated within the natural context. Hence, possible research could be implementing the proposed framework and conducting an evaluation study nationally. The framework could be implemented across many districts, including the three case study districts examined in the study.

9.6.2 Test the framework to a country similar to the Sri Lankan context

Similarly, the study could be tested in countries similar to the Sri Lankan context to see the framework's applicability across similar countries. Based on the findings, the framework can be further improved for future use in any country in achieving women's empowerment in DRG.

9.6.3 Test the framework in a developed country context

Similar to the developing countries, similar studies could be conducted in the developed countries to see the applicability of the developed framework.

9.6.4 A final note on the thesis

Chapter 9 summarised the overall study referring to the outcomes of every objective of the study. The study objectives were achieved by conducting a literature review, expert and case study interviews, documentary review and focus group discussion. After answering all five objectives, the final framework for empowering women in disaster risk governance within the disaster preparedness system in Sri Lanka was developed.

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APPENDICES

Appendix 1: List of publications by the author

1. Hemachandra, K., Amaratunga, D., & Haigh, R. (2018). Role of women in disaster risk governance. *Procedia Engineering*, 212, 1187-1194.
2. Hemachandra, K., Amaratunga, D., & Haigh, R. (2020). Factors affecting the women's empowerment in disaster risk governance structure in Sri Lanka. *International Journal of Disaster Risk Reduction*, 51, 101779.
3. Hemachandra, K., Amaratunga, D., & Haigh, R. (under review). A Framework for Women's Empowerment in Disaster Risk Governance: *2nd International Symposium on Disaster Resilience and Sustainable Development*.
4. Hemachandra, K., Amaratunga, D., & Haigh, R. (2019, January). Role of the National Governance in Disaster Preparedness in Sri Lanka. In *ASCENT Festival 2019: International Conference on Capacity Building for Research and Innovation in Disaster Resilience* (p. 60). Abstract
5. Hemachandra, K., Amaratunga, D., & Haigh, R. (2020, January). An Evaluation of Disaster Preparedness Strategy in Sri Lankan Governance Structure. In *9th International Conference on Building Resilience* (p. 63). Institut Teknologi Bandung (ITB). Abstract
6. Hemachandra, K., Amaratunga, D., & Haigh, R. (2019, January). Role of the National Governance in Disaster Preparedness in Sri Lanka. In *ASCENT Festival 2019: International Conference on Capacity Building for Research and Innovation in Disaster Resilience* (p. 60).

Appendix 2: Interview guideline: Expert interview

Research Overview

Present studies emphasised the disproportionate effects of natural hazards on women across the world. Women were disproportionately affected by natural hazards due to many reasons. One of the main reasons is the lack of women's representation in the disaster risk reduction related decision-making process.

Hence, this study will explore the present status of the role of women in Disaster Risk Governance (DRG) in Sri Lanka with special reference to the disaster preparedness system. Finally, this study aims to develop a framework to enhance their contribution in ensuring DRG within all institutions within the disaster preparedness system in Sri Lanka. This will help to enhance risk governance and reduce disproportionate effects of disaster on women in future disasters in Sri Lanka.

The study would be conducted in Sri Lanka due to its high profile of natural hazards and the present status of women's empowerment. In achieving the study objectives, the study intends to conduct interviews with selected case studies based on the highest vulnerable districts in Sri Lanka. The study findings will provide input to the policy-making to strengthen disaster resilience and reduce the disproportionate impact on women in Sri Lanka. All interview materials will be kept strictly confidential and made available only to members of the supervisory staff of the University.

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4. Number of years working in the field:

Disaster risk governance (in this study) refers to the way in which institutions in the national disaster management structure (public authorities, civil servants, and non-government organizations) coordinate at local and national levels in order to manage and reduce disaster risks caused by natural hazards.

Women's empowerment means (in this study) that allowing *women in the national administrative structure* to make life-determining decisions specifically for women in the society as well as other members in the society to address disaster risks caused by natural hazards.

Section 1- Disaster risk governance

1. How does your organization related to disaster resilience in Sri Lanka?
2. How does your organization relate disaster risk governance?
3. Do you satisfy with the present level of disaster risk governance?

- a. If not, why?
 - b. Any issues? If yes, what are they?
 - c. What do you propose to overcome such issues?
4. What is the present situation of disaster preparedness in Sri Lanka?
5. Who engage in Disaster Preparedness Planning in your organization?
6. Do you satisfy with the existing disaster preparedness strategy in Sri Lanka?
 - a. If not, what issues do you identify?
 - b. What do you propose to overcome such issues?
7. What are the barriers that limit the role of your organization's in disaster management?
8. What do you propose to enhance the role of your organization's in disaster management?
9. Do you think that women should be engaged in the disaster planning stage? Explain why.

Section 2 – Women empowerment

1. What is the level of women's involvement in decision making/ planning in your organization?
2. In your opinion does women's empowerment is important in the governance structure? Explain why.
3. What is the status of women in the disaster risk governance system in Sri Lanka, specially within the preparedness system? (Current status)
4. Factors (challenges /enablers) affecting women's empowerment in disaster risk governance
5. Any suggestions to enhance women's empowerment in DRG within the national preparedness system in Sri Lanka?

Appendix 3: Sample of an expert interview transcription

Assistant Director at the Education and Awareness Division
Disaster Management Centre

Interviewer: Please explain your background concerning your job, position, and education.

Interviewee: I am the Assistant Director at the Education and Awareness Division at the DMC, Sri Lanka. Working for eight years. I joined here at the DMC as the Assistant Director at the District DMCU for one year and then joined here at the DMC.

Interviewer: Thank you! Could you explain to me how your organisation is related to the country's overall disaster resilience and disaster risk governance?

Interviewee: We are always involved with disaster risk management and risk mitigation activities as a result of the Sendai Framework for DRR. Earlier, we had Hyogo Framework for Action was implemented before 2015. The HFA gave some shape to our organisation. Specifically, it gave some guidelines to implement during three stages of the disaster management cycle before, during and after stages. The DMC was a newly introduced organisation in Sri Lanka after the 2004 tsunami incident. After 2015, we further shaped and established the structure for disaster management in Sri Lanka. Specially we established the coordination mechanism at the district and national level DM system in Sri Lanka. After introducing the SFDRR, we started to change our plans, activities at the district and national level programme into disaster risk management. I think we are still at the beginning of the new framework during the last five years, I mean since 2015. During these five years, we started to study and focus our programmes according to this new framework. However, we are not fully established and operating the risk governance activities yet during the last five years in our system. I must say that we are still at the developing status of assuring risk governance into our disaster management system in Sri Lanka.

According to the Disaster Management Act, DMC is coming under the Council of NDMC. It is the most powerful body in DM in Sri Lanka. According to this Council, DMC was established to conduct the NCDM activities. This was introduced after the 2004 tsunami situation. But, if we talk about the real implementation mechanism of the Act, we can identify some gaps because the Act is not fully functioning yet. All the activities are not fully functioning according to the NCDM. Even though the NCDM is a powerful body, but there are several other organisations that separately do disaster management activities. Therefore, the Act is not fully functioning. If the Act functions completely or fully, the NCDM must have full powers in governing the DM system in Sri Lanka. It has powers more than the Cabinet to coordinate all the activities at the national and international levels.

According to the Council, DMC is the centre for ensuring the implementation of the overall DM mechanisms and risk management in the country. And there are a lot of ministers, ministries, provincial representation in this Council. Therefore, in any disaster situation, the Chairman is the President. So, he or she can use all the powers, resources to facilitate DM activities. The Council represents all the ministry members, the Chief Ministers, the opposition leader and the other five opposition parliament members as the political mechanism or political representation.

In addition, the Secretary for the DM gathers all official representatives from each ministry once every three months. This meeting is called the National DM Coordinating Committee Meeting. This is as the administrative representative of the DMC. This is the National DM Committee Meeting. This is the point where all sectors come to DM decision making. This is chaired by the Secretary to the DM ministry. But after these new changes in the new

government, our powers have been reduced as the Ministry powers. DMC is also now under a very large ministry that has more than 38 organisations. Last 4-5 years, we did not gather this National DM Coordination Committee. Because every year, the DM ministry was changing. Administratively, this is the biggest problem we face. The secretaries are changing every 4-5 months, and very difficult to gather all these officers and the minister because it is a part of a very large ministry. Therefore, during the last 4-5 years, the Committee was not gathered.

Even though the Committee was not gathered regularly as in the previous period, the President has a Task Force; we called it the President Task Force. The Task Force has been involved in all these last disasters because the PTF involves all these ministries. Even though there was no gathering of the Committees and the council, the PTF conducted the DM activities. At any disasters covering man-made or natural types of disasters, covering 21 types, the PTF covers all these types of disasters in Sri Lanka. Depending on the type of disaster, the PTF select the relevant technical agency, including the Defence Ministry, to operate the disaster management as the response measure.

As the officers at the DMC, the leading organisation for DM in Sri Lanka, we think why the Act was not implemented or why the activities were not functioned according to the Act. The Act has some objectives and mechanisms to be implemented when dealing with a disaster management situation, including pre-disaster and post-disaster situations. But the powers of the Act were not clearly written in the Act itself. Actually, there is no mechanism or power to the ministry. The Act, the NCDM and the DMC were established but the Ministry has not been mentioned with its clear powers. Before we were transferred to the newest ministry, we had four technical agencies such as Meteorological Department, NBRO, NDRC; actually, this is a very difficult situation. Actually, the ideal way is that the DM should be separately working as the PTF. Like the President and the DM Ministry and there should be some coordination part. But during the last 8 years, we did not implement our duties according to the Act. Because nobody had identified the roles and responsibilities of the NCDM, the role of the Ministry and the DMC. So, this is the major problem. So, if we want to make any changes, it has to work as an independent unit coming under the President. This needs some organisational structural changes as well as some information for the Act also.

Even still, the problems cannot be solved because the DMC does not have power. According to the Act, DMC has a huge power, but when you go to a ministry with so many other organisations, the power reduced. I must say the relevant ministry for DM once a year it is changing. This frequent change is also a problem itself. Other organisations are also changing. But the DM, cannot be done like that. The Act is a really good act. But the implementing organisations have not been properly identified by the Act. Because, at the time the Act was prepared, was 15 years ago. If we prepare the Act now, we can incorporate a lot of things what we have identified as gaps in the Act. So, what we want is some amendments to the Act as solutions to address the challenges we identified within the Act. And also, we definitely need to implement the current act rather than working spontaneously neglecting the Act during any disaster management activity.

The President should have identified the Act and every government should made sure to implement the Act. As the DMC we have the powers to coordinate only. So, the responsible ministries are related to Ministries. For example, during a flood, the responsible technical agency for implementing the DM is the Ministry of Irrigation, in pandemic the Ministry of Health etc. Then the Ministry of Irrigation should prepare the SOPs and the plans because they have the technology, technical staff and everything which are required from top to bottom. So, during a disaster, we have to coordinate with them together with other institutions regarding early warning and dissemination etc. So, we have to prepare that

kind of activities with the technical agency and its relevant ministries and this is our coordination mechanism.

But if we are coming under one ministry, then we have to follow all the rules and regulations as a traditional organisation. So, at the DMC, we all suffer because we are not getting any authority and powers as other departments. Because we are not either in a department or authority. So, all our heads are getting some problems.

If we appoint our DG according to our SOR, we can work with him or her for 5 -6 years. But, at the DMC, every two years the DG changes. This is partly influenced by the political system or political authority. At the beginning of the DMC, half of the members at the DMC was from the military service. Gradually it changed into civil organisation and now it is working as a hybrid organisation with military officers and civil officers. For example, DG from the Military, most DDMCU are headed by military etc. Now the composition is 30% military and 70% civil.

Interviewer: How do you maintain accountability at the DMC? As part of governance.

Interviewee: For every disaster, we have some lessons learned from meeting and gathering. In addition to that, we have a tsunami evaluation programme. Even we ask external experts to participate at the tsunami exercise and consider their feedback. In this tsunami evaluation programme we study and evaluate and identify our technical gaps etc. Even the exercise, we learnt some lessons as evaluation. At the meeting, we evaluated and identified the gaps and planned to take some measures. Actually, for every disaster, we develop some new things, and we learnt new things as countermeasures. For 2016 and 2017 after that, we introduced this Insurance system which is very good. Another example, in 2010, due to a cyclone, 65 fishermen's went missing. So, after that, we made sure to strengthen the EW mechanism, and EW signals were passed to the Ministry of Fisheries. Moreover, we prepared a system to distribute the life jackets etc, within our coordination mechanism. Most of our development took place after a disaster. We used our lessons learnt to develop our system taking good decisions after disasters.

After the 2016 and 17 flood situations, if they had some good mechanisms to monitor, for example, adequate rain gages and measurements for rain, we could have saved the Colombo City from latest flooding. After that, there were some investments from the Meteorological Department and Irrigation departments for technological investments. If we study the rainfall for 4-5 hours by three technical organisations NBRO, Irrigation and Meteorological, we can give good predictions before a flood situation. However, in Sri Lanka, we have some issues with the three related organisations on data sharing. Most organisations separately collect data rather than being cooperative. Actually, we have enough data, more data have been collected, but we are not using it in the proper time. So, most of these data become useless since we did not use them at the correct time. Actually, these three organisations have real-time data. Now we made sure to share these data with the DMC with all these real-time data. Because of this new method, we can share the early warnings based on the data shared by these three technical agencies who share their data and early warning every 3-5 hours. So, DMC has access to these real-time data. In addition, they agreed to appoint one officer from their respective organisation to DMC to share and work and issuing early warnings for effective early warning systems at the DMC.

In addition, we prepared some awareness programmes with the Fisheries department. These awareness programmes are targeted at fisheries communities. According to Meteorological Department, after these awareness programmes most women are encouraged to give calls to get the weather information through contacting Meteorological Department. And our District Offices also confirmed that most of their awareness

programmes have been participated by women. Because most of the awareness programmes are conducted during the daytime when husbands have gone for work. So, most women participation is quite common in these programmes. So, women take this weather information and give them to husbands to take precautionary measures. So, we can see women are encouraged to take part in disaster risk reduction measures at community level is high.

Interviewer: Please explain bit more about the overall risk governance mechanism in Sri Lanka.

Interviewee: Actually, disasters is a very attractive topic or subject for most organisations. During the last 4-5 years, all information was gathered in the DMC. Now, a slot of organisations like not only defence, other civil ministries for example, Coconut cultivation also have some interests on disaster management. Flood is not the huge impact in terms of economic terms in Sri Lanka. But, drought is the most economically damaging disaster in Sri Lanka. Hence, most agricultural-related ministries and departments are interested in the DM system now when compared to past periods. So, most of these organisations, when they prepare their annual budget estimation, they paid attention to allocations on disasters. The most important thing is that last year the treasury asked all ministries to allocate some budgets for disaster management after assessing the future disaster risks in their respective departments. So, in all their ministries budget allocation, they have a section for budget allocation for risk assessment.

For example, when you do the road development from Colombo to Badulla, during the last five years, any possible risks of disasters were not considered. So, the government allocated a huge amount of money for road development, but after that, the government had to allocate more money to NBRO to restructure the Colombo-Badulla roads. So, if we approve and considered the risk of future disasters before their final approval, then such waste of money will not be happened and then that will be a good decision. For lots of reservoir projects and other big projects, the risk assessment is recommended. This was introduced last year. So we can see a good interest from organisations, and they ask for some support from the DMC to develop their risk assessment for their organisations.

Interviewer: How do you explain the overall disaster preparedness strategy in Sri Lanka?

Interviewee: Actually, at the DMC, we have four divisions, Awareness, Preparedness, Mitigation and Emergency Operations. For the preparedness section, they allocate budgets to conduct many activities to strengthen the preparedness at national, district, divisional and village level plans. Another preparedness plan is available at the DDMCU. That plan contains all contact numbers, response people, some maps etc are available in these books. These preparedness plan documents are prepared as a function of the DMC. Our officials helped to prepare these plans. These plans were prepared with the advice and support of the district secretariat office, while divisional level plans are prepared with the support and advice of the Divisional Secretariats. For GN, plans are made with the support of the GN leaders. There they know the exact locations, safety locations, safe routes etc. So, during disasters, most of these plans are implemented during the response phase. During the disasters were contacted civil defence, three forces, fire brigades etc. At the DMC, we need these contact details of GN officers, District and Divisional Secretariats etc. So, during the response, they use these plans. However, we do not see any mitigatory disaster activities from their proposals rather than preparedness and response measures. But for bigger and national level projects like climate-resilient implement projects (CRIP), they identified flood and drought mitigation activities for more than nine river basins. But at the ground level, we allocate 300-400 projects at the country level. But at least if Divisional Secretariats identify one project for resilience programme for drought or flood

in one village, it would be a significant benefit. However, during the last 5 year, we did not see any type of this type of resilience projects. There are some large-scale projects, they have introduced. But for small projects can do a difference because there are many traditional systems we can easily adopt.

For example, in Monaragala district, there is a rainwater collection and water management, they have some traditional systems to pond maintenance. So, they identified and request some support from the DMC to develop their resilience systems in the Monaragala district. However, at the ground level, we see a very small number of such type of resilience projects have been developed. Most people requested to build roads, canals etc. For example, the relevant authorities or parties did not request any mitigatory activities for example for landslides, any construction of wall; no one have made any requests. These GN leaders, divisional and district secretaries, could not properly identify and mitigatory or resilience projects in their divisions or districts. So, for them, preparation is only preparing for the next disaster. For these things, there are a lot of allocations from their respective ministries. I mean, divisional secretaries receive allocations from many ministries in one divisional secretariat division. So, they cover their projects. The rest of the other things like road construction and so on, they expect allocations from the DMC. We saw this habit during the last five years. Because of allocating or establishing NBRO, DMC had to allocate landslide mitigation activities at divisional secretariat offices. Now there are many technical officers in the NBRO. So, I can say now landslide mitigations are properly happening because the government, non-governmental and world bank allocates more funds are allocated for the structural mitigation activities for the NBRO.

Actually, our officials are limited to the district level offices DDMCU. Similarly, NBRO officials are limited to their NBRO district level offices. At the divisional level, only the Sahana officer, whereas at the GN level, there is no disaster management officer. In each GN division, there are about five graduates appointed as development officers but no representation of DMC officers at the divisional and GN level. Even the Sahana officer is a development officer. He does all the relief coordination only. So, he or she engages with the documentation part, and he does not have much power because he is similar to a development officer level. A divisional sectarian is an administrative officer. So, for disaster management related technical matters, we cannot expect him as a consultant or expert. He just supports any DM activities as supporting and coordinating within his respective division. So, at the district level, our officers' powers have to be further developed. Even our officers at the district level, their technical knowledge is also at a different level and diverse and also from one district DDMCU to another DDMCU. Because 6 DDMCU are headed by military officers. From Colombo to Hambanthota DDMCU are headed by military officers. So, they have limited knowledge about DM but they have good knowledge on response. But for other technical aspects like early warning and so on their knowledge is limited. Therefore, we properly identified what are the duties to be performed during the pre-disaster stage, during the disaster and post-disaster stage.

So, similar level officials to be appointed at the DDMCU, to coordinate all three events. This government has made suggestions to appoint 25 military officials in addition to our officials in each DDMCU. Then civil officers can do the pre-disaster stage and relief part whereas the response part can be coordinated and operated with the military staff. I see this as a good plan for the DM in Sri Lanka. And we prefer to appoint a DM official, at the divisional secretariat office. Because at the DivS office only 1 officer and he is not enough because he deals with the relief services only. So, better to appoint another officer to look after other stages of the DM. However, the government recruitment process has some limitations. Actually, we requested to appoint 200 additional development officers to the DMC. It was approved, but the government faced some difficulty in appointing these new

staff. Because all these new officers are expecting a government pensionable job. But the DMC is not a pensionable organisation. So, every time when the government appointed new officers, they were not recruited to DMC. So, the DMC is in a problem whether this is a authority or a department. So, the new government is going to change the DMC into an authority. Because the government does not want to develop these organisations into departments, they prefer to develop into authorities with no pensions. Specially the DMC is not an earning organisation. It is only giving the service. So, if the government wants to develop this organisation, they can introduce a new area or division as earning part, earning organisational activities. Such as we can easily introduce some training divisions. This can be easily done because there is a lot of demand for DM now in Sri Lanka. The present government has identified this gap and necessity and the ability of these opportunities to earn income from the centre itself.

When it goes to the village level, I mean at the GN level, the grama niladharis (GNs) have to do a lot of work. We conduct some programmes for GN officers. Actually, they have a lot of problems at the ground level. They do not have any powers, safety boots, boats, and some of them have to work in the night in their villages and even they do not have any equipment such as torches. The government do not give any allowances for their TP bills. But for DM officers, the government had made some allocations for TP. Even the very ground level officers at the DMC, like drivers, have such allowances for TP bills at the DMC. Normally these benefits are given only to executive level officers. But at the DMC, our drivers also get these benefits. From the DMC, we allocate these allowances for our lower-level officers out of our annual allocations. Even the middle-level executive officers at other ministries like the Ministry of Home Affairs, even they do not have such allowances. Because they get whatever the benefits according to their rules and regulations, without any rules and regulations, they cannot allocate any allowances for GNs. However, we can provide some support to these officers at our district officers as donations or supports such as boots, equipment etc. And then, they can distribute to GN officers according to their requirements. But we cannot offer these facilities for all GN officers. When we go these awareness programmes at the village level training programmes, we try to give them. But they do not like them, and they expect more equipment rather than training. This is the situation faced by ground-level officials. But for me in addition to this equipment, they need more knowledge and technical knowledge, specifically including GN also. But, for our response activities, we identify not the civil officers, but we identified the need for three forces and the civil defence. Especially in the South Asian region, we have some civil volunteer teams, civil organisations, friends, families to support the people during the response activities. But we do not still use the civil response teams, and we are still using the military services and support. Because they have the equipment and necessary training for response activities. However, we need to transfer these response mechanisms to include civil support during the response stage. However, there is no such mechanism to transfer the response completely from defence or military to defence and civil support. Actually, without appointing a new officer in addition to 5 development officers at the GN level, we start a new programme to use the existing five officers for DM in Sri Lanka with the support of the Ministry of Home Affairs and the support of the other representative ministries belong to these five development officers. Because these development officers do not have a long jobs list to be performed at the GN level. So, if we appoint another officer to the GN level, it will burden the government because there are many officers without having a designated work. So, we can reduce the number of new appointments and include DM as part of their duty list.

We can move them to report their duties to report to our ministry also. I think the present government have some plans because we developed this idea with the Ministry of

Samurdhi. Because they told us many of their officers do not have much work at the ground level. So, the two ministries voluntarily came and made agreement with the two ministries, DM ministry and Samurdhi Ministry, to utilise their officials. Because of their support, we developed some GN level plans and maps preparation and awareness activities to use their services in a DM situation. We did this three years ago, and still the programme is going on. Except for 1 or 2 divisional secretaries, we covered the whole country. When they conducted some exercise and drills, they voluntarily came. When we gather every disaster management situation, we are taking their support also.

Because the GN cannot cover the whole area, it went well. However, the problem is now the ministry for DM has changed. Now it comes under some big ministry. So, when they change the DM from one ministry to another, all the changes and agreements must be changed. Now we are under the Ministry of Defence. So, whatever the changes, we need to wait another couple of months because, there is a general election coming again. With the new government they promised to reduce the number of ministries up to 15-16. But right now, we do not know what will happen. During the last couple of years, our ministries have been changed very frequently. My opinion is that if we come under the Ministry of Defence, I think it is the best ministry to be under. Because most of these developing countries, without a power, very difficult to coordinate the events. If it is more democratic without the power, according to my experience, we saw many problems. We were under different rules under different ruling systems with many foreign invasions. So, our people are used to be governed under strong leadership with strict rules and regulations. Because under a strict ruling system with adequate power, we were able to coordinate DM activities well with all necessary resources and necessary powers. All our officers had to work 24-hour service which improved the system with lots of benefits. Because even with the examples of strict management in 6 DDMCU, headed by military officials, compared to DDMCU headed by civil service officers, they have a limited staff like 3-4 officers. But for DDMCU headed by military officers, have more human resources, like 20 people than civil services. So, they can easily cover 24 hours for all seven days compared to DDMCU comes under the civil head. This shows that the resource allocation under the ministry of defence is easy than any other ministry, which helped the smooth and well-functioning of the DDMCU.

Interviewer: Thank you very much for the detailed explanation. How do you see women's empowerment in disaster decision-making (disaster risk governance).

Interviewee: So, when the women involvement and the empowerment in the government sector is about 30-35% at the lead role level including the government sector including, District Secretaries, Divisional Secretaries, GNs, Secretaries to the Ministries etc. However, when you see the decision making under men and women, we can identify some positive and negative effects. Some of the positive sides are that when women are working at the district level, most women take sensitive decisions. Normally people say that men decide the head whereas women take decisions from the heart. If we make decisions at the HH level as a woman in the house, we always decide to protect the house. For example, when I worked in Rathnapura district, the Rathnapura District Secretary, I saw the same situation, from the District Secretary, a woman who worked during the flood controlling and response measures, she worked very well for 24 hours. In Rathnapura district, they have a very good flood response mechanism with a well-coordinated system. Every two years times she gathers all respective officers and do the coordination for future flooding. That showed the capacity of women in disaster management decision making I mean the disaster risk governance.

Similarly, there are some problems in disaster management in Sri Lanka specifically related to some safety centres. Because In Sri Lanka, we are using temples and other

common places as safety centres. In a flood situation, many women and girls have been affected at those places. Because most of their basic needs are not considered at those places, if we have any women in preparing or decision making for selecting these safety locations and other decisions, their ideas can be put forward to overcome these issues. And another issue is that these issues are not recording and reporting. This information is not coming to the general public, so these are not coming to the decision making. If women are engaged or giving opportunities for more women, many of their issues can be overcome. For example, if we take the Trincomalee district, there are no women officers as divisional secretaries. If you take all the DivS in the country, women are less than 15%. Therefore, I see there are limitations for women empowerment in the north and east areas due to their cultural practices. Nobody has identified such problems yet. If we have identified these issues, it will be a real contribution towards women empowerment and reducing their difficulties or vulnerabilities from disasters. I can see women work in DivS office work well. They have their capacities and commitment.

Disaster management is a very broad area. Planning for disaster I mean disaster preparedness I see there should be both men and women equally. We want their knowledge and capacities to be improved. Especially how-to implement preparedness plans for effective response and relief efforts in areas subjected to high disaster risks. So, women empowerment in disaster management is very important because opportunities have to be improved. However, unfortunately, we do not see any higher-level women participation at the parliamentary seats, higher committees that develop rules and regulations in Sri Lanka. Many committees have been established by the government to overcome the problem. However, their women involvements are a very low—very limited level of women representation at the high decision-making areas. So, when developed countries invite these officials for training programme also, women do not get an adequate quota for such training programmes because their presentation is low.

Interviewer: Do you see any barriers or challenges for women's empowerment in DRG

Interviewee: Some of the women are not interested in political engagement. So, when higher-level committees are established for higher-level political objectives, women do not like to engage with these kinds of committees and positions since those are related to political pressures.

Specifically for women empowerment in disaster risk governance is limited because this engages 24-hour service, specifically during disaster periods. This is not every day, but during a disaster, you need to work for 24 hours. So due to Sri Lankan culture and social norms, women cannot work like this. Even for me, I find it difficult to attachment with the family. When I came for the interview for the Assistant Director at the DMC, a military DG was there at that time. He straightaway mentioned that women cannot do this job. Because I came for the district post. He repeatedly mentioned and repeated several times that women could not do this job. And he asked me please apply for another job in the DMC and do not apply as the director at the DDMCU. But luckily, I had enough marks and I was selected based on my marks and achievements. But he did not give me the job. Then he did another additional individual interview at his office and asked me again to reconsider applying for another position at the DMC. He asked me whether you can do this job because it needs 24-hour service. He emphasised that I may need to work for 24 hours at the Anuradhapura DDMCU and asked me how you can work for such long hours at the DDMCU. Then I was a little bit scared because of this unnecessary pressure. But I did not show them and said that I can do this and allow me to show that I am capable. So, then I got the job in this way. After one month of my appointment at the Anuradhapura district, there was a huge flood in the district, and I had to work for 24 hours as mentioned and

even I could not come to my home even during these days because my hometown is in Rathnapura district. So, in a way it is true that during disasters, your commitment to work for 24 hours is necessary. So, you have to sacrifice some of our other commitments not always but during disasters. Not only for me, even for district secretaries and divisional secretaries and their officers needs to work like this during disasters. So, women sometimes have discouragement to take responsibilities like this within the governance structure in Sri Lanka. These are mostly related to culture; I must say cultural barriers remaining in society. When we talk about the global village and technological era, still we have some cultural barriers in this country.

Actually, education is not a barrier. Because, now in our school level syllabuses and even in universities education, even in schools, general syllabuses also have some disaster management sections. At the university level, most of the degree programmes, not the specialist programmes for disaster management, agricultural, biological and zoological programmes also have included DM in their curricula. In addition, some postgraduates and certificate courses as well. Even in the military, also they have some women teams. Women military officers also following DM courses. They are very important I mean women from military services specially during response efforts like during floods and going to rescue people from the places they are stuck in floods. So, it is important and very impressive that some women officers in three forces are learning DM related courses or subjects. The military schools have introduced DM-related courses, and they have a very good relationship with the DMC. And further DMC also receives many national and international level training programmes. Many NGOs ADPC and JICA support to increase the knowledge in DM.

This training is very important for us. Because we can get the knowledge, but training cannot be taken. There is a huge gap in getting practical training. Disaster is changing every year. We need more training on CBDRM, Chemical and biological related DRM. Currently, in Sri Lanka, we do not have this type of technical coordinating institution and training in this area. It is a huge gap in this country.

We do not have any graduates or any development officers. It is major problem to coordinate DM activities. So, we have to coordinate with some other organisations. So we conduct a lot of Awareness and Education Division at the DMC, we do a lot of training for the teachers and education sector. At the DMC, we do not have adequate development or graduates at the management level to coordinate these activities. During the last four years, several women management officers have started to work in the DMC. However, their participation in this kind of awareness programme is very low. Only 2% of women have attended the office every day during the last disaster situation.

During their appointment, there are some political influences. For example, when we appoint women for the call centre at the DMC, our DG expected all the appointments to be men. But according to rules and regulations at each shift, like morning and night shifts, one woman and one Tamil speaking person to be appointed. So, we had the chance to allocate some carders for women. But most of the appointments were finally had to appoint women. So, more women have been appointed instead. However, after one month period, they come with some letters asking for some transfers etc. So now they claim that it is not interested in appointing more women. So, it is an issue. Also, after their marriages, they request some leave, or expect to return to their native district, etc are some issues created by appointing women in some positions. So, this says that women would have their interest and commitment to get more opportunities to be able to empower them in the governance. Currently, at the DMC, only two ladies are working at the Director and Assistant Director level, and all other are males.

In the head office, most works are related to administrative work. But at the DDMCU, most women have to go to the village level to conduct awareness programmes, mitigatory programmes etc. However, even though that work is hard, their level of commitment and involvement is very satisfactory.

There is not any district directors as women directors at any of the 25 DDMCUs in Sri Lanka. So I was the only lady officer who conducted.

Not because of any rules, it is the favour from the interview board to appoint men. Because of the way my name was written, they could not identify whether I was a male or female candidate. Because you can pronounce the name in both ways with the same letters. So, they addressed my name with Mr title. So, when I gave a call to confirm my attendance for the interview, they were shocked. Actually, I have some knowledge of DM because before joining DM, I worked as an assistant lecturer at the University of Sabaragamuwa. Actually, I got the DM knowledge when I was in the ministry. There I learned about the issues, problems, areas, community awareness etc. So, I got to know all these ground-level issues. So, I visited many safety centres, and I saw how this dry zone area, especially women and children and their problems in this dry zone. This helped me to secure this position at the DMC. I saw how they had been affected and spreading the families in different places and many other issues among the affected families.

Another issue in Sri Lanka during a disaster, it is very difficult to evaluate people in the houses. Even within the disasters, they prefer to stay in their own houses rather being to safety centres. This is because, they do not have much trust in these safety centres about the security and facilities at these centres. So, this government made a huge effort to conduct a lot of awareness programmes and campaigns. So, these types of decision-making levels at the very top level, women representation is very important. Otherwise, the top level of decision-making does not pay any attention to gender-specific needs, issues etc.

Actually, women can work and can lead the institutions in any situation. The first thing is that we want to identify our responsibilities first. Even at my interview for this position, he mentioned that this is your responsibility. This is what you have to do. Because if we fail in one stage, a huge impact will be there for the community. So, you need to work with the people. Nowadays, the government provides many relief packages. When media spread, the news community expect all this relief by tomorrow. So, the officers have to deal with the community. So, the DM job is this kind of a risky job. So, if we make any small mistake, it will affect our overall system and the head of our division. So, most of the time, for higher positions in DM related jobs, women apply. But the selection board do not take them, highlighting the risk part of this job. This job involves 24-hour engagement, especially for the officers who work at the district level office.

In my case, actually I was very interested in this job. I had one month for preparation. I visited every corner of the district. I already made contact with all three forces. Therefore, I was able to handle the situation without any hassle. That is all because I had proper planning with experience. Even I did not have any prior experience in Anuradhapura. During the floods, I travelled from one place to another within the district for more than 80km. There were more than 44 reservoirs small tanks were affected and damaged. So, I had to appoint diverse also. There I had to get support from a close district office. Likewise, I made an initial plan estimating the resources may need and the sources where I could find them. So, we need to have our commitment. I had my technical knowledge especially with inundation maps etc. Because I studied all these maps and all that. So, it was a plus point for me to understand and plan ahead after looking at the maps for the areas and accordingly to estimate the possible severity of floods. Anuradhapura district is special, because when flood affects Anuradhapura, it affects four other districts. So, when I receive

EW, I pass them to other districts, other reservoir engineers. So, I did a better coordination part at the DDMCU. Because of my GIS and map-making knowledge and other early plans we did for making preparations for the monsoon were the helpful factors for me to work as the director at the DDMCU. Because I had to show my DG whether I am success or fail in this situation, that was within my first three months period.

So, my suggestion is to enhance the knowledge, specifically this practical knowledge, SOPs, exercises etc and need to get more women involvement. Because right now, many women are graduated with theoretical knowledge but very limited have practical knowledge. Nowadays, our university systems are packed with the semester system. So, the students try to pass with good grades. So, at the end of the day, many graduates who has good skills are finally being rested with the development officer status. Many students prefer to sacrifice their good job opportunities to get this 25,000-development officer job. This new government introduced this development officer job, after a couple of days' time the government declared the election. Even our librarian at the DMC, even she transferred to this development officer job. My suggestion is that our overall education system should focus on skills-based. We have a traditional UK civil service-based education system. But only SL, India, Bangladesh, and Pakistan is remaining in the civil service. These systems should have been reformed to the skills-based otherwise, all these civil service officers to be developed into a skilled based education system. It should be changed from the filing system to a skilled based system.

Appendix 4: Case study interview guideline

The Role of Women in Disaster Risk Governance within National Disaster Preparedness System in Sri Lanka

Research Overview

Present studies emphasised the disproportionate effects of natural hazards on women across the world. Women were disproportionately affected by natural hazards due to many reasons. One of the main reasons is the lack of women's representation in the disaster risk reduction related decision-making process.

Hence, this study will explore the present status of the role of women in Disaster Risk Governance (DRG) in Sri Lanka with special reference to the disaster preparedness system. Finally, this study aims to develop a framework to enhance their contribution in ensuring DRG within all institutions within the disaster preparedness system in Sri Lanka. This will help to enhance risk governance and reduce disproportionate effects of disaster on women in future disasters in Sri Lanka.

The study would be conducted in Sri Lanka due to its high profile of natural hazards and the present status of women's empowerment. In achieving the study objectives, the study intends to conduct interviews with selected case studies based on the highest vulnerable districts in Sri Lanka. The study findings will provide input to the policy-making to strengthen disaster resilience and reduce the disproportionate impact on women in Sri Lanka. All interview materials will be kept strictly confidential and made available only to members of the supervisory staff of the University.

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Interview Guidelines- For Case Study Interviews
The Role of Women in Disaster Risk Governance within
the Disaster Preparedness System in Sri Lanka

Personal Information

- Name:
- Organisation:
- Designation:
- Number of years working in the field:

Disaster risk governance (in this study) refers to the way in which institutions in the national disaster management structure (public authorities, civil servants, and non-government organisations) coordinate at local and national levels in order to manage and reduce disaster risks caused by natural hazards.

Women's empowerment means (in this study) that allowing *women in the national administrative structure* to make life-determining decisions specifically for women in the society as well as other members in the society to address disaster risks caused by natural hazards.

Disaster preparedness means in the study ee

Section 1- Disaster risk governance within the disaster preparedness system

1. How does your organisation related to the disaster preparedness system in Sri Lanka? How important is disaster preparedness?
2. How does your organisation contribute to disaster risk governance? Its relevance to disaster preparedness system.
3. Do you identify any strengths and issues around the existing disaster preparedness system?
4. Do you think that women should be engaged in disaster risk governance? Explain why.

Section 2 – Women empowerment

5. What is the level of women's involvement in disaster risk governance in your organisation?
6. What is the role of women officers in your organisational decision making? How important is it to empower women officers in the disaster risk governance system in Sri Lanka, specially within the preparedness system?
7. Do you identify any challenges or any supportive factors affecting women's empowerment in disaster risk governance?
8. Any suggestions to enhance women's empowerment in DRG within the disaster preparedness system in Sri Lanka?

Appendix 5- sample of case study interview transcription

CSC1

Kaduwela Divisional Secretariat

Please provide some information about your educational and professional background.

I have worked as Divisional Secretariat at Kaduwela DS office for more than 11 years and in Kaduwela around four months as the Div Secretary. And also as Assistant Div Sec in Kaduwela for around two years. During the 2016 floods, I was not in Kaduwela, but I was in the Department of Public Administration. yashiady@gmail.com

I have my bachelor's degree from the University of Sri Jayewardenepura, BA in Sociology. I received my MA from the University of Kelaniya. I completed a Diploma in Public Administration at the SLIDA in Sri Lanka. And another diploma at the National Productivity Secretariat Office. And I am doing a diploma in Quality at the Sri Lanka Standards Institute.

**Women empowerment in disaster management, specifically in risk governance
When considering issues raised during your job in the organisation? Women in administration, is there any issues?**

Mmmm... there is no such major issues at the official level. But, there are some issues, such as when taking leave during the job could be an issue. So, I cannot say that this is completely free from job-related issues but indirectly related. For example, the societal attitude is that when there is a parents meeting at school, people expect that mother, woman will participate. As a practice, higher or lower women officer has to deal with personal matters than men. So most probably when their kids are sick, the women officer may be on leave, when there is parents meeting or school meeting, again women officers are on leave. That type of leave is not related to men. This comes as a part of the cultural aspect of society. Those kinds of issues are there for women when working in administration. Especially, when we work in disaster management issues or disaster periods, we need to work continuously at the office or any other place. There, we need to commit fully, and we cannot attend to everyday household work.

Another example is that women officers' attendance on a particular day will depend on her maid at their house. Other than that, in terms of work, women officers are more active and doing great than men. Because, when they are at the office, they do not go outside, no extra engagement, so they totally engage in work during the office hours.

Any suggestions to overcome these issues faced by women in administration?

Mmmmmmm..... As I told you, women capacity is mainly limited by household duties and other social commitments assigned by the social norms on women. So, there should be some additional support to women especially for child caring. Like, child care facilities and so on. Because most urban women depend on maids at home since they live in nuclear

families, mostly child-related matters are assigned to women by culture, so if any child-caring facilities are provided, they can make more commitment with the work specially to engage with disasters situation. And also, there should be a change in the society and the family to understand how important the work done by women in office, specially at the office related to disaster management. So, I think awareness among society is a necessity to get this support for women in the field.

When you take this Div Sec office, all administrative positions are handled by women. Assistant Div Sec, Accountant, Administrative Officer, Assistant Director, planning, are handled by women in this office. So, being a women administrator, I did not find any problems from women regarding their work, commitment, and capacities. I think this is because all administrative officers have the same level of education.

Any issues in managing disasters as women administrators?

During an emergency, we need to perform 24-hour service at the office or the disaster site. But, being a woman naturally or psychologically, we have fear, security issues. However, our GN officers though many of them are women has shown top quality work during past disasters with other officers. They had to travel by boat during disasters. Sometimes, they had to stay overnight in the office. So, the general norms and values cannot be preserved as women. I remember none of our GN officers or other lady officers did not say no to intervene in a disastrous situation.

For example, here, one of the most affected GN divisions, the GN officer whose husband has been paralysed, worked with all others during the 2016 flood. So, her husband could not help her to do her job at night. So, he sent their elder son to help his mother (the officer). This shows that the level of devotedness as well as motivation to their job. They never make excuses by highlighting their situations especially during disasters. They never complaints about that and they do their level best. Especially I must say their role is much higher than their salaries.

Another reason for such high commitments is that women feel and understand others' difficulties easily and properly than men. That is an advantage for being women in disaster management which can definitely help address many issues faced by women at the temporary shelters, during evacuation as well as making arrangements where necessary, before a disaster.

Any suggestions or proposals to enhance their empowerment further?

Yes, I completely agree with you. 100% I agree with you regarding any actions to further empower women in disaster management.

Do you find any issues/challenges for WE:

One of the main aspects is knowledge among women in DM. Knowledge should be renewed or always improved. Especially knowledge. I strongly believe that knowledge must be updated and given more to women. For example, even though we know that the number of mobile phones are double the size of the population, the usage of mobile devices has not been gone to knowledge creation, dissemination and advancements. Most people use these devices to entertain or social media and etc. In terms of DM, our officers may not

know how other countries in similar instances how to act before, during and after a disaster is mostly limited among our officers. This is in particular with lower-level officers.

Any recommendation:

So, I strongly believe that training is essential. Training helps to update knowledge always. Training is also very important for people to develop their capacities and confidence as well. I strongly believe that knowledge should be continuously updated. Because sometimes we do certain things with a genuine purpose to help people. However, it may not be the right thing to do in a disaster situation. It may not be the proper scientific method.

In addition, required resources are also important for all our officers who engage in disaster management. Because, for an efficient service, required resources are must. Without such required resources such as communication methods, communication tools, rescue equipment, rescue teams etc.

Even though Sri Lankan literacy rate is high, but I do not believe that. We are not at the new knowledge creation level. When compared to an officer in a developed country, our officers' level of knowledge and training is minimum so that training can play a big impact. Sometimes, during a disaster or at the planning level, we may do certain things emotionally, which may not be correct. This may not be the scientific method. It cannot be an efficient and effective way of addressing certain issues specially in disasters. For effective service, I strongly believe this training and knowledge can be a very important element.

How do you see the importance of women in disaster risk governance

In terms of administration, when there is a legal system with rules and regulations, most women do not try to override existing rules and regulations. By nature, they used to work within the existing legal frameworks. Women try to give their fullest cooperation within the existing regulatory system.

Any supportive factor for WE

So, we see existing rules and regulations supporting or protecting women to work rather than seeing as a barrier for their empowerment. We see these rules and regulations as a protection system or as a guard when dealing with administration. This means that we never consider rules and regulations as a barrier for performing our duties.

What are the challenges do you see for women officers

But within divisional level administration, there are some benefits with existing rules and regulations. For example, even though we have set rules and regulations regarding our duties and responsibilities, general public take any issues which are not clearly assigned to other institutions to the divisional secretariat offices or to the GN officers. However, we do not have the right to say that this does not belong to us so we cannot do these activities etc, within the existing rules and regulations. This means existing rules and regulations must be further improved or changes with additional measures to secure and limit the duties and responsibilities of officers engage in particular areas, including DM. Because of

that, we have to provide all types of services to people when no other governmental office is offering such types of services.

We propose to introduce some additional measures through rules and regulation to define and refine the duties and responsibilities of officers in these institutions including disaster management.

Could you please explain the present disaster preparedness system and its relevance?

Yes, I totally agree with that. We certainly need a proper disaster preparedness mechanism. Even though I was not here during the 2016 and 2017 floods, now I face many issues at the post-disaster situation. As I understood, this is mainly due to a lack of a proper preparedness mechanism in Sri Lanka. And also, in Sri Lanka, there is no such solid, single institution that coordinates all institutions and activities. Even the Ministry of DM does not have all the legal provisions and actions required.

For example, some circulars are issued by the treasury regarding funding for DM, or some circulars are issued by DMC or the Disaster Management Ministry or District Sec Office, etc. Separately the Insurance Trust Fund is operating. So, after a disaster, there is no single entity to guide and coordinate all the related issues raised after a disaster in Sri Lanka. So then the process become long and complicated. Whenever we need some funds or assistance it goes through a long system. For example, we inform GA, GA inform Insurance Fund etc. This all because of coordination issues among institutions and personals in DM.

Any recommendation

So, we recommend a single institution which can coordinate all related activities in DM covering all aspects such as preparedness, response and financial etc for Sri Lankan DM system.

In addition, what we see is that Kaduwela is flooded not because of rains in Kaduwela, but because of rains in the upper stream. When the upper stream receives rains, there should be some pre-plans for maintaining reservoir levels to control water levels to be released to protect lower areas. We should have a mechanism to identify and issue warnings to evacuate people from risk areas. Rather than being giving advice after a flood or any disaster happens, it is better to advice agencies and institutions, and people before a disaster take place.

In Sri Lanka, the biggest flooding incidents were considered in 1989 and 2016. However, when compared to 1989, the loss and damage from the 2016 floods is heavy and is identified as the reason for landfilling in low elevated areas. In the same way, if there is flooding this year or next year, the damage will be furthermore with continuous landfilling.

So, my suggestion is to link DM in the main or strategic plan for the whole country. For example, when it comes to landfill, it has to be coordinated with the Govijana Seva Centre, Provincial Secretariat office, town council, Urban development Authority should be involved in addressing the issue of flooding through proper coordination among such institutions. However, within these institutions, DMC and the Ministry of DM do not appear.

But, within our duties, we think of DM. For example, with certain landfilling, flooding could be happened. Similarly all other ministries should also be incorporated the possible risk of disasters through coordination and identification of needs. So, when they certain decisions within their institutional scope, they realise the possible threat of disasters and accordingly, they can easily deal with the DM Ministry to take necessary actions.

For example, when farmers decide to use some paddy lands not for paddy cultivation but for some constructions, they inform to Govijana Seva Centre. Then, this needs to be coordinated with the DMC as well. Then they may suggest a future risk of disasters, and accordingly, they may suggest some accurate alternatives for landfilling. So, if the Ministry of DM involves and deals with farmers saying that if you keep cultivating the fields, we will give you some money. This is a strategy for controlling floods. This kind of arrangement can be introduced by the Ministry of DM if they are incorporated into other related ministries work through an integrated strategic plan. This strategy should be available in Sri Lanka. In economic wise, this type of arrangement is cheaper than paying post-disaster relief funds. And also, it is mainly important where there is a risk of future flooding due to landfills in certain parts of the country. Not the whole country but the areas that are prone to floods due to landfills. Actually, these are some suitable and valid suggestions to minimise or overcome future hazards.

In terms of role models, I believe that due to instances we have faced, we had to be some role models depending on the situation. Specifically, where there is no proper planning system, it is important to have knowledge sharing. Basically, such role models are generated with the situations we face. If we cannot plan for disasters, then we need some level of knowledge sharing. Normally after a disaster, we acknowledge that we have done certain things in this manner, that manner etc. This can provide knowledge as a network. For example, the results of my engagement and some others engagement could be different and different results. So such systems are not available in the present system. Simply, when there is an issue, we face and manage it. That is it. No evaluation or identification of strengths and weaknesses for further improvements. This may help in identifying such strengths and weaknesses of our systems, compare with other systems and may propose an improved system for disasters.

So, I suggest generating such a culture in the country, which is important. I mean a preparedness culture among communities as well. At the same time, such feedback and evaluation of experience as a learning point is also important. Learning from each others' experiences may help to reduce future disaster risks. If we keep silent our selves as Divisional Secretariat office, Disaster management Centre, Insurance Fund etc, then nobody knows what is the best and what is not suitable. Rather than being isolated and silence, it is better to discuss among all parties, what we did, how we did it, what is the cost, how do we face future instances etc. The cost for such event will not be massive at the same time, it will be an investment. So, I propose that kind of activities for institutions in Sri Lanka.

Political support, influence in performing public administration and disaster management. Political support depends on relationships and flexibility. Further our personality as well. During my work experience at Kaduwela as the Assistant Divisional Secretary and Divisional Secretary, I did not have a great relationship with the political authorities but knew all political figures in the area. Even now I have a good support from all these political figures without being party politics. So, I am also giving my fullest cooperation for them

when performing my duties. I do not have a specific party. I am a floating vote. I consider all parties before I give my vote. As a government servant, I do not have a strict political party. I have the freedom to vote based on my evaluations for the benefit of the country. Because if the country benefits, we also receive benefits. So, I have good support from them and personally believe that they also have a good impression on me. So, I do not believe that government servants cannot work without the influence of political parties. Personally, I work with very strong two ministers in the district. But I have their support. I do not have any unmercenary influence at the official level. I was contacted by them only at official level. So they give me some guidance on specific actions. Participation of all members of parliaments, including the Chief Minister, is available. Because I clearly understand my duties, they know their role in votes and voters. So I work happily with their fullest support. But I do not say that this is the same for everywhere. I see some of my colleagues who are similar to my position, but they have some influences and difficulties when working with political authorities.

My concern is that we are to provide service to the public similar to the role of political authorities. Politicians are also there to provide service to the public. What I believe is that people approach politicians if government officers are unable to help them to sort out their issues. So, as public servants, if we can deliver our services to the public, then we can minimise the unnecessary influence from politicians. Sometimes, there may be some background support from the places where I worked previously. As a practice, I do not take decisions based on the things reported by others. I usually listen to people and get an understanding of their issues and like to explain them in return. So most of the issues can be solved easily.

Appendix 6: Additional outcome: An evaluation of the Sri Lankan disaster preparedness system

| Challenge | Dimension | Implications | Suggestions |
|---|--|---|--|
| Centralised disaster management system | Practising monopoly power | <ul style="list-style-type: none"> Do not recognise DM as an overall process | <ul style="list-style-type: none"> Overall DM system (preparedness, response and recovery) to be devolved to a local level giving more power to local councils, District Secretariats and Divisional Secretariats |
| | Lack of power to lower-level officers | <ul style="list-style-type: none"> Engaged in implementation only Overload with response measures which are flow down from others | <ul style="list-style-type: none"> Overall DM system (preparedness, response and recovery) to be devolved to a local level giving more power to local councils, District Secretariats and Divisional Secretariats |
| Coordination Issues | Lack of coordination between government agencies | <ul style="list-style-type: none"> Duplication of work Do not share real-time data Lack of opportunity to share expert knowledge and information | <ul style="list-style-type: none"> Appoint a representative officer from technical agencies to the DMC Initiate collaboration between relevant government agencies |
| | Lack of coordination with NGOs | <ul style="list-style-type: none"> Do not utilise their knowledge, resources and their expertise | <ul style="list-style-type: none"> Initiate collaboration between relevant other non-governmental organisations |
| Preparedness plans related-issues | Preparedness plans have not been prepared in a systematic way | <ul style="list-style-type: none"> Ad-hoc plans Not sustainable and valid Not continuing | <ul style="list-style-type: none"> Plans should be evaluated to identify its operational efficiency and its shortcomings |
| | Delay in preparedness planning | <ul style="list-style-type: none"> No national-level emergency operation plan is finalised yet | <ul style="list-style-type: none"> Plans should be evaluated to identify its operational efficiency and its shortcomings |
| | Lack of accountability | <ul style="list-style-type: none"> Waste of money and resources on making plans | <ul style="list-style-type: none"> Plans should be evaluated to identify its operational efficiency and its shortcomings |
| | Plans have not been implemented | <ul style="list-style-type: none"> Waste of money Affected people will not be targeted and not be received any benefits | <ul style="list-style-type: none"> Guide how to implement disaster preparedness plans |
| | Disaster preparedness plans have not been connected to the country's | <ul style="list-style-type: none"> No proper implementation and evaluation | <ul style="list-style-type: none"> Disaster preparedness plans should be incorporated with the country's overall strategic plan. Evaluate whether supportive plans are matched with the |

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| | national strategic plan | | strategic plan. |
| | Plan preparation authority is not clear | <ul style="list-style-type: none"> • Different people prepare plans <ul style="list-style-type: none"> ◦ without plan authority ◦ without adequate knowledge and experience | <ul style="list-style-type: none"> • Plans must be prepared by people who have plan authority. |
| Political influence and minimum support | Unnecessary political pressure | <ul style="list-style-type: none"> • Appointment of experts to the disaster management system to support political say rather than advising policy decisions • Transparency and governance are challenged • Preference for short term remedies than valid long-term strategies • Paralyzed NCDM with too many politicians | <ul style="list-style-type: none"> • Officers should be able to communicate and convince the political authority |
| | Political recognition | <ul style="list-style-type: none"> • No support for preparedness plans from politicians | <ul style="list-style-type: none"> • Officers should be able to communicate and convince the political authority |
| Limited stakeholder engagement | Limited engagement with academics and universities | <ul style="list-style-type: none"> • No inputs for policymaking • Lack of opportunities to engage in policy advocacy | <ul style="list-style-type: none"> • Establish direct links with the universities and disaster management agencies • Continue the links established • Avoid selection bias when appointing for policy advocacy |
| | Limited engagement with civil society NGOs | <ul style="list-style-type: none"> • Missing resources, expertise and capacities that can benefit national and local disaster preparedness system | <ul style="list-style-type: none"> • Collaborate national disaster preparedness agencies with NGOs and civil societies |
| | Limited engagement with LGs | <ul style="list-style-type: none"> • Minimal use in the disaster preparedness system | <ul style="list-style-type: none"> • Introduce LGs into disaster preparedness system |
| | Limited community engagement | <ul style="list-style-type: none"> • Failure of community-level disaster preparedness programmes | <ul style="list-style-type: none"> • Raise awareness campaign among communities • Regular drills and exercises |

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| Implementation related issues | DM Act has not been implemented | <ul style="list-style-type: none"> • Other organisations undertake disaster management activities • NCDM will not have their full powers in governing the overall disaster management system in the country | <ul style="list-style-type: none"> • Ensure implementation of the Act |
| Resource inadequacy | Human resource limitation | <ul style="list-style-type: none"> • No technical expertise in forecasting future disasters • Minimum capacity • Overloaded work to lower-level officers • Creating a panic situation in disaster decision-making | <ul style="list-style-type: none"> • Identify related agencies to support the national disaster preparedness system • Making collaborations with relevant ministries • Introduce a new area or division as earning activities |
| | Lack of equipment | <ul style="list-style-type: none"> • Use of alternative methods instead of best practices | <ul style="list-style-type: none"> • Introduce new equipment to capture adequate and accurate observations |
| | Rising disparity between staff at different levels | <ul style="list-style-type: none"> • Difficult to perform their duties | <ul style="list-style-type: none"> • Provide some allocations to local and village level staff |
| Disaster management education-related issues | No evaluation of current programmes | <ul style="list-style-type: none"> • Do not recognise gaps within present disaster management education • Preparedness knowledge will be limited | <ul style="list-style-type: none"> • Introduce disaster management and DRR to curricular |
| | Overall education system is exam based | <ul style="list-style-type: none"> • Innovative character in education is missing • Lack of preparedness knowledge among communities | <ul style="list-style-type: none"> • Introduce disaster management and DRR to curricular |
| | Limited institutions to teach technical expertise for disaster | <ul style="list-style-type: none"> • Lack of technical knowledge to support policymaking | <ul style="list-style-type: none"> • Get technical support from international experts for policymaking |

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| | management, especially preparedness and mitigation measures | | |
| Lack of minimum preparedness culture within communities | Limited disaster preparedness knowledge | <ul style="list-style-type: none"> Do not take any preparedness measures for future disasters | <ul style="list-style-type: none"> Community-level disaster preparedness education |
| | Do not want to be prepared for the next disaster | <ul style="list-style-type: none"> Heavily depend on relief measures | <ul style="list-style-type: none"> Create a disaster preparedness culture within communities to live with disasters |
| | Wrong community practices | <ul style="list-style-type: none"> Disaster preparedness and relief efforts will be complicated | <ul style="list-style-type: none"> Community-level disaster preparedness education |
| Legal and policy-related issues | Weak law enforcement | <ul style="list-style-type: none"> Community do not follow rules | <ul style="list-style-type: none"> Introduce a mechanism to minimise unauthorised settlements |
| | LG is not enacted to DM system | <ul style="list-style-type: none"> No clear roles and responsibilities to be performed by LGs Power clashes | <ul style="list-style-type: none"> Introduce disaster management to LGs |
| | Divisional Secretaries engage in post-disaster response and recovery measures only | <ul style="list-style-type: none"> Do not know their role in the pre-disaster (preparedness) stage | <ul style="list-style-type: none"> Introduce local level disaster preparedness planning to divisional and local level agencies |
| | Shortcomings in the Act | <ul style="list-style-type: none"> The Act has not been fully implemented | <ul style="list-style-type: none"> Introduce amendments to the Act Make sure to implement the Act |
| Outdated methods and techniques | Outdated methods | <ul style="list-style-type: none"> Inefficient risk mapping and risk assessment | <ul style="list-style-type: none"> Introduce new scientific practices, advanced technologies and methodologies in risk mapping Collaborate with NGOs for technical and other resources |

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| | | | and support |
| | Lack of new technology | <ul style="list-style-type: none"> • Inaccurate prediction and forecasts • Ineffective preparedness measures, hence monitoring and governance issues • Lack of global models and supercomputers to run advanced models | <ul style="list-style-type: none"> • Improve our modelling systems • Conduct research to understand phenomena • Collaborate with other technical agencies and NGOs |
| | Limited research on similar countries | <ul style="list-style-type: none"> • Heavily depend on studies on countries with different weather systems | <ul style="list-style-type: none"> • Conduct research to understand phenomena |
| | Lack of integration of data | <ul style="list-style-type: none"> • Inaccurate forecasting • No integrated system to integrate all models and observation data | <ul style="list-style-type: none"> • Integration of data across related government agencies |
| Issues related to governance within disaster preparedness system | Early-stage of the implementation of SFDRR | <ul style="list-style-type: none"> • Not fully operated | <ul style="list-style-type: none"> • Make sure for full implementation |
| | Lack of strict monitoring | <ul style="list-style-type: none"> • The programmes cannot be strengthened • Participation is low | <ul style="list-style-type: none"> • Monitoring mechanism to be strengthened |
| | No priority for DRG | <ul style="list-style-type: none"> • Focus is not the disaster risk reduction and governance | <ul style="list-style-type: none"> • Make government responsible for the outcome of their decisions |
| | Lack of evidence-based policymaking culture | <ul style="list-style-type: none"> • Most decisions cause adverse results | <ul style="list-style-type: none"> • Feed research output into policy-making processes |

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| Prioritisation issues and wrong decisions | Focus on response than preparedness | <ul style="list-style-type: none"> No proactive measures | <ul style="list-style-type: none"> Introduce more proactive measures, including mitigation measures as long-term preparedness strategies Equal attention to be given to all stages Create a preparedness culture within communities |
| | weak early warning systems | <ul style="list-style-type: none"> People do not rely on and do not adhere to early warnings and take preparedness measures | <ul style="list-style-type: none"> EW should be targeted EW should be an end to end system |
| | Wrong measures of the government | <ul style="list-style-type: none"> Huge costs to the government People do not accept a preparedness culture | <ul style="list-style-type: none"> Create a disaster preparedness culture Take government ownership in a disaster-prone area where communities cannot use it |
| Structural issues | Frequent change of DM ministry | <ul style="list-style-type: none"> Less priority for DM NCDM cannot be frequently and easily convened | <ul style="list-style-type: none"> Avoid frequent changes in the ministry Better to have it as a separate ministry. |
| | Institutional structural issues | <ul style="list-style-type: none"> Lack of power and authority Frequent change of the head of the DMC | <ul style="list-style-type: none"> Enact LGs as mandated institutions to disaster management to represent the political wing in disaster management |
| | Institutional culture | <ul style="list-style-type: none"> Static and traditional bureaucratic culture delay in decision making | <ul style="list-style-type: none"> A change in the organisational culture within government disaster management related agencies |

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| | | <ul style="list-style-type: none"> • Not supportive and do not accept criticisms to take necessary actions to avoid their limitations | |
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Appendix 7: Initial framework for empowering women in disaster risk governance within the disaster preparedness system in Sri Lanka

Proposed framework for enhancing women's empowerment in disaster risk governance within the disaster preparedness system in Sri Lanka

Section1: Importance of women's empowerment in disaster risk governance within the disaster preparedness system in Sri Lanka

Based on the study findings, 14 reasons were identified to highlight the importance of women's empowerment in disaster risk governance (DRG) within the disaster preparedness system in Sri Lanka.

1. Accountability: women officers have demonstrated higher accountability towards assigned targets
2. Better understanding: Women officers are in a better position to understand gender-specific issues in disaster management
3. Commitment: High commitment towards the duties with many difficulties
4. Experience: Women officers contribute to effective decision-making with their experience
5. Equality: Women represent more than fifty per cent of the population in the country
6. Free from corruption: Most women officers do not engage in corruptive actions
7. Friendly environment: Women officers helps to establish a friendly environment in organisations
8. Good listeners: Women officers have good patience and listening capacity
9. Mental stability: Psychologically, women officers are more powerful
10. Multi-tasking capacity: Women officers have multi-tasking capacity
11. Preference for women officers: Both officers and communities prefer women officers at disaster-related organisations
12. Self-satisfaction: Women officers are easily satisfied with the minimum benefits they receive
13. Societal benefit: Women helps to address women-specific issues in disasters and enhancing overall resilience in the society
14. Transparency: Women officers are transparent in decision-making

Section2: Challenges for women's empowerment in disaster risk governance within the disaster preparedness system in Sri Lanka

Based on the study results, six categories of challenges were identified as challenges for women's empowerment in DRG within the disaster preparedness system in Sri Lanka.

1. Job-specific challenges:

- a) Unspecific time applicable to disaster management jobs
- b) No specific locations for disaster management related jobs
- c) Personal safety issues while working in the field or at the night
- d) Hard-working conditions
- e) Unnecessary pressure from the community

2. Individual challenges

- a) Limited disaster management knowledge among officers
- b) Little or no preference or interest to study disaster management
- c) Minimum training opportunities in the disaster management field
- d) Higher dependency among family members or supporters
- e) Personality and confidence issues
- f) Limited skills
- g) Do not encourage peers
- h) Do not like to decentralise power
- i) Easy going attitude / do not like to take unnecessary pressure
- j) Institutional rivalry
- k) Disappointment on the job
- l) No motivation to engage in disaster management
- m) Dominant behaviour

3. Socio-cultural challenges

- a) Deep-rooted cultural norms and beliefs
- b) Deep-rooted gender inequality in the society
- c) Disproportionate burden of household workload on women
- d) Minimum acceptance to women's empowerment in the society
- e) Jealousy among household members
- f) Social bonding: marriage and child-caring
- g) Limited support from family members
- h) Poor social status and family background
- i) Religious believes that limit women's rights
- j) Lack of cultural awareness programmes in the communities

4. Legal challenges

- a) Existence of a gender gap within disaster management agencies/ institutes
- b) Lack of gender-specific data in national statistics
- c) Women's empowerment has not been integrated into the national strategic plan
- d) Minimum legislative provisions/ policies to support women's empowerment

- e) Limited disaster management education in the Sri Lankan education system
- f) Additional burden of children's education caused by present education system on women
- g) The demand for disaster management education has not been recognised within the education system

5. Organisational challenges

- a) Appointment bias prevalent in organisations/ institutions
- b) Appointment of wrong women into higher positions
- c) Patriarchal culture in organisations
- d) Hierarchical rivalry among men and women
- e) Limited opportunities to exercise power and authority
- f) Harassments faced by women officers
- g) Male-dominated disaster management system
- h) Poor coordination with NGOs, which provides capacity building programmes for women
- i) Limited availability and recognition of role models
- j) Institutional resource constraints
- k) The extra workload in institutions
- l) No rewarding, appraisal or motivation for their commitment
- m) Limited power
- n) Low confidence in women's decision making
- o) Leave related issues

6. Political challenges

- a) Negative attitude on political authorities and the system
- b) Unnecessary political pressure
- c) Misuse of rules and regulations
- d) Minimum women representation in politics
- e) Poor political recognition towards women's empowerment

Section 3: Proposed strategies for women's empowerment in disaster risk governance within the disaster preparedness system in Sri Lanka

Following interventions were derived based on the suggestions identified through interviews' outcome. All interventions were based on the stakeholders who should be taken the recommended actions.

Individual interventions

1. Develop self-interest to work in disaster-related jobs
2. Acquire additional skills:
 - a. Language skills
 - b. Communication and presentation skills
 - c. Driving skills
 - d. Computer skills
 - e. Life-saving skills
 - f. Interpersonal skills
 - g. Rational decision-making skills
3. Develop personality and confidence to perform their duties
4. Understand clearly:
 - a. Duties and responsibilities
 - b. Rules and regulations related to the job
5. Strictly follow the rules and regulations in decision-making
6. Be free from corruption
7. Being free from party politics

Community interventions

1. Raise community awareness:
 - a. To build trust & understanding among family members
 - b. To support women officers working in disaster management
 - c. To understand and appraise women's contribution to disaster risk governance
 - d. Importance of increasing women's representation in parliament & other higher positions to establish governance
 - e. Importance of political systems free from violence & corruption
 - f. To change social & cultural believes deep-rooted in the society
2. Encourage family members:
 - a. To provide additional support towards household work
 - b. For children's education & schooling matters
3. More support from the community level committees to share the additional workload
4. Community recognition and motivation for women's contribution in disaster management
5. Use of the media to appreciate the role of women in disaster risk governance and their contributions

6. Promote women & girls to continue
 - a. in higher education
 - b. in Science & technological education
7. Cultural change in supporting fellow or peer officers
8. Encourage young & educated women to enter into politics
9. Strengthen family background through societal development
10. Develop & identify women role models within the community

Organisational interventions

1. Provision of adequate resources & equipment for women working in disaster management related duties
2. Introduce work from home culture with necessary facilities such as equipment and internet facilities
3. Appointments of women into disaster-related organisations:
 - a. Experienced officers in fieldwork, if possible, the area they represent
 - b. Women officers representing forces
 - c. More women officers into higher positions
4. Provide security support where necessary
5. Coordinate with:
 - a. Related organisations getting peer officers' support and resource sharing
 - b. NGOs for accessing training & capacity building facilities
6. Provision of supportive working environment
7. Introduce new technologies
8. Provision of training on:
 - a. Disaster management Knowledge (national and international)
 - b. For building confidence & personality
 - c. Capacity development
9. Identify & use role models
10. Organisational level motivation could be enhanced through:
 - a. Provision of training
 - b. Reward system
 - c. Sponsoring disaster management education
 - d. Appreciation or recognition of women's contribution to disaster risk governance
11. Clear instructions & awareness on duties & responsibilities
12. Organisational level awareness:
 - a. To make women understandable about the importance of women's contribution, their power, rights and capacity within the job
 - b. Change organisational culture & attitude among staff members
 - c. To describe the power, capacity & importance of women in disaster risk governance
 - d. To promote mutual support among staff members
13. Provide equal opportunities to:
 - a. Accessing capacity building & training
 - b. Attending training (national & international)
 - c. Implementing their decisions
 - d. Women officers to associate with role models closely

14. Allocate more decision-making powers
15. Support developing leadership among women
16. Build trust in women's decision-making
17. Cooperate with politicians instead of being influenced
18. Awareness-raising among politicians highlighting the importance of women's empowerment
19. Create a discourse between politicians & organisations (responsible for women rights & women's empowerment)

Legislative interventions

1. Introduce flexible working hours, especially for women officers with children
2. Assure overall security in the country
3. Introduce necessary & supportive rules and regulations:
 - a. Facilitating handling community pressure
 - b. Supporting independent decision-making
 - c. Motivating women through a flexible leave system
 - d. To establish job security
 - e. To attract educated and qualified women into politics
 - f. More opportunities for women in organisations through quota systems
4. Change education system:
 - a. To reduce unnecessary burden for parents
 - b. Introduce disaster management as a curricular in schools & universities
 - c. Promote schools for behavioural & attitude change in the society
5. Appoint:
 - a. More women officers into disaster-related organisations & higher positions
 - b. Appoint more staff to disaster-related organisations
6. Introduce affordable & reliable childcare services close to workplaces
7. Support women in disaster-related to be economically independent
8. Financial support to compensate child-caring & household workload
9. Introduce women's empowerment programmes at the village level
10. Involvement of ministries related to women's empowerment

