



## **Master Thesis – Natural Resources Management and Development**

TH Köln (University of Applied Sciences)

ITT- Institute for Technology and Resources Management in the Tropics and Subtropics

Faculty of Spatial Development and Infrastructure Systems

# **Women's role in Disaster Risk Management and their influence on community resilience: the case of Trinidad, Honduras**

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**ITT**

Institute for Technology and  
Resources Management in  
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Infrastructure Systems

**Technology**  
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### **List of Abbreviations**

BRIC	Baseline Resilience Indicator for Communities
CASM	Comisión de Acción Social Menonita
CBDRR	Community-based disaster risk management
CODEL / CODELES	Comité/s de Emergencia Local/es
CODEM	Comité de Prevención y Emergencia Municipal
COE	Centro de Operación de Emergencia
COPECO	Comité Permanente de Contingencias
DRM	Disaster Risk Management



# 1 Introduction

Honduras is one of the most disaster-prone countries in Central America, where natural hazards intersect with deep social vulnerabilities. Hurricane Mitch in 1998 exemplified this, destroying 70% of the country's crops and causing over 10,000 deaths (World Bank Group, n.d.) Today, climate phenomena like El Niño exacerbate vulnerabilities, particularly in the dry corridor, where severe droughts, flooding, and rising food insecurity have further stressed the population (World Food Programme, 2024). Additionally, public health crises such as dengue fever outbreaks highlight the country's limited institutional capacity to respond to compounded hazards (IFRC, 2023).

This study will focus on Trinidad, a municipality in the Department of Santa Barbara, which is among the most affected regions in Honduras. It faces a high likelihood of wildfires, landslides, and urban floods, along with medium-to-high risks of extreme heat and earthquakes (GFDRR, n.d.). In recent years, heavy rainfalls have led to severe flooding, landslides, and extensive infrastructure damage, making Santa Barbara the most rain-affected department in the country (Núñez, 2022; Ramirez, 2022). Hurricanes Eta and Iota in 2020 underscored the region's vulnerability, with widespread destruction of homes, schools, health centres, and contaminated water supplies in their wake (Mahtani, 2021). In Trinidad specifically, urban areas face recurrent flooding and landslides that threaten households, as well as key infrastructure like schools, churches, and the water distribution system (Municipalidad de Trinidad, 2024).

These hazards exacerbate existing social inequities, particularly for women, whose roles in disaster risk management (DRM) are often overlooked despite their heightened vulnerabilities. Gender inequalities in Honduras are pervasive: women experience high rates of violence, with 7.2% facing physical or sexual abuse annually, and only 21% of parliamentary seats are held by women (IRC, 2024; UN Women, n.d.b.). Corruption within law enforcement and the judicial system further limits protections, leaving many women marginalized during crises (Menjívar & Walsh, 2017). Restrictive laws, such as the absolute ban on abortion, compound these challenges by endangering women's health during unintended pregnancies (Sebert Kuhlmann et al., 2019). Deeply ingrained societal attitudes that stigmatize women often blame them for violence, creating additional barriers to empowerment and participation in public decision-making, including DRM (ERIC-SJ, 2024; Kennedy & Prock, 2018). Additionally, due to traditional stereotypes and gender roles, women are rarely present in decision-making spaces, which is for example reflected in the share of women holding seats in the parliament (UN Women, n.d.b.).



These issues are not a solely a Honduran issue: worldwide, women are disadvantaged on multiple levels, such as economic, legal or political (OECD, 2023; UN Women, n.d.a.). Furthermore, issues such as violence against women is global issue, which leads to a lower ability of women to reach their goals and pursue their own agency (WHO, 2024).

This thesis examines the intersection of gender and disaster resilience in Trinidad, focusing on the critical role of women in DRM within a community shaped by high disaster exposure and systemic gender inequalities. It seeks to analyse how women's lived experiences, capacities, vulnerabilities and agency can contribute to building more inclusive and effective DRM strategies while addressing the structural barriers that limit their participation. By integrating gender-sensitive perspectives, the study aims to propose pathways for fostering resilience in one of Honduras's most hazard-prone regions, while empowering women to shape their own lives and create the ability in them, to make choices for themselves.

For this research, a six-week period of field research was conducted in June and July of 2024. The selection of this area was facilitated via personal contacts to an NGO in Trinidad, called "educate", which provides scholarships to teens and young adults who want to continue their school or university education. Via this personal contact, interviewees could be found more easily and security was guaranteed while working in the field through the association.

The goal of this research is, to understand the role women play in the community and how the communities disaster resilience is set up. Then, in a combination, the influence women have on community disaster resilience, based on their role and the tasks they do, will be explored. After this has been understood, pathways for a stronger inclusion of women in DRM for improved resilience will be proposed. In a last step, the interplay between empowerment and DRM will be explored, looking at what impact their role change will have on empowerment overall and flipping the lens to see, how stronger empowerment would affect the community resilience. To achieve these goals of understanding the community and looking into potential contributions, the following objectives will be followed:

1. Assess the role of women in the community
2. Assess the community resilience towards natural hazards
3. Assess the impact of the women's role on community resilience
4. Propose recommendations for improved women's role in community resilience
5. Assess the mutual influence disaster risk management and women empowerment have on each other

The structure of the research is as follows: in Chapter 2, the used theory will be discussed. It will start with theory related to disaster risk management, such as disaster and hazard,



vulnerability, disaster resilience and risk. Then, the step to disaster risk management and community-based disaster risk management will be made. Following this, theory concerning women empowerment will be discussed, starting with a differentiation between women and gender, a short historical debate, then delving into what women empowerment means, how the state of women empowerment is today and how it can be achieved. Ultimately in chapter 2, the role of women in DRM will be discussed, synthesizing the prior discussed theory. In chapter 3, the methodology will be explained, starting with the world view and general methodological approach, then moving into data collection and data processing methods. Here, especially different interview types, sampling methods, transcription and qualitative content analysis will be discussed. Chapter 4 will allow for a deeper understanding of the case study area, first talking about Honduras as a whole, then moving on the field research area, Trinidad. Chapter 5 is the discussion of the results. 5.1. will talk about the roles of women in the community connected to their attributed roles, and how this translates into capabilities and vulnerabilities, which answers Objective 1. In 5.2., the community disaster resilience will be discussed, which corresponds to Objective 2. Chapter 5.3. is then the synthesis of 5.1. and 5.2. into an analysis of what the women's role is across the DRM cycle. Chapter 5.4. then makes the assessment of how women influence the community disaster resilience, corresponding to Objective 3. This is answering the title question of this research. Consequently, the discussion in chapter 6 will elaborate on potential further contributions of women and what factors would have to change for a stronger inclusion. Ultimately, in 6.2., the relationship between empowerment and DRM is explored and how these concepts and tasks related to them influence each other, which are the results of Objective 4 and 5 respectively, before finishing with the conclusion in chapter 7.



## 2 Theoretical Background

In the following chapter, the utilized theory regarding disasters and hazards, exposure, vulnerability and resilience will be discussed, which explains disaster risk. Furthermore, disaster risk management (DRM) as a concept will be discussed. After the theoretical discussion on DRM, the topic of women empowerment will be studied. Here, the focus is on the issues of women and gender first, before elaborating on the historical debate of women empowerment, before debating the meaning of empowerment. Finally, the general state of empowerment will be the topic of discussion, before finalizing the sub-chapter with an outlook on how to establish empowerment. The theory chapter will conclude with establishing the approach which will be used further on in the research.

### 2.1 Risk

Starting the discussion, several terms need to be explained: here, we start with disaster risk, which in itself is a composite of other terms. It can be described as the unique interplay of different factors in a region or society (UNDRR, n.d.d.). Commonly, it is described as the following equation:

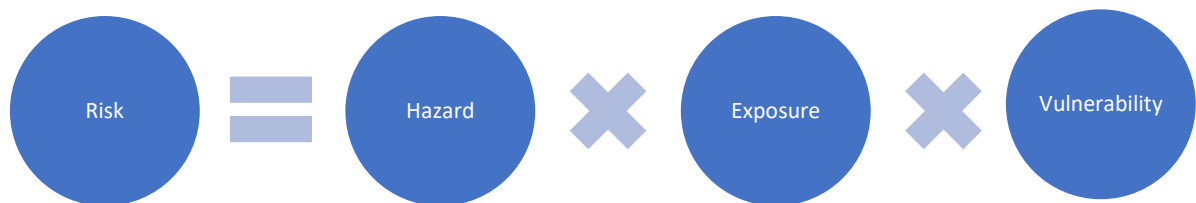


Figure 1: Combining factors for disaster risk. Own production, based on UNDRR, n.d.a.

Sometimes, a different formula is used as well, which excludes exposure from the equation. For this research, the full equation with the incorporation of exposure will be used. It has to be understood that disaster risk is only the interplay and culmination of the different factors it consists of (Birkmann et al., 2013). Without hazard, there is no risk. Without exposure, there is also no risk. And if vulnerability is reduced to zero, there is also no risk, since the impact does not destroy goods or disrupt livelihoods. Furthermore, the interplay between factors must be considered. Moving forward, the different concepts, namely hazard, exposure and vulnerability, which make up the concept of disaster risk, will be explained. While arguments could be made for excluding certain factors from this equation, such as exposure, which is sometimes taken out of the disaster risk concept, here the full formula



will be used moving forward. Each individual part, and why its inclusion is important, will be explored moving forward.

### 2.1.1 Disaster and hazard

A disaster is not a natural occurrence, but a natural hazard that heavily affects a community or society. The IFRC puts it as follows: “Disasters are serious disruptions to the functioning of a community that exceed its capacity to cope using its own resources. Disasters can be caused by natural, man-made and technological hazards, as well as various factors that influence the exposure and vulnerability of a community.” (IFRC, n.d.). UNDRR states, that a disaster is a “serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts” (UNDRR, n.d.). The effect of said disaster can be immediate and localized, or widespread over longer periods of time or even suspended to a later date (UNDRR, n.d.). Approximately 200 million people worldwide are subject to the impacts of natural disasters, many causing a loss of life in the first place, with later impacts such as malnutrition, the spread of diseases, poverty and conflicts (BMZ, 2022). Both definitions emphasize the disruption of a society or community as a key term in defining a disaster. Here, the differentiation between a disaster and a hazard joins the discussion. Hazards can be completely natural, like floods or earthquakes, technological, like industry accidents, or man-made, like terrorist attacks (Twigg, 2015). Furthermore, they are described as circumstances or a situation that can inflict harm upon a society (BMZ, 2022). Since technological and man-made disasters are not the focus of this research, only natural hazards will be part of the discussion going forward. This also excludes dysfunction in society, such as riots, violence, war or civil war, or political conflicts that heavily influence and disrupt the regular functions of society.

A natural hazard is most often seen as a natural occurrence, such as an earthquake or a cyclone. The natural hazard can be classified as a disaster due to its intersection with a “human use system” (Perry, 2018), e.g. a town, a region, a community or society. Hazards take place as a regular natural process, which is studied in natural and geophysical areas of research (Perry, 2018). Even though these hazards occur naturally, extreme events that lead to disasters will likely increase due to climate change in the future (Ranke, 2016). Without the effect the hazard has on human life, there would be no reference to a disaster occurring (Reliefweb, 2021). Therefore, to understand a disaster, not only the mechanism of the hazard has to be understood, but also the society it affects (Perry, 2018). Based on this definition, a disaster is much more related to human systems than seems evident at first. While the hazard may occur one way or another, the risk associated with it for the



society depends on several factors, namely vulnerability, hazard and exposure. At this point, it should be noted that a disaster references to the interferences of a hazard with a human system. Hazards are a prerequisite for disaster risk, since without a hazard happening, there is no risk, since nothing impacts the system.

### 2.1.2 Exposure

The BMZ defines exposure as follows: “Exposure means that people, their income opportunities, resources and infrastructure, as well as economic, social, and cultural assets can be harmed because they are in a hazardous location or exposed to a hazardous situation” (BMZ, 2022). This refers to the above-mentioned impact, that hazards have on human systems. If there is no cross-over between a society or community and a hazard, there is no risk. This can be exemplified by imagining a storm. This storm hits the coast in an uninhabited region. Since no damage is done to society and neither lives or livelihoods are lost, there is no disaster. But when this cyclone hits a highly populated area, it puts people, infrastructure and other material goods at risk. Exposure can be summarized to the statement, that it refers to “the situation of people, infrastructure, housing, production capacities and other tangible human assets located in hazard-prone areas” (UNDRR, n.d.a.). Exposure changes over time, as people migrate and settle in new areas or as populations grow and economies develop in new areas. Areas that are exposed to different natural hazards, even though deemed unsafe in that regard, can be highly attractive to people due to economic opportunities or natural resources that are accumulated here. Examples of this are coastlines, volcanic slopes or floodplains. Furthermore, religious or cultural significance can be drivers for settling in exposed areas. These areas also oftentimes have a high capital influx, promoting these regions economically more than comparably less exposed regions. Therefore, the benefit to establish oneself, a family, community or society here seems, at the moment of location or relocation, higher than the possibility of being hit by a natural hazard (UNDRR, n.d.a.). Certainly, the risk of poverty in less disaster-prone areas is evident as well, and since a majority of the world’s cities are highly exposed to natural disasters, many people are not able to make a choice between living in an exposed area where they can provide for themselves and living somewhere less exposed with reduced opportunities to create a livelihood for themselves. Many cities and megacities in the world, such as Manila, Guatemala City or Tokyo are highly exposed to natural hazards. (UN DESA, 2018). The same logic applies to inner city regions with different levels of exposure: many people cannot afford to move to safer locations in the city due to financial constraints.



What is important to note here is that exposure is intrinsically linked with the differentiation between hazard and disaster: exposure describes being in a hazard-prone area (UNDRR, n.d.a.). This means, that with exposure being present, a natural hazard can turn into a disaster, since there are resources and communities which are affected by it. Whether the natural hazard turns into a disaster is furthermore determined by other factors, such as vulnerability.

### 2.1.3 Vulnerability

Vulnerability describes “the characteristics determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards.” (UNDRR, n.d.b.). This concept describes at its root the circumstances of life which make a person, community, or society vulnerable or resilient towards a hazard.

There are different key terms, which aim at breaking down vulnerability. The World Risk Report describes vulnerability as a composite of susceptibility, coping capacity and adaptive capacity. Susceptibility means the structural conditions of a society which lead to a higher possibility of said society suffering from natural events (Bündnis Entwicklung Hilft / IFHV, 2023). It is sometimes also called fragility or sensitivity and indicates the “likelihood to suffer harm” (Birkmann, 2013) in case of a hazard striking (Birkmann, 2013). Furthermore, susceptibility is seen as intrinsic societal conditions, which are not unchanging, but a given at a certain time (Birkmann & Wisner, 2006). Therefore, susceptibility indicates the level of resilience of a society as well as the resources available to counteract immediate consequences of a natural hazard (Bündnis Entwicklung Hilft / IFHV, 2023). This needs to be differentiated from exposure: While exposure refers to the physical closeness to a hazard-prone area, susceptibility refers to mostly social and economic factors. One can be, for example, exposed to a hazard but not susceptible to it, since physical closeness is given, but the person is in a position to counteract or mitigate the impacts of the hazard (UNDRR, n.d.b.). Therefore, susceptibility identifies problems or a lack of something. This can be multidimensional, for example poverty, governance problems or a lack of awareness or knowledge about the hazard (Birkmann, 2013).

The coping capacity describes “the ability of people, organizations and systems, using available skills and resources, to manage adverse conditions, risk or disasters” (UNDRR, n.d.c.). This describes the use of financial means, knowledge, tools, physical power and resources of the community, to cope with a recent event and recover from the impact. It can also be described as a positive perspective on susceptibility: while susceptibility has a negative connotation and usually refers to a problem, a lack of something, coping capacity



refers to a positive concept, something a community has, which helps to recover from or cope with a hazard. One example of this can be seen in the concept of poverty: while people living in poverty are more susceptible than other social groups to natural hazards, they still have coping capacities, for example social capital, which can be found lacking in other social groups and which helps them to cope with a hazard (Birkmann & Fernando, 2008).

Furthermore, adaptive capacity plays a role in the concept of vulnerability. “Adaptive capacity is the property of a system to adjust its characteristics or behaviour, in order to expand its coping range” (Brooks et al., 2004). Adaptive capacity refers to the phrase of “build back better”, often used in disaster risk management, which means the ability to learn from past experiences and react to it by improving and adapting society to the hazard it has experienced (Brooks et al., 2004). Flipping the term vulnerability around, it can also be seen as the resilience of a society. The degree of susceptibility and the amount of available capacity, both coping and adaptive, can either be described as a lack, which would be vulnerability, or as something that the community is able to achieve, therefore resilience. This is also identified by Rashid, who defines vulnerability „as a state of resilience of people, its belongings, livelihoods, and elements to the susceptible threats to be caused by hazards” (Rashid, 2013).

In summary, vulnerability consists of susceptibility and capacity, coping and adaptive. While susceptibility is the negative lens, a focus on a lack of, capacity is the positive lens, focusing on what a community or society has which can be set against a natural hazard (Birkmann & Wisner, 2006). It is important to note, that the concepts which vulnerability consists of are often defined differently or are conceptualized in different ways. Some concepts use sensitivity, others susceptibility, while the term capacity is, again, seen in different ways: sometimes its adaptive capacity, sometimes coping capacity. Furthermore, some concepts use other factors to describe what vulnerability means. For this research, the differentiation explained above will be used further on.

In order to structure sources of vulnerability, it is usually differentiated between 4 factors: social, physical, economic and environmental (UNDRR, n.d.b.). When vulnerability is broken down to the individual level, it must be acknowledged that every person scores differently across the dimensions of this concept. Everyone consists of a unique constellation of susceptibility, coping capacity and adaptive capacity. While often vulnerability is associated with certain social groups, such as women, children, elderly, disabled or displaced people (UNDRR, n.d.b.), on an individual basis this generalization fails to identify the multidimensional character of the concept. If we assume that, for example, all women are more susceptible than men, we negate the fact that factors such



as health, living environment, financial and social status play a role as well. A woman with a high income is in many cases likely less vulnerable to natural hazards than a man with a low income, living in informal housing and working in the informal sector. She has a higher coping capacity due to the fact, that she has the financial means to recover from the event. Furthermore, factors like education play a big role in the ability to adapt to future events, reducing the next impact. This multifaceted nature of the concept also makes it hard to capture and measure accurately during research. While impacts can usually be measured precisely, for example in lives lost, damage in financial terms or number of infrastructure destroyed, the social science approach to vulnerability is difficult to capture in numbers or absolute terms (Birkmann, 2013).

To summarize, vulnerability consists of the sub-categories capacity and susceptibility, which are a positive and negative lens on a system and what they or it is lacking or has to offer against a natural hazard. Across different dimension, each system, if society or person, scores differently on the factors which make up vulnerability, which is heavily influenced by factors such as economic opportunities, poverty, education, age, their environment or their physical abilities.

## 2.2 Disaster Resilience

Moving on from disaster risk, disaster resilience is a concept that has been thoroughly used in recent debates, especially concerning climate change. In disaster risk management, increasing resilience is a key concept to transform societies or communities to live under changing environmental, social or economic conditions. It also indicates the capacity to deal with the impacts of a hazard. But unlike coping capacity, resilience also promotes the idea that a crisis can be a moment of change, an opportunity for innovation and being better prepared for the future. Like vulnerability, resilience is a fuzzy concept that is not easy to grasp and measure. The term has evolved from different fields of research, mainly psychology and ecology. While in psychology, the focus is on dealing with shocks and trauma, first on an individual and later a community level, in ecology discussions about the ability to absorb change from a system were discussed in the context of resilience. Here, the population size was linked to its ability to be flexible and adapt to changing circumstances. More recently, infrastructure resilience has been brought into the discussion, elaborating that infrastructure is resilient when it is robust, redundant, resourceful and able respond quickly (Birkmann, 2013). Each of these discussions brings the DRM definition of resilience a bit closer: the ability to adapt and be flexible from ecology is an important factor, as well as the response to shocks from psychology. From the infrastructure perspective, especially quick responses factor into the DRM resilience concept.



In the DRM sphere, disaster resilience means being able to cope with a disaster with minimal impact and damage to the functions of society, including the ability to recover, avoid or reduce losses and minimize disruptions. Both pre- and post-hazard methods of achieving this goal are included in this concept (Cutter et al., 2008). In the following, the definition used by IPCC will be applied:

“Resilience is defined as the ability of a system and its component parts to anticipate, absorb, accommodate, or recover from the effects of a potentially hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structures and functions” (IPCC, 2012).

This definition covers both the necessity of pre- and post-disaster action, the flexibility necessary as well as the window of opportunity to change. Although there are many definitions which try to encompass this concept, most or all of them orient themselves on various features, such as redundancy, resourcefulness, communication and self-organisation (Kendra & Wachtendorf, 2003).

While for a long time, the notion of “bouncing back” was prevalent in the discussion surrounding disasters and resilience, the idea of adapting and changing for the future is now more widely accepted. Edwards formulates, that “[h]ow we behave depends on who we are – rarely do we simply ‘bounce back’ from an event – instinctively we change our behavior, act differently and learn from the experience” (Edwards, 2009). This means, that resilience includes a learning curve, that after experiencing a natural hazard, resilient societies will reorganize to avoid the same event affects the community twice in the same way (Edwards, 2009).

Especially social capital is often cited to be one of the most important factors making up resilience and heavily influences post-disaster recovery. In some occasions it has been noted that high social capital is immensely important on the community level, while on the household level factors like education and employment have a higher value, which would translate into financial or human capital (Kendra et al., 2018). Still, it is agreed upon that resilience can be achieved through different means according to the context: while in some communities, social capital is the key to resilience, other communities thrive with improvements in the institutional, political, economic or ecologic domains of society (Atreya & Kunreuther, 2020).

While social capital is often a key element, other capital forms, based on the sustainable livelihood framework, are not to be neglected as well. The other capital forms are: human, natural, financial and physical capital (UNDP, 2017). An explanation what these forms mean, are listed in Table 1 below:



Table 1: Capital Forms, based on UNDP, 2017.

Capital Form	Meaning
<b>Human</b>	Abilities, work skills, experiences, health
<b>Natural</b>	Natural resources, e.g. farmland, wood, water resources, air quality etc.
<b>Financial</b>	Financial means people rely on, e.g. savings and inflow of money
<b>Physical</b>	Basic infrastructure and producer goods, e.g. housing, roads, energy, sanitation etc.
<b>Social</b>	Social resources like networks, participation in groups

While during this research, the focus is on social and human capital, the other forms cannot be fully neglected, since resilience is an all-encompassing issue: different forms of capital increase community disaster resilience and therefore have to be kept in mind as well. Especially in countries where infrastructure is not highly developed, more focus needs to be directed at the human component of resilience, might it be social, institutional, political, legal or economic, since these factors heavily influence community resilience.

How can resilience be measured and how can we assess, especially in the context at hand, what contributes to resilience and what doesn't? How can gaps be assessed? One method to assess resilience on a community-based level is the 4R-model developed by Kathleen Tierney and Michel Bruneau. The authors argue, that resilience consist of 4 key elements: robustness, redundancy, resourcefulness and rapidity (Tierney & Bruneau, 2007):

- **Robustness:** “the ability of systems, system elements, and other units of analysis to withstand disaster forces without significant degradation or loss of performance” (Tierney & Bruneau, 2007). This means, that the system is able to withstand stress and not lose functionality in the process (Atreya & Kunreuther, 2020).
- **Redundancy:** refers to having a substitute for certain elements that are not inherently the same, but can take over functionality during a crisis (Atreya & Kunreuther, 2020; Tierney & Bruneau, 2007).
- **Resourcefulness** is the ability to prioritize during a crisis, establish a course of action and find resources to move forward to stop a system collapse (Atreya & Kunreuther, 2020). This includes monetary, human, institutional, technological and informational resources (Tierney & Bruneau, 2007)
- **Rapidity:** “the capacity to restore functionality in a timely way, containing losses and avoiding disruptions” (Tierney & Bruneau, 2007).



All these factors for resilience have been mainly created with infrastructure and engineered system resilience in mind, but all of them can be thought of in a social setting as well. As established already, social capital is a core element of resilience in a lot of places (Kendra et al., 2018). While robustness can be seen as an important feature for infrastructure, e.g. a building is built in a solid way to resist an earthquake, for example, the social network in a community also needs to be robust for efficient and effective responses in time of a crisis. Redundancy in a social sense can mean, that responsibility is not delegated to one single person, but that everyone is educated in how to respond during a hazard. This way, it is not only the responsibility of professionals to, for example, evacuate, but the community is aware that this must happen and responsibility for the elderly or children is shared in the social network. Resourcefulness seems to be in itself a social quality, since a building cannot react in a resourceful way. Rapidity goes into a similar direction: while an early warning system can react or alert in a rapid way, reacting to this is done by humans and not infrastructure.

Another model which aims at measuring resilience is the Baseline Resilience Indicators for Communities (BRIC) model, where different community resilience indicators are listed (Cutter et al., 2008). The indicators are as follows:

*Table 2: Dimensions and Variables of Community Resilience towards natural hazards (Cutter et al., 2008)*

<b>Dimension</b>	<b>Variables</b>
<b>Ecological</b>	Wetlands, Erosion rates, percentage of impervious surfaces, biodiversity, coastal defence structures (Cutter et al., 2008)
<b>Social</b>	Demographics, Social networks, community cohesion, community organizations (faith based or other) (Cutter et al., 2008)
<b>Economic</b>	Employment, value of property, wealth generation (Cutter et al., 2008)
<b>Institutional</b>	Participation in hazard reduction programs, hazard mitigation plans, emergency services, zoning plans, building standards, emergency response plans, continuity of operations, functioning communication (Cutter et al., 2008)
<b>Infrastructure</b>	Lifelines and critical infrastructure, transportation network, residential housing stock and age, commercial and manufacturing establishments (Cutter et al., 2008)
<b>Community Competence</b>	Local understanding of risk, counselling services, absence of psychopathologies (alcohol, drug, spousal abuse), health and wellness (low rates mental illness, stress-related outcomes), quality of life (high satisfaction) (Cutter et al., 2008)



The argument of the authors is, that resilience is not one-dimensional (Cutter et al., 2008). As briefly mentioned above, a society or community can score differently on each dimension concerning their resilience. While some communities might have good institutional capacities, they might lack social cohesion or live in a deteriorating ecosystem. Therefore, it is important to not only assess the 4R-model on how a system reacts to a disturbance, but to score different subsystems on their performance pre-, during and post-hazard.

To evaluate the resilience the community displays later, an overlapped version of the BRIC and 4R model will be applied. This allows for the assessment of multiple dimensions as well as seeing relationships between different spheres. The tool used will look as can be seen in Table 3. Here, general explanations of what could be meant in each field are filled in.

*Table 3: Explanation of interlocked BRIC and 4R model*

	<b>Resourcefulness</b>	<b>Robustness</b>	<b>Rapidity</b>	<b>Redundancy</b>
<b>Ecological</b>	Intact nature as a resource in itself which can be used creatively during scarcity	Strength and diversity of ecosystems to withstand environmental shocks.	Speed of ecosystem recovery from damage or changes in environmental conditions.	Availability of multiple natural resources or ecological functions to ensure backup in case of failure.
<b>Social</b>	Community's creativity in finding ways to adapt and support each other in crises.	Social cohesion and networks that can withstand shocks	Ability of social networks and organizations to mobilize quickly	Presence of overlapping social networks and support systems that can provide aid if one fails.
<b>Economic</b>	Flexibility of the economy to shift resources or innovate under stress.	Economic stability and the capacity of industries to continue functioning during crises.	Speed at which the economy recovers from shocks like financial crises or disasters.	Availability of multiple income sources or industries to prevent collapse if one sector fails.
<b>Institutional</b>	Ability of institutions to adapt policies, allocate resources, and develop innovative solutions in a crisis.	Institutional strength, transparency, and governance that can withstand under a disaster.	Speed of institutional response and decision-making in emergencies.	Availability of multiple governance systems or agencies to ensure backup and avoid single points of failure.
<b>Infrastructure</b>	Flexibility of physical infrastructure to be repurposed or	Quality of infrastructure to withstand	Speed of repairing or restoring critical	Availability of backup systems (e.g., power



	repaired quickly during disruptions.	physical stresses like natural disasters or wear and tear.	infrastructure after damage	grids, water supplies) to ensure continuous service during outages.
<b>Community Competence</b>	The ability of the community to leverage skills, knowledge, and networks creatively in response to crises	The community's collective strength in facing long-term stress without breaking down.	Speed at which communities come together, organize, and respond effectively to crises.	Redundant leadership, skills, and knowledge within the community to ensure continuous functionality even if key members are unavailable.

## 2.3 Disaster Risk Management

After discussing the basic terminology of what a disaster is and how it affects societies, it is necessary to take a closer look at Disaster Risk Management (DRM). DRM refers “to a systematic approach to identifying, assessing and reducing risks” (Twigg, 2015). Furthermore, DRM “is the processes for designing, implementing, and evaluating strategies, policies, and measures to improve the understanding of disaster risk, foster disaster risk reduction and transfer, and promote continuous improvement in disaster preparedness, response, and recovery practices, with the explicit purpose of increasing human security, well-being, quality of life, and sustainable development “ (IPCC, 2012). Very similar is the term Disaster Risk Reduction (DRR), which falls into the same category but hints at the topic from a slightly different angle. DRR rather refers to the policy objective and overall goal on how to reduce disaster risk. It aims at reducing exposure and vulnerability, land use planning and a general preparedness for disaster events. DRM is more on the implementing side of the goals and objectives that are decided in DRR (IPCC, 2012; Twigg, 2015). The management aspect here is more prominent and the topic on how to achieve reduction in disaster risk is more evident. DRM usually describes the actions aimed at achieving policy goals or reduction measures (UNDRR, n.d.e.). DRM therefore refers to more practical scenarios and practices, while DRR is a strategic, institutional level of risk management (Twigg, 2015).

### 2.3.1 Community-based disaster risk management

DRM is an extremely necessary concept to reduce vulnerabilities and raise resilience in order to manage future extreme events. Nevertheless, oftentimes DRM uses the advice of



external experts and expensive resources, which is in many local contexts not achievable due to financial constraints. The concept of Community-based disaster risk management (CBDRM) addresses this issue. Here, DRM both originates from the community and is organized by it (Global Alliance for Disaster Risk Reduction and Resilience in the Education Sector, 2018). Communities have their own specific knowledge, experiences and solutions for existing problems and in many cases, approaches to increase resilience are already in place (GNDR, n.d.). Furthermore, due to climate change, hazard impacts are felt more and more in local communities, therefore action needs to be taken there (Paterson & Charles, 2019). CBDRM was developed in the 1990s to combat small and medium scale disasters, often exacerbated by a lack of political and institutional planning and capacity building. This bottom-up approach focuses on community needs instead of technical solutions, which are often not applicable in specific contexts and dismisses the local capacities and methods already in place (Salajegheh & Pirmoradi, 2013). Another reason for the emergence is the shift in development practice, where the faith in government related programs decreased and grassroots movements gained popularity in working with the people instead of handing out one-size-fits-all solutions. The emerging “ownership” of the projects related to the local community is now seen as vital for successful continuation of the projects (Titz et al., 2018).

One of the issues when working with CBDRM is identifying the community. A community is not necessarily the people that share a living space with each other, often it is more complex. People share social structures, culture and language, organizations and institutions are involved as well (Ranke, 2016). Other distinctions, such as a shared identity, also play a role. Furthermore, a topic often neglected, are power relations and heterogeneity of groups. No community is made up of people that are identical, therefore imbalances of power exist due to different predispositions (Räsänen et al., 2020). “[T]hese differences affect resource management outcomes, local politics, and strategic interactions within communities, as well as the possibility of layered alliances that can span multiple levels of politics” (Agrawal & Gibson, 1999, p. 633). In literature, community is usually described in three different ways: as a spatial unit, as a group sharing a set of norms and as a social structure. In DRM, community is usually defined in the sense of a geographical or spatial unit, called place-based community as well: “In this approach, community is the totality of individuals and social structures within a specific geographical location. The focus is a specific place, typically a village or a residential area, and the community includes all the inhabitants of the location. In addition, the community embrace organizations, institutions and authorities within the place” (Räsänen et al., 2020, p. 2). To this definition, the notion of smallness and place attachment can be added. All the inhabitants of a metropolitan area are rather not seen as a community due to limited interaction, but in a village, there is more



of a communal sense. “Members of small groups, sharing the same geographical space, are more likely to interact with each other more often” (Agrawal & Gibson, 1999, p. 634), which lowers the transaction cost of making a shared decision (Agrawal & Gibson, 1999). This can be seen as advantageous in building resilience and especially around a disaster event. The definition of a community as a place-based unit will be used onwards in the research. The approach to community as a social structure is rejected here, since the assumption of social homogeneity usually only holds true at the first glance: in rural areas, this might be true in some cases, where people speak the same language, believe in the same religion, work in similar fields and are generally dependent on the same resources. This assumption leaves out issues which still create inequality and power relations, even in small rural communities: One example could be a difference in resource access between women and men, since still oftentimes men own the resource, for example a field, which creates a power imbalance. (Agrawal & Gibson, 1999; Räsänen et al., 2020).

### 2.3.2 Disaster Risk Management Cycle

When assessing DRM and community-based DRM, the disaster management cycle is often used to differentiate stages of preparation and recovery. The steps are usually Mitigation, Preparedness, Response and Recovery, while different names may apply according to the source (Tay et al., 2022). This cycle is a necessary measure to identify community resilience and see where the gaps of proposed plans and strategies are. In order for communities to actually have the ability to “resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner” (UNDRR, n.d.f.), therefore the focus needs to be on the stages needed to achieve this goal (Martinho & Reis, 2022). Mitigation measures are those taken in advance to the disaster to mitigate impacts. An example could be building a flood wall in a community that is exposed to flooding or relocating people. Preparedness refers to building capacity, educating, spreading awareness about the possible hazards and what to do in case of an emergency. Response is the action taken immediately after the disaster, which are focused on saving lives and community assets, such as infrastructure, valuables or livestock, depending on the situation. Recovery then happens a bit later with the focus on restoring the community to pre-disaster conditions and improving this status (ACOSS, n.d.; Boshier et al., 2021). The cycle can look as seen in the following:



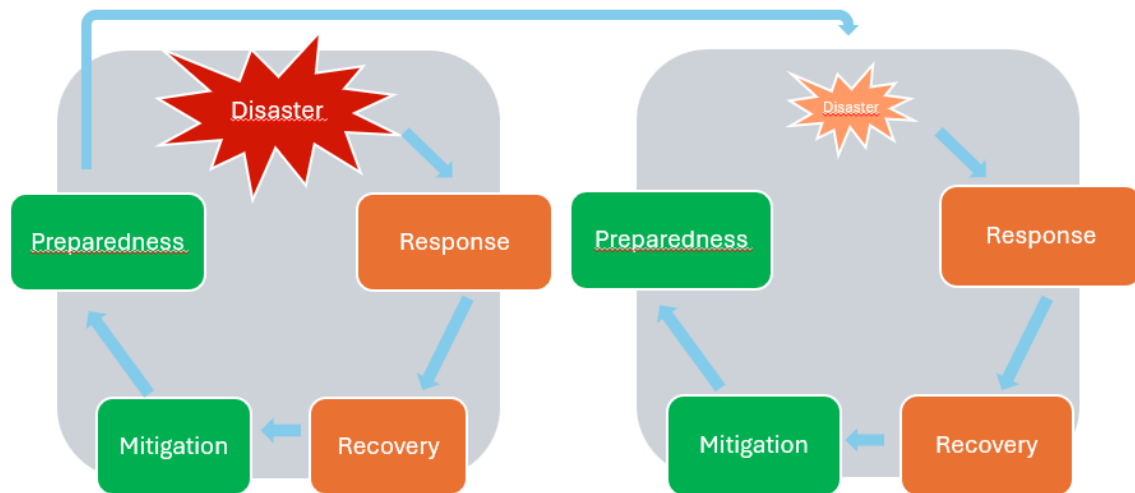


Figure 2: Disaster Management Cycle, own production, based on Boshier et al., 2021

In this graphic, response and recovery are the post-disaster phase while mitigation and preparedness are the pre-disaster phase. The cyclical illustration of the DRM cycle is not uncontested: some scholars criticize, that this visualization indicates that no improvement can be made and that a disaster will always happen again. This is indeed not a very helpful or positive thought for anyone involved in DRM (Boshier et al., 2021). On the other hand is the knowledge, that some hazards are indeed seasonal and preparation and mitigation measures need to be taken continuously in order to protect the community. Therefore, a certain cyclicity is given (ACOSS, n.d.). A different interpretation of this cycle could therefore be, that the disaster becomes smaller over time, making steps of the DMC unnecessary, for example response and recovery, since the community is resilient enough to absorb the shocks. This can be seen in Figure 2: While the first disaster is big, after the application of the DRM cycle, the next hazard is considerably smaller. This would, in an ideal case, happen again in another cycle, where the next hazard is again smaller with less impact.

For this study, the following graphic seen in Figure 3 proposed by (Schramm & Newman, 1986) will be used further on, but only as a tool to analyse DRM tasks and efforts. This cycle has more stages than explained before, such as prediction and warning, which in other visualizations belong to preparedness, or hazard and vulnerability analysis, which could be counted to mitigation. This cycle breaks down what activities are included in each of the stages and allow for a detailed analysis of community-based disaster risk management as well as stakeholder analysis, since tasks can be mapped in this cycle. While the same criticism regarding the circularity of the graphic as above applies here, this scheme focuses more on specific tasks and is therefore more helpful as an assessment tool than the use of only the overarching themes of the DRM cycle as pictured above.



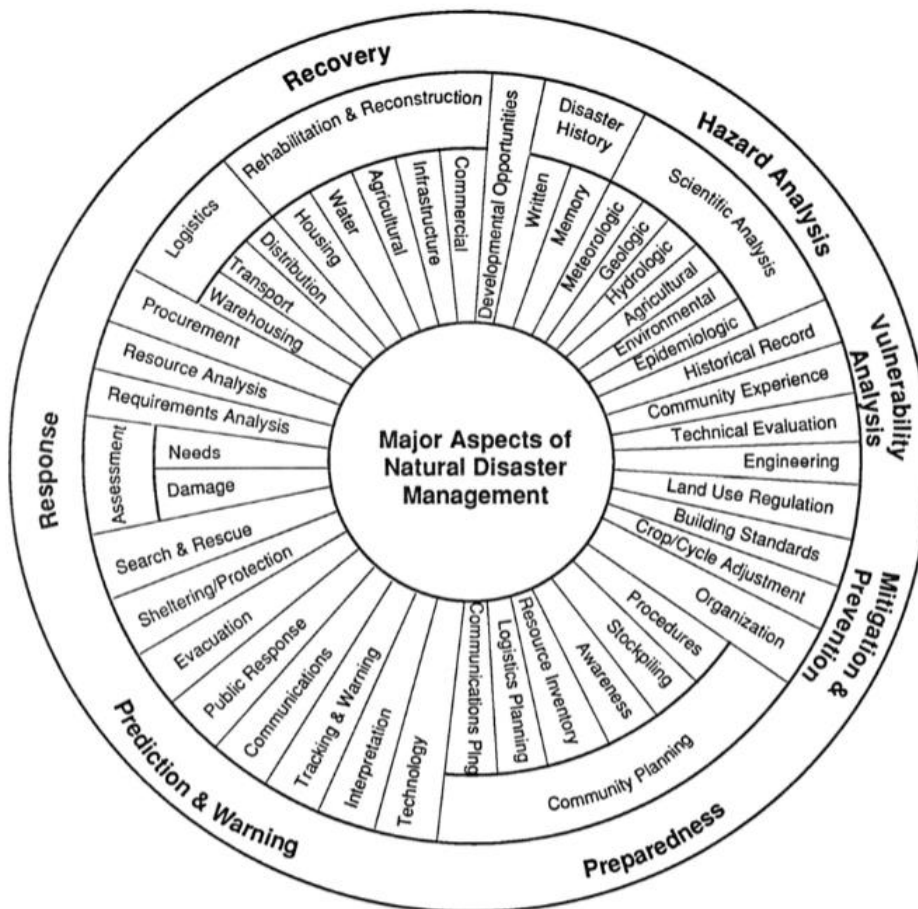


Figure 3: DRM Cycle proposed by Schramm & Newman, 1986

The cycle proposed by (Schramm & Newman, 1986) is certainly a management approach and not a scientific assessment of what the phases or other terms in the field, such as risk, vulnerability and exposure mean. The concept of “risk” is simply a given entity which needs to be accounted for in decision-making (Schramm & Newman, 1986). This is not even properly related to the concept of risk in disaster management. With this disconnect in mind, the approach will be simply used as intended: a management tool. The cycle will not be used to explain terms or create a theoretical approach, but rather, to assess whether a community is accounting for certain tasks which need to be accomplished for a successful disaster risk management. For theoretical explanations, authors such as Birkmann (Birkmann, 2013; Birkmann et al., 2013; Birkmann & Fernando, 2008) or different UN entities will be used.

Furthermore, the approach from Schramm and Newman (1986) is heavily expert oriented. It emphasizes tasks which should be done by established institutions and expert personnel,



but not by the community. But especially in CBDRR, many tasks are not executed by professionals, but by local people, they organize across the DRM cycle and, often, focus on issues that are not in this cycle. This is an issue which will be elaborated in the limitations as well as later, when talking about the tasks the community and especially women do.

Based on (Schramm & Newman, 1986), a Spanish version, which could be used in interviews, has been recreated, this can be seen in the Annex. It was heavily inspired by the original, especially considering the specific tasks, but liberties were taken by grouping the tasks more cohesively into the four stages of DRM, which were discussed prior.

## 2.4 Women Empowerment

In the following chapter, the theoretical baseline for women empowerment will be established, starting with the debate about women and gender, moving on to a historical overview of women empowerment and then moving into what empowerment actually is nowadays and then how to establish it.

### 2.4.1 Women, Sex and Gender

Before going deeper into the debate about what women empowerment is, there must be a discussion about women, sex and gender. The term sex is used to talk about biological categories between males and females, while gender is a social term, used to nonphysical aspects, often related to societal roles and expectations (Deaux, 1985; Lips, 2020). The gender term is therefore applied when talking about different life experiences that men and women have and that are not based on physical differences, but on conditioning, cultural, religious, political, geographical or economic beliefs. Preconceptions and stereotypes are therefore tied to gender, for example the idea, that men are superior to women in most aspects (Archer & Lloyd, 2002). The terms arose from a dichotomic idea, that there are two genders as well as two sexes, male and female, men and women. Since then, this debate has evolved, that sex and gender are not mutually exclusive concepts and that a clear-cut line does not exist as much as some people might wish. Talking about gender, many people do not feel like they belong completely in either of the categories of man or woman. Therefore, gender is now discussed as more of a continuum, and fluidity of gender, or gender queerness becomes more and more accepted as a concept. Furthermore, when talking about sex, the issue is not as clear as well: when assumed that two X chromosomes are what determines femaleness, while an X and a Y chromosome determine maleness, it must be acknowledged, that some people have different variations of chromosomes, for example XXX, XXY or XXXY. Only a single X chromosome is also a possibility. Therefore, the dichotomy between two sexes does not hold up against reality as well (Lips, 2020).



For this research, women are considered based on the term sex: not due to an unwillingness to acknowledge the perceived gender of a person, but due to the circumstances in the study area. Conservative structures in society lead to the fact, that data is only collected in binary patterns, e.g. male and female based on sex. Gender identity in terms of a continuum, non-binary people or other concepts related to queerness are not established in the study area. Nevertheless, this research also aims at assessing the role of women from a constructed, societal standpoint. This means, looking at what roles women are given in society, which will be, in this case, based on sex, and not self-proclaimed gender. Those two, sex and gender, will likely overlap in most cases in the field research, where women are women based on their social and self-assigned role as women, as well as based on their sex as female. While this approach is somewhat problematic, because it negates self-proclaimed identity and contributed to the issue of binary gender representation in academia, the available field access leaves little alternative for a different approach.

### 2.4.2 Historical Debate

Since its emergence in the second half of the 20<sup>th</sup> century, the term has grown massively in popularity, both in international institutions, governments, corporations as well as in academia (Batiwala, 2007; Cornwall, 2016; Priya et al., 2021). And while on the one hand, this interest in the topic can be seen as a way to mainstream the topic of women empowerment, the recent utilization of the term has been criticized, since the sharp political and theoretical background is diluted by the undifferentiated use in many contexts (Batiwala, 2007; Cornwall, 2016).

The term empowerment, even though used as early as the 16<sup>th</sup> century in Europe, gained momentum in the second half of the 20<sup>th</sup> century as part of different social movements, such as black power or the feminist movement, all concerned with creating equitable and participatory forms of social change (Batiwala, 2007; Cornwall, 2016). In this movement, it was emphasized that empowerment is not something to be done for others, but that inequalities and power structures have to be recognized in order to be dismantled and changed in an equitable way (Cornwall, 2016). The Women in Development (WID) Approach of the 1960s was one of the earliest attempts to incorporate women into development strategies. It was noted that only men's roles were ever discussed in the proposed projects as heads of their households, while women were never more than welfare recipients. With the rise of neoliberal development strategies, including women was seen as more efficient (Rowlands, 1997). Women were in this sense seen as a untapped resource, that could be utilized moving forward (Moser, 1989). The WID strategies did not achieve that women's issues were taking more into account, it rather utilized women as a



tool to meet other development needs, such as reproductive control or sustainable development. The following approach was Gender and Development (GAD), which emphasized the social structures and roles between men and women. In this theory, women do what is expected from them from society, for example, they are housewives when men and society expect it from them (Rowlands, 1997). These roles are socially constructed, the design of said roles depending on geographical, cultural, ethnic and historic factors, always temporarily limited (Moser, 1989). This multitude of roles that women have is much better to explain power dynamics. Still, oftentimes the diversity of women's experiences is not covered by this approach, since lives are not only influenced by economic characteristics, but especially women suffer from topics often left untouched due to various reasons, for example domestic violence (Rowlands, 1997). These approaches underline societal power relations in the sense that the particular worldview influencing these development policies are one the one hand certainly a product of their time, but also state a lot about how women are viewed in society, especially in those of the countries investing in development policies and development aid. This means that "development interventions do not always promote, or even seek to promote, greater justice in society" (Kabeer, 2010). In the 1990s, governments and international organizations started relying more and more on NGOs working at the grassroots level, not only working to improve the living conditions, but to empower the people to be their own change agents in the long term (Mehra, 1997).

Nowadays, in a development context, women empowerment is recognized in the SDGs, particularly in SDG 5, "Achieve gender equality and empower all women and girls" (UN, n.d.). Nevertheless, women empowerment is still facing many struggles, from equal pay or representation to violence against women, full empowerment is still not achieved (UN, n.d.). To fully understand the struggles faced by women today, the next chapter will examine what women empowerment actually is.

### 2.4.3 What is Empowerment?

Sen and Mukherjee formulate empowerment as follows: "Empowered women are not only able to access resources, or participate in politics and public life, but also enjoy bodily autonomy and integrity, and freedom from violence. While there has been healthy debate on such aspects of agency and empowerment, it is evident that empowerment is not only about addressing immediate inequalities faced by women but also changes in consciousness and agency that challenge patriarchal structures." (Sen & Mukherjee, 2014). Empowerment therefore must include agency on several spheres, such as "sexual, reproductive, economic including unpaid care, political, legal—and most importantly, from threats and violence" (Sen & Mukherjee, 2014). The idea of empowerment and especially



women empowerment is to broaden the choices women have, by shifting for example resource access, and work for a life free of violence, so that women can have their own agency (Sen & Mukherjee, 2014). In short, it can also be described as the ability to make choices, and being disempowered is therefore the lack of this ability. Therefore, empowerment is a process of changing aspects which deny the ability to make choices (Kabeer, 1999). The conception of what disempowerment is, is as important as understanding empowerment. Disempowerment is the “legal, social and cultural situation in which sex and/or gender determine different rights and dignity for women and men, which are reflected in their unequal access to or enjoyment of rights, as well as the assumption of stereotyped social and cultural roles” (EIGE, n.d.).

Empowerment and gender equality are multidimensional issues, which means that advancements in one area don't necessarily mean an increase in empowerment overall. Achieving better healthcare for women doesn't automatically transfer into higher gender equality, if reproductive freedom or education are not improved as well (Sen & Mukherjee, 2014). Some societies give women high autonomy in certain aspects, for example handling domestic financial matters, but restrict other liberties drastically, for example reproductive right or free movement (Mason & Smith, 2003).

Conceptually, empowerment is closely related to power, a term which has been defined and redefined time and time again. Empowerment in its relation to power is therefore coined as the process and the result of said process, changing power relations between individuals and social groups, with an emphasis on gender, transforming the power relations between men and women in society. It can be described as “the transformation of the relations of power between men and women, within and across social categories of various kinds” (Batliwala, 2007). In this line of research, there are usually different kinds of power that are talked about:

- *Power over*: controlling power, for example control over a resource, but also used in the sense of manipulation or resistance of someone
- *Power to*: “generative or productive power” (Rowlands, 1997), ability to make a change
- *Power with*: Shared power that grows out of relationships, collective action, the
- *Power from within*: Spiritual strength and self-respect, that can be extended to others, agency, self-worth (Kabeer, 2010; Rowlands, 1997)

In the feminist discourse, *power over* is the power used in oppression and self-oppression. This leads to the notion, that only being freed from outside oppression is not sufficient for empowerment: it is necessary to free oneself from the internalized oppression: “it must also



include the processes that lead people to perceive themselves as able and entitled to make decisions” (Rowlands, 1997). Furthermore, *power to* and *power from within* are the powers which enable the whole range of human possibilities and capacities. In order for women to access this range, negative connotations and societal gendered attributions of these powers and the relating capacities need to be challenged and reduced (Rowlands, 1997). *Power from within* is necessary since without the belief that they are entitled to pursue their agency, women cannot take further steps. The *power to* challenges the ability to make strategic choices and bring about changes in their own lives. *Power with* is what can be achieved when women form groups, talk about their experience and take collective action to change society. This is certainly influenced not only by women, but by men as well. How much men are willing to side with women’s issues and support them as well as challenge themselves and societal pattern often determines the degree of change that can be brought about (Kabeer, 2010). The notion of community and communal action is challenged by some: like the debate about community in the context of DRM, the community in empowerment research is not a natural, given occurrence. There are power dynamics and imbalances in these groups, and the idea that increasing *power to* and *power over* in marginalized groups creates a negative effect for other marginalized and underprivileged groups is often neglected (Yuval-Davis, 1994). The power imbalances can certainly be seen between men and women (Kabeer, 2010), but the topic of intersectionality and that women are not only discriminated against because they are women but on other axes as well, such as race, sexuality and class, is often neglected. Intersectional issues cannot be seen as separated, since a person experiences discrimination and marginalization due to all these factors. This has to be acknowledged in order for women to not be only seen as discriminated against because of gender, but also because of other characteristics, which might be more relevant (Bastia, 2014).

Additionally, it must be noted that there can be certain narratives on empowerment, such as devaluing or embracing differences: embracing differences in this context means, that women are unlike men and should therefore not have the same opportunities and want different things, e.g. why would women want to work when they can stay at home? When women are then admitted into formerly male spaces, the opposite is often the presumption: women are the same as men, therefore nothing should have to change. This is one line to explain lower female involvement in high-level management positions: nothing should have to change for the living realities of women and there is a denial that a problem in the workplace itself might exist (Rhode, 1991). These narratives lead to societal stereotypes and role model on what women should want and how they should behave, which are



internalized not only be men, keeping up a system which suits them, but also by women, who are making choices based on these assumptions (Rhode, 1991).

In this context of power and who holds it in which way leads to a branch of peace and conflict studies, where the idea of positive and negative peace originates from. John Galtung coined the terms positive and negative peace. Often, peace is referred to as an absence of violence and war, it is therefore seen as the lack or absence of something: this is referred to by Galtung and others as negative peace. Still, when thinking of peace, positive connotations usually come to mind, like happiness, equality, freedom and other concepts that are seen as desirably in society. A setting in which both non-violence, as well as justice, equality and individual satisfaction are given, can be referred to as positive peace in that sense (Webel & Galtung, 2007). Using this concept in the context of empowerment can mean, that the most extreme expression of disempowerment is conflict and therefore the prevalence of violence, a negative peace is not the aim: a lack of physical violence towards women does not mean empowerment, since women are still not free to make their own decisions and to take positive actions in their lives. (Kabeer, 1999; Sen & Mukherjee, 2014). Therefore, the opposite of violence is not non-violence, but positive peace. Transferred to empowerment research and the current work, this means that absence of violence is not equal to empowerment, while both violence against women and negative peace are considered dimensions of disempowerment. This connection can be seen in Figure 4 below.

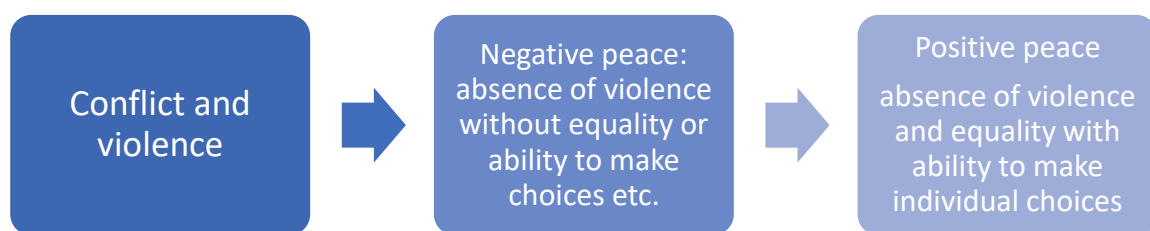


Figure 4: Concept of positive and negative peace, own production, based on Webel & Galtung, 2007

#### 2.4.4 Establishing Empowerment

As discussed above already, empowerment cannot be done in the name of others (Cornwall, 2016). But in order to achieve empowerment in the sense of shifting power, (Batliwala, 2007) mentions three necessary power shifts:

- challenging the ideologies that justify social inequality, like gender



- changing prevailing patterns of access to and control over economic, natural, and intellectual resources
  - transforming the institutions and structures that reinforce and sustain existing power structures (such as the family, state, market, education, and media)
- (Batliwala, 2007, p. 560).

This then translates to three domains of empowerment: personal, relational and collective: personal empowerment refers to unravelling internalized oppression and realizing the own capacities one owns, feeling self-confident. This is what Rowlands (1997) describes as *power from within*. Relational is meant in the sense that a woman is able to influence a relationship, and the decisions made there. Collective refers to taking collective action to reach a bigger goal. This often refers to incorporation in, or influence on political decision-making, but is not restricted to a level of governance. Collective action can be taken in a small village as well as at the UN (Rowlands, 1997).

What does this mean for concrete measures and pathways? As has already been touched upon above, there is no one size fits all solution to empower women. What works in one context will not work in another. What seems clear is, that not a single action is able to achieve an empowered state. For example, giving money or credits to women might make them more able to live in their current situation, to leave poverty and build a better life in the future. But this alone does not dismantle societal structures, it does not solve domestic violence and it does not achieve the *power from within*, which is necessary to take further steps towards following the own agency (Cornwall, 2016; Kabeer, 2010; Rowlands, 1997). As noted by Batliwala, it is necessary to challenge constructed norms and inequalities, change resource access and transform institutions (Batliwala, 2007). Furthermore, the self-oppression or the lack of confidence has to be addressed in order for empowerment mechanisms to work (Rowlands, 1997). This can translate to the powers already mentioned: *Power from within* is the work necessary to gain confidence for the next steps. Changing resource access can be seen as *power over*, challenging norms can be seen as *power from within* as well as *power to* and challenging institutions could be *power with*, since this usually takes pressure from a bigger group.

In development and empowerment practice, one measure often deemed necessary is conscious self-reflection, where women meet and discuss their experiences and share them with other women. This can expand women's horizon of what is actually possible and what change they can desire in their lives, building on *power from within* as well as *power with*, in a safe group setting (Cornwall, 2016). This idea of self-reflection in a group setting relates to collectivizing and building a movement to further the own rights. This also helps in ending



stigmatization around certain topics as well as realizing the own rights. Ending isolation and sharing it with others is a way in which women can become more empowered when they feel like they are not alone with their problems (Cornwall, 2016).

Education and formal work are often deemed one of the most important external factors for women empowerment. Women who went to school or even university gained knowledge and skills to, on the one hand, be able to pursue their own agenda and, furthermore, get a job in the formal sector, where they earn a salary and are less dependent on others (Dandona, 2015). Even though this idea is certainly worth pursuing, especially on a policy level concerned with broadening women's opportunities in education and the job market, on the microlevel this might not be one of the most relevant topics for the individual. Women empowerment is a cross-cutting issue, and advances in one area might not translate to a general improvement of gender equality (Sen & Mukherjee, 2014). Even though a women might have gone to school, they can still be subject to domestic violence and patriarchal, traditional structures in society that force her to not pursue paid labour outside of the house. Next to these issues that broaden opportunities on the paper, societal structures need to change, and effort must be given into increasing the *power from within* and deconstructing internalized oppression.

In summary, it is context dependent what might work for empowerment. It is certain that dismantling societal norms, challenging institutions and creating new resources access patterns is crucial for women empowerment. How that can be achieved and how women can access different forms of power is dependent on the context. In the following chapter, the findings on women empowerment and DRM will be combined to shed some light on the role of women in DRM.

## 2.5 Women in DRM

This chapter will shed light on women's vulnerabilities and roles across the DRM cycle, before explaining the importance of women's inclusion into DRM.

### 2.5.1 Vulnerabilities during natural hazards

As has been established above already, vulnerability and resilience depend on different factors, such financial means, education, health, social network or discrimination (Birkmann, 2013; UNDRR, n.d.b.). This also means, that there are societal groups which are regarded to be more vulnerable or less resilient towards hazards than others. In many cases, women are considered as this vulnerable group. This is not based in a wrongdoing on their part, but on societal limitations placed on them. Existing inequalities, which were mentioned above in the chapter of women empowerment already, lead to women being more vulnerable in



disaster situations, since they are more likely to have limited physical abilities or are preconditioned to take care of others first before helping themselves. These are structural issues, which are caused by a structure of disempowerment and societal norms and expectations (Mangahas et al., 2018; Ruszczyk et al., 2020; Silva & Jayathilaka, 2014).

Women are, during disasters, disadvantaged on several levels. Structural issues prevent women from taking part in decision-making processes, which leads to them not having the necessary education and information on how to behave during a disaster or when a hazard is approaching. This puts especially women-led households at a higher risk. In the same vein goes the accessibility of resources: many women lack access to vital resources such as healthcare or finances before, but also during and after a hazard, which increases their vulnerability. Women's needs are often not met, especially when they differentiate from male needs (Roy & Mukherjee, 2024).

With the structural disadvantage of women also comes their perceived and attributed role in society: women are often the caregivers, looking after children and elderly. In disaster situations, they are often left behind to look after other vulnerable groups, which makes them more vulnerable in turn. It is often seen as their duty as women to look after others (Silva & Jayathilaka, 2014)

Next to structural issues, women are also disadvantaged on a physical level: women are usually physically weaker than men, which heightens their vulnerability. Furthermore, depending on the context, women lack certain abilities which could help in their survival, such as swimming or climbing. Often, clothing also restricts their movements, which increases their vulnerability, especially during events with sudden onset or water related hazards, such as flooding (Mangahas et al., 2018).

Post-hazard, gender-based violence often increases, which is a hinderance to women's empowerment and their participation in DRM tasks. Women are more often the ones who don't re-enter the labour force after a disaster or do it later than men and therefore miss out on income generating opportunities, they are also more often faced with unemployment in these situations. Girls are more often taken out of school post-disaster if school fees cannot be paid anymore, making them miss out on their education (The World Bank, 2021). Structural issues that increase women's vulnerability are apparent on several levels, from education to systemic inclusion and resource access. Social exclusion, in whatever way it happens, exacerbates the impact of disasters and limits access to participation (Rashid & Shafie, 2013). It must be noted that women's needs are still not met adequately in post-disaster situations. Hygiene products such as pads or tampons are rarely available, not available in the necessary quantities or stop to be distributed following a disaster, the same



goes for contraceptives like birth control pills. This situation puts an additional strain on women: They feel like the government or organizations that distribute relief goods are not interested in their situation. The risk of an unwanted pregnancy in an unsafe situation adds another burden (Reyes & Lu, 2016). It is furthermore reported that women face sexual abuse from male relief workers during the distribution of relief goods (Baten & Khan, 2010). Another issue is mental health: women reported that PTSD and lack of emotional support are a limitation to them after a disaster and that they would wish for more support in that regard (Tobi et al., 2023). While the diverging needs of women are becoming more widely recognized in recent years, especially strategic needs of women, such as a lack of violence against women or general women empowerment are rarely mentioned by practitioners in the field (Kaya et al., 2024).

On the other hand, it has to be acknowledged that women are not disadvantaged on every dimension: men have often a higher mortality rate, since they are working in more risk-prone professions, such as search and rescue, which influences male mortality rates during a disaster (The World Bank, 2021). This is reported to be correct for developed countries, in developing countries women often do have a higher mortality rate than men (Mangahas et al., 2018).

The way in which women can participate in DRM differs drastically based on the context. As discussed above, different societies place different freedoms and restrictions on women. While in some regions, it is not acceptable for women to talk to strangers without their husbands, this is accepted in other regions (Dhungel & Ojha, 2012). Sometimes, women have a high degree of authority inside of the house but are not allowed in decision-making spaces. All these different configurations lead to opportunities and restrictions for women and their involvement in DRM (Mangahas et al., 2018; Rusczyk et al., 2020). The typical approach in DRM literature and research has been for a long time, that women are victims, often without capabilities or agency. In other cases, they are conceptualized to be only following directions men give, which further reinforces the notion, that women do not have own agency (Hemachandra et al., 2018; Lee et al., 2022). This is not being said to indicate, that women have the same experience as men during disasters, because they clearly have not. Women face higher impacts and death rates due to disasters, they are at risk of being sexually abused in shelters and many women turn to sex work in order to provide for their family in the post-disaster phase (Lee et al., 2022). These are situations, most men will likely not face during or after a disaster. Nevertheless, it is a reductionist statement to say, that women don't have roles during hazard situations in their communities. These roles will be explored in the next chapter.



### 2.5.2 Role of women across the DRM cycle

In more recent research, women are understood as key stakeholders in DRM. They are carriers of local knowledge and contribute important information, skills, experiences and time to DRM efforts, but their contribution is often undervalued and not incorporated into risk management strategies (Tobi et al., 2023). They are said to often work in response and recovery in the post-disaster stage (Hemachandra et al., 2018). In this phase, it is reported that women take on tasks such as caring for elderly and injured family members, providing food for the family and keeping up hope or maintaining a positive outlook on the situation (Reyes & Lu, 2016). That women are especially active in this phase of the disaster is related to their assigned social role: reproductive work, such as caring for the family and household-related tasks are seen as “women’s work” in most societies, therefore they take on this work in the post-disaster phase as well (Reyes & Lu, 2016). This is reported in different studies across different regions and seems to be a common occurrence in disaster risk management (Karistie et al., 2023; Mangahas et al., 2018). Furthermore, while often not as actively involved in search and rescue missions, women are known to give suggestions and organize efforts in this phase, while also caring for rescued people, both physically and mentally. Their “rescue” can therefore be seen in a more holistic view (Dema Moreno et al., 2022). Women are sometimes seen as enabling recovery, especially by providing emotional support (Clissold et al., 2020). This shows, that women take on a higher burden post-disaster, which leads to lower economic opportunities for them, due to a higher workload (Dania & Inpin, 2021).

In other cases, it has been found that women are essential keepers of disaster memory: while often, typical patriarchal roles are established, where men are responsible in institutions outside of the home, e.g. in DRM institutions, boards and committees and women have their roles inside of the home, women are often those keeping the memory of disasters alive. They recall the events that happened, spread it over their social network and are usually those responsible for evacuating children and elderly, those people, who are at home with them (Saavedra et al., 2019). This furthermore relates to the reality that women often perceive disasters differently than men, due to societal norms or laws, which are applicable to them: examples of this are amongst others propriety laws and issues of exposing their own body, where women are held to different standards than men (Acuña et al., 2024; Samuels, 2016)

When speaking about the post-disaster phase, it is often noted that women are especially active during the response phase, but not necessarily when it comes to a window of opportunity to improve the community long-term, which can be seen during recovery or



mitigation. Women are often not included in this phase in crucial decision-making spaces. While they take on a heavy workload, organizing the community and investing time and effort into social cohesion, infrastructure is rebuilt without women participating much. This misses the opportunity to rebuild community infrastructure in a more secure and inclusive way, since women do have a different perspective on a city or neighbourhood than men (Thurairajah et al., 2008).

While women seem to be carrying workload in the post-disaster phase, different studies have found that in many contexts, they don't participate in mitigation and preparedness activities, also known as the pre-disaster phase. They often don't hold leadership positions in the community and don't participate in disaster-related decision-making (Karistie et al., 2023). They often lack necessary information and education in the pre-disaster phase (Mangahas et al., 2018) and don't know vital information, such as the location of shelters. Education is of vital importance in the pre-disaster phase, and many women don't seem to receive it in adequate amounts due to societal preconceptions and norms (Karistie et al., 2023). Other studies have found that, if supported by external organizations, women are willing and can effectively and efficiently manage resources and finances, even in circumstances where rigid gender roles are in place. Empowerment of women to take action are therefore proven to help include women more strongly in the disaster risk management cycle (Ruszczuk et al., 2020). Low women participation in this stage increases gender sensitivity overall and both men and women would benefit from higher participation of women in decision-making spaces, since it increases resilience (Silva & Jayathilaka, 2014).

In summary, women's participation, while highly dependent on the context, is often found to be focused on the post-disaster period. Here, their traditional role is often translated into a DRM context, where they execute typical tasks that are assigned to their role. Furthermore, they are often seen as organizers, care for the community and provide emotional support. Additionally, they are often more involved in a psychological sense, creating community cohesion and keeping up a positive atmosphere and establishing hopefulness. They are often less involved in mitigation and preparedness, where it is said that they often lack the necessary education to partake fully, or they are exempt from decision-making spaces due to their attributed role in society.

### 2.5.3 Importance of women inclusion

Finally, the question stands why it is important to include women in disaster risk management and in all stages of the DRM cycle. Women are usually well-organized in their social circles. In post-disaster situations, they reported that they could rely on their neighbours, friends and family for help in response and recovery (Reyes & Lu, 2016).



Women's groups have been found to be an integral part in different parts of the world in rebuilding their communities after a disaster. Furthermore, due to increased exchange amongst each other, women are able to respond quickly in the disaster preparedness phase, if they are educated correctly: they exchange and discuss information about upcoming hazards and can decide collectively when to evacuate, or help each other in keeping their families, including children and elderly, safe (Alam & Rahman, 2017). Women's contribution to disaster management is furthermore often neglected: especially in marginalized communities, women often organize everyday life in disaster situations, creating solutions and caring for the community by means of a strong social network (Acuña et al., 2024).

The high social capital many women exhibit seems to be an advantage to the whole community. What is necessary here is the distribution of information to women as well: they can only prepare and react when they have all the knowledge available to make an informed decision (Alam & Rahman, 2017). It was shown, that when women take on leadership roles in DRM, community resilience increases, independent from context. On the one hand, this is an opportunity and a benefit for the society. On the other hand, empowerment measures to increase women's participation and leadership reflects back on the women themselves and can improve their standing and overall empowerment in society, independent from DRM contexts (Alam & Rahman, 2017). Therefore, while increasing community resilience through the inclusion of women into various steps of the process, women's lives can be changed on different spheres: empowerment of women in the context of DRM can lead to them questioning existing norms and beliefs and change decision-making distribution in their households and which rights they have, both in and outside of their home. This education of women can also lead to men taking a stronger interest in women's rights as well (Aryal, 2014).

## 2.6 Own Approach

To conclude the discussed theory, this chapter aims at stating again which concepts will be applied moving forward to achieve the set objectives.

To achieve the objective 1, "Assess the role of women in the community", the definition of empowerment by Sen and Mukherjee will be applied: "Empowered women are not only able to access resources, or participate in politics and public life, but also enjoy bodily autonomy and integrity, and freedom from violence" (Sen & Mukherjee, 2014). Therefore, empowerment will be conceptualized moving forward as a multidimensional issue, where advances on several dimensions must be made, to achieve true empowerment. Related to this, the term of positive and negative peace will be applied to describe a situation, where



women might be free from violence and abuse, but don't possess true agency to shape their own life (Webel & Galtung, 2007). The ability to make choices about one's own life is an integral part of empowerment, while disempowerment is the lacking ability to make choices. Furthermore, the different spheres of power will be applied to contextualize the situations women face in the case study. The different powers are: *power over*, *power to*, *power with* and *power from within* (Kabeer, 2010; Rowlands, 1997). The role of women will be therefore assessed using the definition of empowerment which aims at being able to make decisions about their own lives and possessing agency. With the definition of power, it will be evaluated in which dimensions the women are empowered or possess power, e.g. they are self-aware of discriminatory patterns and fight for a structural change, which can be seen as *power from within*. The overall situation will be then translated into the concept of positive and negative peace, to understand if the realities women are living in can be considered as true empowerment in the sense of positive peace, or if it is more performative and superficial, where violence may be absent, but women are not free to make their own decisions.

For the second objective, the equation of Risk = Hazard x Exposure x Vulnerability will be applied (UNDRR, n.d.a.). This is used to understand, what risk the community has in terms of hazards, the actual exposure and the vulnerability of the community. The connection to actual DRM work will be done by using the DRM cycle, which consists of the 4 stages preparation, response, recovery and mitigation (ACOSS, n.d.; Boshier et al., 2021). For every step in the cycle, different tasks were established. With the help of the proposed cycle based on Schramm and Newman (Schramm & Newman, 1986), the DRM measures of the community will be reflected and then in a later step translated into a resilience measurement. While this cycle can be criticized as being too expert-centric, it delivers a valuable list of tasks, which gives a head start into assessing the degree of organization of DRM in the community.

In a next step, the resilience will be assessed, using the IPCC definition: "Resilience is defined as the ability of a system and its component parts to anticipate, absorb, accommodate, or recover from the effects of a potentially hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structures and functions" (IPCC, 2012). To measure the resilience of the community, the 4R model and the BRIC model will be overlapped to achieve a multidimensional view on resilience.

Objective 3, the impact women have on community resilience will be achieved by applying the theory, that women are usually seen in DRM theory as more vulnerable and less resilient



towards natural hazards, due to societal exclusion and patriarchal structures (Ruszczyk et al., 2020). Women do not have the same experience as men during disasters, but it must be established that in most cases, they are not mere victims but execute different tasks and have different capabilities and capacities, which makes them a valuable asset to the community. Based on this standpoint, the role of women during hazard situations in the community will be assessed. What roles do they execute right now, what tasks do they do? This will be assessed using the same task cycle as in Objective 2. This will be translated into contributions to resilience as well: what do these tasks mean for the community? How do the women contribute, but also, how does the treatment of women contribute to community resilience? It is known that violence and abuse have a detrimental effect on community resilience, therefore the treatment of women can be seen as a negative influence on resilience.

Objective 4 will then be the logical consequence of Objective 3. Using the theory of what women do in other contexts as well as using evidence collected during interviews, recommendations for further women inclusion will be proposed. Here, the focus will be on the one hand on achievability: do the women have time? What would that mean for other tasks they have? How can it contribute to their empowerment? It has been shown in literature, that further inclusion into DRM activities can have a positive influence on other spheres of women empowerment, e.g. *power from within* or *power to* (Aryal, 2014). This will be discussed here as well. Furthermore, the contribution to disaster resilience will be discussed: which gaps in community resilience could be closed by incorporating women more into DRM work in the community? Here, the theory used will circle back to objectives 1 and 2, where women empowerment and resilience in a disaster context were discussed

In Objective 5, the relationship between women empowerment and DRM will be explored further, circling back to the theory that, increased incorporation into DRM can broaden women's agency and empowerment overall, but also considering the other way around: empowering women might make them push into DRM decision-making spaces and influence them to pick up related tasks without specified interventions aimed at this goal.



### 3 Methodology

To achieve the set objectives, the following methods and methodology will be applied. This research is an explorative study, based in a mostly constructivist worldview with a mixed method approach.

The analysis of women empowerment and their impact on disaster risk management in Trinidad aims at understanding a certain context in depth, which makes it an explorative study. An explorative approach aims at understanding the living reality of people in a certain context. In this case, on the one hand, understanding the situation of the community in terms of their disaster resilience, on the other hand, the situation of women as well as their involvement in the disaster risk management cycle is the goal. This explorative approach will then allow for a synthesis of both sides, DRM and women empowerment, to assess strategies for further women empowerment and what that would mean for the community's DRM strategy (Creswell, 2009).

This approach results in the application of a mostly social constructivist worldview. This approach is based on the belief, that meaning, especially in social settings, is constructed. Furthermore, these meanings are subjective and varied, depending on the individual (Creswell, 2009). One example of a socially constructed meaning is, connected to the context observed here, the role of women. There is nothing "naturally given" about women's subordination to men, that they often execute the domestic, unpaid labour while men pursue paid labour outside of the house. Rules that only apply to women are socially constructed, based on factors like religion, moral views, cultural backgrounds, political ideologies or previous experiences. Interactions with others also forms these beliefs and norms held in society. Social constructivist research therefore aims at hearing a wide variety of opinions, usually asking open ended questions in order not to limit answers, from a variety of people. Furthermore, understanding the context, e.g. relationships between people, the historical and cultural setting, is important to gain a complex understanding of a situation. Therefore, constructivist research is usually associated with qualitative methods (Creswell, 2009). Especially in terms of women empowerment, social constructivism is the worldview chosen in this research, since empowerment and oppression and the reasoning for them are constructed concepts and cannot be assessed without understanding context and different realities.

Still, there is the issue of the disaster risk management system in the community, which is rather assessed by asking hard facts about responsibility, response systems and preparedness. Here, a certain degree of constructivism is to be expected, since it is a



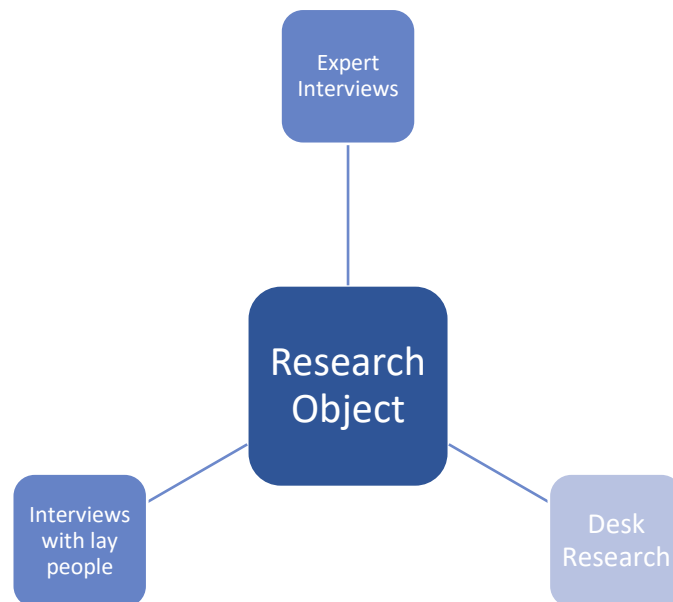
constructed system. Only asking open ended questions that focus on individual experiences might not be the sufficient research approach to reach understanding here. Therefore, a pragmatic worldview is applied partially as well. While the world is seen as socially constructed and meaning is given by the people and not intrinsically from the situation itself, this research will move forward using the best research methods available to come to a conclusion. This is seen as a pragmatic worldview, where the researcher is not committed to only using a certain methodology or set of methods, but rather focuses on the problem at hand and are free to choose what fits best in the situation at hand (Creswell, 2009).

This applied worldview leads to the use of a mixed method approach for the research. Mixed methods refers to the use of qualitative and quantitative methods in a research design (Kelle, 2022). It is furthermore related to the pragmatic worldview, since this approach is not connected to a either line of research, but uses whatever is needed to reach a conclusion towards the given problem (Creswell, 2009). Especially in the social sciences, mixed methods have been used for decades already, and especially in interviews they are applied regularly, for example when asking closed questions or questions which have a certain set of possible answers given, in style of a survey, as well as open questions, that ask about opinions or experiences. Mixed Methods are often used with the argument, that both qualitative and quantitative research methods have their strengths and weaknesses. When applied together, they can benefit off each other, substituting their weaknesses with the strengths of the other method and vice versa. Therefore, they are supposed to be used in a complimentary approach in the mixed methods design. Even though this idea is widely accepted, there is still no clear index or framework which methods exactly benefit from using them together to balance strengths and weaknesses and which combination only creates unreliable or contrary results (Kelle, 2022).

Mixed Methods can be used in various ways, for example concerning the methods used, as well as recording and data analysis. Usually, mixed methods refer to using qualitative and quantitative methods in data collection. For example, a survey and expert interviews are used. Furthermore, this can then be recorded using a mixed methods approach, so for example the answers are written down and recorded digitally, via video or audio recording (Kelle, 2022). Later, there are different analysis tactics: for example, quantitative code analysis can be used on qualitative data, for example counting the repetition of a certain word or theme in the recordings. This type of analysis, stating frequencies and numbers, is usually a quantitative analysis method, but can also be applied on qualitative data, where codes are rather given while sighting the material and can be used to find certain contents again, where in quantitative data analysis the rules are much stricter to begin with and a predetermined set of codes is the rule rather than the exception (Kelle, 2022). In this



research, especially interviews will be used in combination with desk research to gather statistical data and other information which cannot be gathered in interviews or informal conversations. This then represents a methodological triangulation, which aims at using different methods to eliminate blind spots concerning the research object (Flick, 2011). This can be imagined as followed in Figure 5:



*Figure 5: Visualization of method triangulation*

## 3.1 Data Collection Methods

The following section details the methods how data was collected during the field research period. Different types of interviews as well as sampling strategies will be discussed.

### 3.1.1 Semi-structured interviews

The status of women empowerment in the community will be mainly assessed using semi-structured interviews. Therefore, this method is mainly used to answer Objective 1. This type of interview aims at a half-open set up. The interviewer has a set of questions that can be answered openly by the respondent, not giving pre-defined answers or categories to answer. Furthermore, the interviewer can leave the interview structure and ask for elaborations on certain topics or issues brought up by the respondent. This structure helps to extract personal experiences or opinions, since there is no limitation given by pre-defined answers, where people might not fit in or hide their true emotions and experiences to fit in a category. The interviewees are encouraged to add to the questions themselves and can



bring up topics they feel are relevant in the context of the research topic (Flick et al., 1995). This type of interview is applied often in social science research and is therefore well established. It is also referred to as guideline-based interviews, since the researcher has a predefined guideline on how to conduct the interview. Here, the interviewer notes down questions that should be asked, explicit encouragement for the interviewee to share their experiences or predefined rules on how to behave during the interview situation. The guideline should be as open as possible and as narrow as necessary: the semi-structured interview aims at openness towards the subject, their reality and experiences. Still, the researcher always has a focus in mind since a research topic must be limited in certain ways. The guideline should reflect this focus while maintaining an openness towards the subject and their experiences, guiding them to topics of interest for the researcher and then letting them recount their opinions, ideas and circumstances (Helfferich, 2019). The guidelines used for this research can be found in the Annex. Since this is a mixed methods approach, the interviews will not only ask open questions, but also ask closed ones, where rather fact-like knowledge is asked about. Such questions could be “How old are you” or “Do you have children? If yes, how many?”.

The interview situation and the interviewer themselves is important in the discussion when talking about the reliability of the given answers. The interviewer themselves is one of the main variables that needs to be understood when conducting interviews and their role has for some time been neglected, since it is assumed that anyone can ask questions and receive an answer (Glantz & Michael, 2014). The influence which interviewers have on the participants are known as interviewer effects. There are several factors that indicate how much the interviewer affects the answers given by the participants and the divergence furthermore differs based on the type of questions that are asked. Especially sensitive or personal questions are prone to interviewer effects, where either participants don't feel comfortable enough to tell the truth, the question is too difficult or needs too much memory performance or the participants answer in a way that they expect will satisfy the interviewer (Glantz & Michael, 2014). The reliability of answers given in an interview can be controlled to a certain degree by the interviewer by controlling the situation to the best of their abilities. The interviewer has several visible and non-visible characteristics which influence the participants. Visible characteristics are, for example, age, gender, ethnicity and verbal behaviour during the interview (Reinecke, 2019). Non-visible characteristics can be things which emerge during the interview, for example extra- or introversion of the interviewer, their experience in conducting interviews or how they behave in the situation (Glantz & Michael, 2014). Additionally, there are influences which stem from the situation itself, for example if interviews are attended by other people than the interviewer and the participant.



Characteristics of the participant also play a role in the quality and reliability of answers which are given, e.g. do they want to participate, are they prone to give socially acceptable answers and are they able to speak openly with rather unknown people (Reinecke, 2019). To reduce interviewer effects, standardized behaviour is the best strategy to create reliable answers. What does that mean for this study? Since characteristics on side of the interviewer regarding age, gender, ethnicity, language abilities or personality cannot be changed, a strict interview guideline will be applied. This guideline, with predetermined rules, can be found in the Annex.

Experience regarding conducting interviews will inevitably grow while conducting the interviews, but this is a bias that cannot be avoided. The interview guideline will therefore help at creating similar conditions, even though the amount of experience will change over the data collection process. A self-reflection as well as limitations and ethical concerns will be discussed later in this chapter.

### 3.1.2 Sampling for semi-structured interviews

The sampling methods applied in this work are a mixture of convenience sampling and snowball or chain sampling (Gill, 2020). Since almost all contacts for this research were conceived through the connection to a local NGO (see: Ch. 4.2), the first approach was to ask the contact person, which local women might be interested or interesting to interview. Here, the focus was on women with different backgrounds and lifestyles, e.g. women who work outside of the home, women who are stay-at-home mothers and housewives, women with and without children. Through this, contacts to especially mothers were made, which wouldn't have been accessible without the connection via the NGO. The positive aspects of this approach are therefore that it is time- and cost efficient, convenient and that societal groups are reached that otherwise would not have been in contact with the field work. Especially women who have a home-centric life wouldn't have been reachable otherwise. Another positive aspect is the trust given to the interviewer when interviews are organized via the NGO: the women already know and trust the members of the NGO, and even though there is no real association between the researcher and the NGO in any way, the interviewed women see that the contact is considered to be trustworthy by a credible source. This makes it easier to conduct interviews with people who might be sceptical otherwise to even talk to people they don't know, let alone researchers from abroad whose intentions they don't know or don't fully understand. This is especially crucial since the participants are asked to talk about very personal aspects of their life, such as experiences with violence or their everyday home life. There needs to be a certain amount of trust between the



participants and the interviewer to facilitate an environment where truthful answers to these sensible topics can be given.

The negative aspect of this approach is, that the women interviewed through this approach are all pre-selected through the connection with the NGO. This does not mean that the NGO purposefully gave out connections which tend to lean a certain way. Rather, all women who are in contact with the NGO might be more aware of certain issues compared to the general public or the general population of women in Trinidad. Since educate, the NGO, gives out scholarships and furthers the education of children and young adults, the mothers are likely aware of the importance of education for their children, especially girls. This might have an impact on their opinions on gender equality, empowerment, gender roles and the distribution of workload at home. Therefore, it must be acknowledged that the opinions in the general population of women might differ in comparison to the women interviewed during the research period.

Another line of sampling during the research was, to ask women which were unrelated to the NGO if they are willing to participate in the study. All these women were met in everyday life in Trinidad, since they work in a public job, such as in a shop, a restaurant or another business which allows for easy contact. Some of these women then brought another person for an interview, for example a friend or a relative. This can therefore be described as an initial case of convenience sampling and then chain sampling, since the initial interviewee recommended another person (Gill, 2020). Here, it must be acknowledged that these women don't represent the average population as well. A lot of women in Honduras and Trinidad lead a rather home-based life and are therefore not accessible through their job in a public place (Personal Communication, A. McGrath, 30.05.2024). Furthermore, some of the interviewed women from this line of sampling can be considered entrepreneurs, since they own their own business. The recommended women then are usually people who share some kind of lifestyle or outlook on life, which can be reflected in their answers, especially concerning the topics of gender equality and gender roles. Women who own a business and provide for their family might have different experiences regarding workplace opportunities and gender roles compared to a woman who has been a mother and a housewife since a young age.

To conclude this sampling approach, it must be acknowledged that this research is not aimed at, nor able to, represent the general population. It is supposed to gather the opinions and living situations of different women in the community to assess how they can contribute to community resilience connected to disaster risk management tasks. It is clear that other



women have different daily schedules and different tasks and opinions, which might change their outlook on the topic at hand, which then might change the results of the study.

### 3.1.3 Expert interviews

This method will mainly be used to gain additional input on the status of women empowerment in the community as well as on the impact women have on community resilience in DRM, which means to answer especially objective 2 and 3, as well as to gather additional information for objective 1.

Expert interviews are usually conducted in the same way as a semi-structured interview, with a guideline and open questions that the participant will answer (Helfferich, 2019). The guideline for expert interviews can be found in the Annex. The difference to interviewing lay people is, that in interviewing them, the researcher aims to understand underlying mechanisms of what they study. The experts might have information that is not available to the general public or has a broader overview, without losing themselves in small details and they can connect different levels of analysis. While collecting data from experts is used regularly, there are still issues with this method: Experts are often chosen randomly and without consideration to their bias. Furthermore, documentation and analysis of the results is often incoherent and not explained well enough in research (Soest, 2023).

The question, who is an expert, can certainly be answered in various ways, but for this research, the answer will be that an expert is someone, who has specific knowledge about a situation, an event or an issue. This goes against the sometimes held notion, that an expert is part of the elite, since oftentimes, when conducting expert interviews, researchers interview other academics or highly educated professionals for their opinion (Soest, 2023). In the case of Trinidad, an expert can be, for example, someone working for a local NGO on the topic of women's rights in Honduras, or a person who is engaged in the local DRM team. Surely, politicians or academics are regarded as experts on certain topics as well, but a finished education or even a university education is, in this case, not seen as a necessary condition to be eligible for an expert interview.

The issue of the bias is another point that can be addressed here. While bias can be purposeful, e.g. an expert is misrepresenting a situation or an issue on purpose, other times problems such as public scrutiny or safety issues can stop experts from expressing their truth. Therefore, they can exhibit social desirability bias, and answer not in the way that they think will satisfy the interviewer, but is desirably in the social construct that they live in (Soest, 2023). This will be noted as an issue in the context of Honduras as well: both experts and lay people might not answer truthfully, since this could endanger their safety in a currently volatile and unpredictable social climate. Even though this bias can be somewhat



circumvented by applying experimental methods (Soest, 2023), it is not feasible to conduct these approaches in this research. The only countermeasures that can be taken in this situation is providing a safe interview situation and promising confidentiality and anonymity of the answers given. What this means for the reliability and validity of the research will be discussed in the Chapter Limitations.

### 3.1.4 Sampling for Expert Interviews

The sampling for expert interviews has been conducted much in the same way as for the semi-structured interviews with women. First contacts have been made to contacts via educate. Experts were searched for in two directions: experts in women empowerment and experts in disaster risk management, both in Honduras as well as in Trinidad and the department of Santa Barbara in particular. Contacts to members of the municipality, an NGO (CASM) as well as journalists have been made through convenience sampling through educate. Further contacts were then made through recommendations by the interviewees, who recommended other people, who were usually working professionals in the field of DRM or women empowerment. This is therefore another case of convenience and chain sampling (Gill, 2020).

The selection of experts through the same sampling methods exhibits the same benefits as well as faults. It is easy as well as time- and cost efficient to acquire contacts through the NGO network, furthermore a certain amount of trust is given, even though this is less of an issue during the expert interviews, since the context has a more professional atmosphere, and the participants do not need to talk about their personal life and experiences.

Similarly to interviews with lay people, expert interviews can contradict each other, and the term “expert” does not mean that people in the field do not have contradicting opinions or unaddressed biases (Soest, 2023). Furthermore, factors such as gender, age, ethnic background or religious beliefs might influence an expert’s opinion, just as these topics influence the answers given in terms of interviewer effects (Glantz & Michael, 2014). Especially women might have a different view on gender specific issues compared to men in a highly patriarchal society, which can be seen in some of the interviews conducted. list of experts can be found in the Annex.

### 3.1.5 Desk research

Desk research will be applied especially where numbers or statistical measurements are concerned, e.g. in describing the community or referencing to methods which promote women empowerment. Here, concepts found in literature will be referenced to propose pathways for stronger community disaster resilience, stronger women empowerment or



what a stronger involvement in DRM means for empowerment in the community. Therefore, especially Objective 4 and 5 are, on the one hand, based on the results from the previous chapters and therefore, the already described measures, but also on desk research, since additional input from research or institutions is needed.

Desk research was conducted to gather and analyse secondary data relevant to the role of women in disaster risk management (DRM) in Trinidad. This method involved a systematic review of existing literature, reports, and databases to provide an understanding of the research context and identify key themes related to gender, hazards, and DRM practices.

Data were sourced from diverse materials, including academic articles, municipal assessments, government and NGO reports, and statistical databases. Key sources included publications by the Municipalidad de Trinidad, UN Women, the World Bank, and relevant peer-reviewed studies. Keywords such as “gender and DRM”, “Women and DRM”, “Community disaster resilience” and searches about data for Trinidad guided the process across platforms like Scopus and institutional archives.

This approach was essential to contextualize the research, highlighting Trinidad’s hazard profile, gendered vulnerabilities, and existing DRM strategies. It also helped identify gaps in knowledge, shaping the focus on women’s contributions to resilience-building within the community. Collected data were categorized and analysed based on themes such as natural hazard exposure, gender inequality, and institutional challenges, providing a framework for subsequent fieldwork and analysis.

However, certain limitations were noted. The availability of updated and region-specific data was often constrained, and the reliance on secondary sources may have introduced biases or gaps. Furthermore, the municipality of Trinidad provided documents which were later analysed with other region-specific data. This could increase the likelihood of repeating what the municipality provides without critically checking if this is supported by other sources. These challenges were addressed by cross-referencing multiple sources to ensure reliability and comprehensiveness in the findings. Nevertheless, this was not possible in all cases, since many reference and data points were only provided by the municipality. Desk research served as a critical foundation for understanding the socio-environmental and gendered dynamics of DRM in Trinidad, informing the study’s broader analytical framework, but is not without its own problems, since not everything could be cross-checked by reliable sources.



## 3.2 Data Processing Methods

The following section describes, what methods were used for processing the collected data. First, the transcription process will be described before explaining the approach of qualitative content analysis following Philipp Mayring.

### 3.2.1 Transcription

The process of transcription refers to converting the audio or video taken during the interview into text format, which opens it up for further analysis. Here, the researcher is usually torn between writing the statements down as accurately as possible, to convey closely everything that was transmitted in the interview, including uncertainties, and the practicability of doing so, which might make the resulting texts harder to work with. The issue here is usually that verbal speech is never completely coherent. Participants might change the meaning of what they are saying with non-verbal behaviour, which is understood by the researcher, but when written down, only the text will convey a completely different meaning than what was said (Dresing & Pehl, 2015).

Even though it is certainly interesting, and sometimes necessary to transcribe things like intonation, facial expression, hand gestures or dialect, for this research it seems to not be of absolute necessity. For most research, a simple transcript is sufficient, and time constraints as well as hard readability of the emerging text might even make more detailed transcripts hindering to the research (Kuckartz & Rädiker, 2022). The transcription rules are listed in the Annex and are based on (Kuckartz & Rädiker, 2022) and Dresing & Pehl (2015)

The transcription will be done by first recording the interviews. Then, the files will be transcribed automatically. Corrections will be done afterwards by listening to the audio file again and making necessary changes to the transcript, where the automatic transcription failed.

### 3.2.2 Qualitative Content Analysis

For analysing the produced transcripts, a content analysis based on Mayring will be applied. This type of content analysis starts with determining rules and codes that will be used while going through the text. This aims at not going through it intuitively, but actually gathering information in pre-determined categories (Mayring & Fenzl, 2019). This allows a higher traceability and repeatability, which is important in this particular research, since other factors are already highly qualitative and interpretative.



### 3.2.2.1 Coding

For the coding, first categories and codes are created. This was done in a two-step model, which is recommended by Mayring: First, based on theoretical assumptions, categories for the coding are created. Then, while going through the text, this established system can still be changed, if other categories emerge from the text. This should still be done systematically, and not simply based on the impressions the researcher got during the interviews. Furthermore, the categories created are related to the theory discussed before and are not simply created from the text: there is a connection to previously done research (Mayring & Fenzl, 2019). The codes for this particular research were on the one hand based on theoretical research, on the other hand based on the structure of the interviews. An example can be seen in Figure 6, the full coding tree can be found in the Annex.

The raw data, consisting of transcriptions from interviews and supplemental materials, were reviewed multiple times to ensure familiarity. Initial coding categories were either derived deductively from the theoretical framework or inductively from the data itself. Following Mayring's step-by-step model, developed categories were developed through two primary approaches:

1. **Deductive Coding:** Categories were pre-defined based on theoretical concepts relevant to the study (e.g., empowerment, resilience).
2. **Inductive Coding:** Open coding allowed new themes and subcategories to emerge directly from the data (Mayring & Fenzl, 2019).

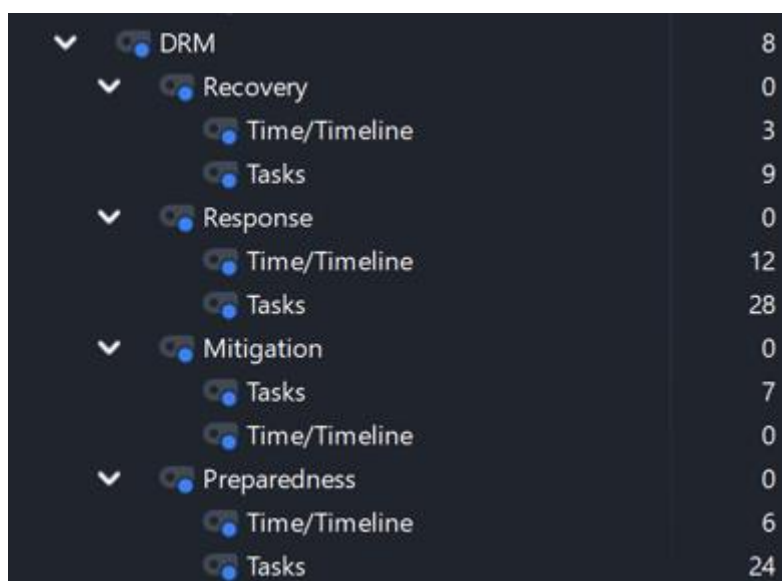


Figure 6: Example of Coding Tree



The codes were differentiated into different categories, which are explained in Table 4: Code Category Explanations:

*Table 4: Code Category Explanations*

<b>Code Category</b>	<b>Explanation</b>
<b>Disaster Memories</b>	What do people remember from disasters?
<b>General Information</b>	Information which could not be found by desk research, but was revealed during interviews: e.g. geography, population, infrastructure
<b>Women Empowerment</b>	Differentiated into sub-levels of empowerment: sociodemographic factors, discrimination, tasks, workload, capital forms, decision making, time schedules. These were then broken down into smaller parts as well (see: coding tree)
<b>Actors in DRM</b>	What actors are active in DRM in the community: Community groups, state, municipality, NGOs, Women. Women then broken down into capabilities, capacities and vulnerabilities
<b>DRM</b>	Differentiated into different DRM phases, all then broken down into tasks and timelines, to reach a thorough understanding of what happens during a disaster

One example of how the codes were applied in an interview can be seen in Figure 7: Coding Example below. A longer example of a transcribed interview and applied coding can be found in the Annex.



	26	P: Ah sí. Mhm nos levantamos bueno, yo me levanto 5:10 de la mañana alistó a mis niños y.
..Time Schedules	27	I: Temprano.
..Paid Labour	28	P: Sí. De 6 a 7 el desayuno aquí en la casa a las 7:00 de la mañana lo llevo a la escuela, yo me regreso a casa a trabajar con mi mamá en la casa. A las 12 ya sale de la escuela Fabricio y en la tarde aquí pasamos trabajando en la casa.
Child Rearing / Care	29	I: ¿Y Quién cuida a tu hijo? Es tu o en equipo o?
	30	P: Las 2 las 2, sí.
Child Rearing / Care	31	I: Okay entiendo ¿Tienes otros familiares de tu mamá y tu papá?
	32	P: Sí, sí, los hermanos de mi mamá. Unos están aquí en Trinidad y otros están fuera de Trinidad, la familia de mi papá. Hay 2 hermanos acá en Trinidad y los demás están fuera.
	33	I: ¿Ok y ayudas a ellos también un poco con, por ejemplo, tareas domésticas a veces o no?
	34	P: No, no, no es indicada que independent.
..Free Time	35	I: Mhm OKY, tienes a veces tiempo libre para hacer algo que te gustas o no?
..Other	36	P: Sí, sí podemos hacer tiempo libre, actividades en la escuela con mi niño. Apoyamos en la escuela.
Dependent Decisor	37	I: Okay Y ¿Quién tiene la última palabra en decisiones que afectan la familia? ¿Es en equipo o hay una persona que tiene la última palabra?
	38	P: ¿En equipo pero mi papá verdad mami?
	39	I: ¿Y eh, qué trabajas? Pues hablaba un poco sobre eso.
..Paid Labour	40	P: Sí, actualmente estoy aquí en la casa con mi mamá en la lavandería tenemos ventas de cosas que nos vienen de Estados Unidos, cosas ligeramente usadas aquí y tenemos una tienda de de ropa de de marca nueva.

Figure 7: Coding Example

### 3.2.2.2 Analysis

After coding has been completed, first a descriptive analysis was conducted (Mayring & Fenzl, 2019). For this, themes that were evident from the coding were summarized to draw a clear picture towards the set objectives, e.g. the situation of women in Trinidad or the actors that are active in DRM. During this procedure, the results were connected with the established theory: when the results from the case study matched the theory, this was noted. Furthermore, if they did not match, ideas about why this might be the case were given. This approach was chosen for its systematic and theory-guided approach to text interpretation, allowing for the identification of patterns, themes, and insights from qualitative data.

The coded data were summarized into thematic patterns that aligned with the research objectives. Connections were drawn between themes and existing theoretical frameworks, enabling a critical examination of how the findings supported or challenged these theories. Any deviations or unexpected results were noted and discussed.

To assess the role of women in the community, the different areas of women empowerment and their possible roles, which were structured in the interview process already, were



summarized into coherent statements about how the role of women in the community is right now. This was then connected with theoretical background, especially the concepts of power and positive and negative peace, based on Rowlands (1997) and Webel & Galtung (2007) respectively.

To assess the community resilience towards natural disasters, first the tasks based on Schramm & Newman (1986) were converted into a table and then actors were determined who, based on the interviews and supplied material, are responsible for this task. These results, combined with the assessment of the community, were then transferred into the resilience table which interlocks the BRIC and 4R models. This creates a result showcasing the resilience of the community towards natural hazards.

The biggest analysis task was then conducted by creating a table in which every DRM task based on Schramm & Newman (1986) is stated. Then, the expected roles of women and what they do, based on what was said in the interviews was noted down. Based on the mentioned theoretical background, the ideal role of women in this task was established. Then, the gap between what women do in Trinidad and what the ideal would be was noted. This created a possible analysis for understanding what the role of women is in the DRM cycle in Trinidad and consequently, what their influence on community resilience is.

The 4R and BRIC model was then used again to assess the resilience of women, where results from expert interviews, semi-structured interviews and desk research, as well as the results from the previously mentioned table were filled in, to assess the disaster resilience of women in the community.

This analysis provided the base for seeing across the DRM cycle, where women's work is focused and leaves a pathway for assessing potential further contribution of women, since it allows for an assessment of community resilience and the role of women in this field, showing areas of underdeveloped women's inclusion as well as areas where the community disaster resilience is found lacking.

### 3.3 Self-Reflection

When conducting interviews and face-to-face research, especially with the background of a constructivist worldview, it is important to reflect the own role as a researcher. As already discussed, the interviewer is the biggest variable in the interview situation and the participants react directly or indirectly to the way the interviewer carries themselves, to their way of asking questions, their appearance or personality.

Coming as a researcher from a European country to Central American, there are expected to be differences in terms of financial means, language, education, customs, religion and



ethnic background. A summary of these factors can be seen in Figure 8. These differences and what it means will be reflected in the following chapter.



*Figure 8: Components of Self-Reflection in the research context*

The most apparent difference is the language ability. The native languages of interviewer and participants will be different in every case encountered during the research. This means, that misunderstandings are likely to happen and that nuances might be lost in translation. Furthermore, it is possible not to grasp details or sentiments that are not communicated verbally, but in more of a culturally known background. This goes hand in hand with the knowledge about local customs, history, mannerisms and colloquial terms. The Honduran modern history is marked by gang violence, and this is, for example, a normal situation for Hondurans. Connected circumstances might seem evident for the locals but are unknown to the researcher. This can lead to misunderstanding situations or what is meant by certain statements. The general differences in background knowledge might translate to misinterpretations of interview material further on during the research.

Connected to customs is the religious background. Honduras as well as the case study area are very religious, and the church plays a big part in everyday life. People regularly state religious sentiments. Not sharing this religious background might offend people or lead to irritations.

In many cases, there will be a difference in financial capital. Honduras is one of the poorest countries in the region and many people do not have the means to fly to Europe for conducting scientific research. Even considering that there is a variance in financial capital available to people in Honduras, meaning that not everyone is living in poverty, there is a



large probability that there will be encounters with people who are struggling financially while others live a very comfortable life. Especially in cases where interviews are conducted with people who live in dire situations financially, the apparent difference in resources available might lead to a power imbalance in the interview.

The topic of education is another issue during the research period: many Hondurans don't complete their education and go to school until the fourth or sixth grade, which translates into a basic education. There are adults who cannot read or write. These people are unfamiliar with scientific terms and sometimes the idea of interviews as part of research, which means that they don't fully understand why someone from Europe wants to talk to them about their everyday life. On the other hand, the researcher is university educated, which translates into a familiarity of handling scientific terms. Here, it is important that the researcher translates the situation for the participants: there cannot be a use of difficult language or scientific terms and graphics. All questions asked must be translated into the living situation of the participants. If this is not done, the researcher risks creating a gap of knowledge between themselves and the interviewees: they don't understand what is being asked and might either not respond or respond how they think they should, trying to reach a semblance of social desirability. This is not the aim of the research; therefore, the researcher has to bridge the gap in education by connecting to the participants' living reality.

Combined with the differences in education, there might be an issue of internalized racism combined with epistemic injustice experienced during the research. Epistemic injustice or racism describes that white or western knowledge is perceived as superior to research or knowledge done or consolidated by people of colour and indigenous people. This dates back to colonial times, where colonizers upheld their power by constructing a world view where local customs and knowledge was seen as inferior to European theories and ideas. This goes hand in hand with a Eurocentric world view still upheld today, for example in development cooperation (Koch, 2021). On the one hand, this requires thorough self-reflection and unlearning of internalized racist ideas from the researcher. Detaching from own ideals and scepticism when confronted with local knowledge and beliefs is necessary to open an honest conversation about different realities and circumstances. The researcher must acknowledge that in this situation, they are not the expert, but the local people are. They know about their own lives, how things are done best in these situations and what experiences they have made. Without stepping back and listening to what the other party has to say, nothing but a reproduction of own beliefs can come from this research.

On the other hand, it has to be acknowledged, that racism is also something internalized by the oppressed, where ideologies from the oppressor are supported by the oppressed



(Bivens, 1995). This means, that concerning internalized epistemic injustice can lead to the local assumption, that everything the researcher says is more valuable than locally produced knowledge. In interviews it is therefore crucial to show, that the researcher is interested in the opinions and knowledge of the participant and that they can be contradicted. There were instances during the research, where for example news outlets were more interested in the opinion of the researcher than of those working in the field locally, who are experts in the topic. In these instances, it is important to showcase local work and that the people there know more about the topic than the researcher. The same sentiment should then be applied to interviews: a researcher, in this case, is there to learn from others, not reproduce own ideas in a new context. For the validity of the work, this is an important element which must be communicated during the interviews.

To conclude this self-reflection, it is important that the researcher is mindful of the apparent or perceived differences in language, customs and cultural background, religion, financial capital, education and internalized racist thought patterns and societal structures, on both sides. Without the bridging and translating abilities of the researcher, meaning will be lost and unoriginal thoughts and ideas will simply be reproduced in a different environment, without listening to life experiences of others.

### 3.4 Limitations

First and foremost, it must be stated clearly that this research is not able to represent any sort of general population. The number of interviews is not sufficient to draw conclusions on how all women are incorporated into DRM work. It is not enough to draw statistical conclusions about Trinidad and how the general status of women empowerment or women inclusion into DRM is conducted in the community. This work does not allow for a generalization: findings are, if at all, applicable to Trinidad. Other regions in Honduras might have different settings, gender roles, DRM structures or other influential factors, which lead to a different outcome. Furthermore, even in Trinidad, only a small number of people was interviewed. It is possible that, with a different set of participants, the results would look different. Therefore, the results presented here are shining a spotlight on the situation in Trinidad, which does not incorporate every possible aspect.

Furthermore, the methods used in combinations with what was already discussed in the self-reflection is prone to inaccuracies due to different social backgrounds, lack of mutual understanding as well as different biases, for example social desirability bias or a fear for a lack of confidentiality and anonymity in a difficult social and political climate. Before this background, a gender sensitivity must be acknowledged: it is possible that women were not able to openly share their feelings or experiences, due to the fear of being judged,



misrepresented or for fear of others hearing what they said and experiencing repercussions for it. It was stated multiple times in the preparation for the research that in Trinidad, everyone knows everyone, and nothing stays a secret (A. McGrath, personal communication, 30.05.2024). Therefore, especially women, but also experts, might have been apprehensive to fully share about sensitive situations, e.g. the treatment and role of women in the community or failing structures in the DRM sector.

Access to stakeholders was another problem that should be addressed here: there were situations, where responsible stakeholders did not respond to interview invitations or did not want to give an interview. This is obviously completely within their right but shows a limitation of this research in terms of stakeholder quality and sampling. Additionally, some connections were no longer useable after the interview, due to inappropriate behaviour from side of the participant. Therefore, some stakeholders, such as responsible personnel from COPECO, or women's groups leaders, could not be contacted during this research. Other participants presumably did not feel comfortable in the situation of being interviewed by a stranger, especially by someone not from Honduras, and therefore declined the interview. It must be considered that this research has a limited scope due to the access one is given as a foreigner into a local context.

Another issue is the timescale of the field research combined with the hazard situation in Trinidad: while the municipality certainly has a row of plans, institutions and mechanisms when it comes to DRM, during this research no actual hazard was experienced in the community. Therefore, it is possible that, while in theory these plans and precautions exist, in a hazard situation, the planification does not work, or things work quite differently than expected or previously planned. This is something which cannot be assessed in the research due to a lack of data availability concerning this topic. Statements by officials and corresponding documents therefore must be taken at face value, since they cannot be reasonably contradicted or confirmed.

Concerning the tools and methods used, several of them are prone to inaccuracies and potentially being too soft for good recreation. For one, the approach used based on Schramm and Newman (1986) can almost be described as a technocratic approach. It focuses on professional actors, not on tasks the community does. Furthermore, the pre-defined categories give a rigidity that is hindering to assessing where the community focuses their tasks and what they deem valuable. It does not cover tasks which are more on an emotional, or care-giving side. While, for example, the cycle simply issues the task "shelter", what happens there can be crucial for the community and have many dimensions, ranging from a safe space where people can find support and a sense of belonging, to an



unsafe experience, where especially women are subject to violence and abuse. This is not a differentiation that the authors make, which leads to this approach being more like a checklist, without consideration to the quality or expression these tasks need, and what the outcome would mean for the population.

The self-created framework for assessing the community resilience has its weak points in that sense, that it can be too broad what contents to fill in. While this research is focused on specific aspects, other researchers might investigate other directions and find meaning in different contexts or areas. This would mean, that the result here cannot be recreated and validity is lost. Here, the focus was especially on social capital, community competence and to a degree on human capital. Issues like economics or ecological concerns have only been touched upon briefly, which leads to the fact, that mechanisms located on different dimensions might not have been uncovered. Here, it would in the future be preferable to use a more rigid system, where, while still being qualitative, a numbering system is used to evaluate how well the community does in a certain area, and what that then can mean for resilience as a whole.

The risk assessment for the community is held very short in this research, which can be seen as a limitation or a shortcoming. Due to recent and historic events, it is seen as evident that the community is at risk of being affected by consequent hazards. This is an assessment which can be seen as too little of an analysis and which could be explored deeper in consequent research. Here, the focus is more on community organization and women empowerment, therefore, this assessment is seen as sufficient for the moment.

Ultimately, this research is supposed to start a discussion about the local inclusion of women into disaster risk management practices and how this can influence local resilience. While the data might not be representative, the analysis is still relevant for the situation at hand to assess what is happening right now, what the opinion of different stakeholders is and open pathways to a future that holds more empowerment for women as well as a higher community disaster resilience.



## 4 Case Study Region

The following chapter will investigate the case study area, first focusing on Honduras as a whole, including history, politics, economy and social factors. Following that, Trinidad as the case study area will be assessed, focusing on population, education, economy, housing, and violence and crime, before analysing the risk in terms of natural hazards the community is in. This refers back to the established theory regarding risk, based on exposure, vulnerability and hazard (UNDRR, n.d.a.)

### 4.1 Honduras

Honduras is a central American country, located between Guatemala, Nicaragua and El Salvador. It borders both the Caribbean and the Pacific. The country's geographical location can be seen in Figure 9. The climate is mostly tropical in the lowlands and at the coast and temperate in higher altitudes, which stretch over the central area of Honduras (CIA, 2024). In 2022, the country had 10.4 million inhabitants (The World Bank, 2022).

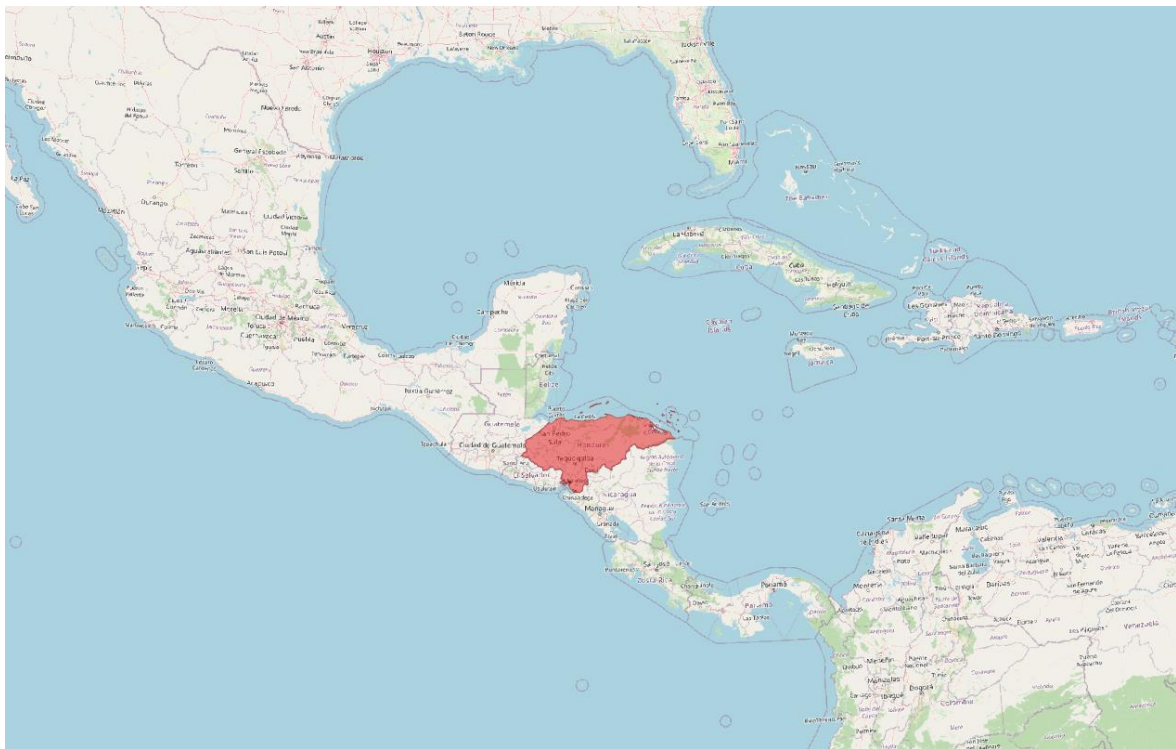


Figure 9: Map of Honduras in Central America, own creation

According to the UN, nearly 60% of the population lives in poverty and 3.2 million people are in need of humanitarian intervention due to low purchasing power, exacerbated by the war in Ukraine, high rates of violence or crime and natural hazards, such as storms or draughts (OCHA, n.d.). Honduras is one of the poorest countries in the region and has



furthermore one of the world's highest rates of homicide (CIA, 2024). The country shows low protection of human rights, visible especially in the judicial institutions and the access to a fair trial, violence through police forces, corruption, low protection of economic and social rights as well as the rights of women, indigenous people and the LGBTQ+ community (UN Human Rights Council, 2024).

Historically, the country has a history of violence and dictatorship. A former Spanish colony, Honduras became independent in 1821 (CIA, 2024). A military dictatorship took over power in 1963 for almost 20 years, fragmenting social movements and marginalizing opposing political ideas (Salomón, 2012). At the beginning of the 1980s, the first National Assembly was elected, and a new constitution was presented in 1982. In the following years Honduras tried to consolidate the state and work on issues such as poverty and violence, which worsened over time. In 2009, another military coup overthrew president Manuel Zelaya (Salomón, 2012). With that, the reign of Juan Orlando Hernández began, a member of the Partido Nacional. This led to a rise in corruption and drug traffic and the state relinquished sovereignty in certain zones of the country. The coup was met with protests from the public, which found itself unable to exercise their rights or seek justice after living in a democracy since the 1980s. (Ross, 2022; Salomón, 2012). In 2022, a member of the opposing party surprisingly won the elections, the wife of former president Zelaya, Xiomara Castro Sarmiento of the party Libertad y Refundación. While the election of Castro was met with enthusiasm, the current opinion of the public concerning the government is deteriorating with time in office. 32.1% of Hondurans state, that their image of Xiomara Castro has declined in her second year in office and 43% state, that they think her management is bad or very bad, with only 24.9% saying that it is good or very good. Furthermore, the belief that the government is acting and managing the country transparently is very low, with only 8% stating that they believe the government is very transparent and 69.1% stating, that the government is not at all or very little transparent (ERIC-SJ, 2024).

Even after the end of the military dictatorship and the election of Castro, violence, crime, and drug trafficking are still a prevalent problem in Honduras. Gang violence is especially in urban areas a problem, where gangs gain territorial control (Human Rights Watch, 2022). Especially Barrio 18 and Mara Salvatrucha (MS-13) are responsible for the majority of the violence exercised by gangs and are involved in drug trafficking. They mainly operate in the bigger cities, such as San Pedro Sula and Tegucigalpa (McGrath, 2024). Meanwhile, the police is not a trusted institution in Honduras: They have been known to partake in criminal activities, drug trafficking, passing on information and general neglect of their duties, such as inspection of shipped goods to combat drug trafficking (InsightCrime, 2021). Furthermore, the prevalence of violence has been escalated by the policies aimed at



counteracting the influence of the gangs in Honduras (McGrath, 2024). To combat the violence and gang crimes in Honduras, the state of emergency has been declared in December of 2022 (Auswärtiges Amt, 2024). Meanwhile the public opinion is that crime and homicide rates have not declined in the time since (ERIC-SJ, 2024). This situation neatly ties into the already discussed notion of peace; even if there is no outright war in Honduras, many people live in insecure circumstances, cannot exercise their rights freely and violence and crime are part of everyday life. Therefore, even unconnected to women's rights, it can be argued that all of Honduras lives in at least a negative peace, where everyday tasks are possible, but are highly influenced by the political, social and economic situation in the country.

Economically, the pandemic in 2020 and the impact of the hurricanes Eta and Iota in the same year, had a massive influence on Honduras, with more people sliding into poverty. Recovery is still ongoing from these combined events (El Banco Mundial, n.d.). This is also reflected in the public opinions, that the government's main challenges and their priorities are and should lie with recovering the economy and creating jobs. The economic situation is, despite the economic growth, seen as bad or very bad, with 76.7% stating one of these opinions. This, combined with the fear of violence is the main reason why 42.9% of Hondurans state, that they would like to or thought about leaving their country (ERIC-SJ, 2024). The economy mainly relies on agriculture, with the biggest export goods being banana and coffee (CIA, 2024). The agriculture is regularly disrupted by natural hazards. It is highly exposed to climate related hazards, for example tropical storms, floods and landslides. Especially the rural population relies on agriculture for rainfed agriculture and is therefore heavily impacted by floods and draughts. Compared worldwide, Honduras ranks on 9<sup>th</sup> place for the mortality risk due to exposure to two or more hazards and ranks on place 24 for highest economic losses due to exposure to two or more hazards (GFDRR & The World Bank, 2010). The geographical location in a seismically active zone, combined with tropical rainfall makes the country, as the whole central American region, susceptible to multiple hazards (Quesada-Román & Campos-Durán, 2023). The highest risk stems from tropical storms and hurricanes, which then lead to landslides and flooding. This risk weighs much higher than those for earthquakes (GFDRR & The World Bank, 2010; World Bank Group, 2016). In the region, Honduras exhibits one of the highest number of deaths and injuries as well as houses damaged or destroyed by natural disasters, which corresponds to the high poverty rates in the country as well as the dependence on agriculture as a source of income (Quesada-Román & Campos-Durán, 2023).

One example of the tremendous impact natural hazards have on the Honduran society is Hurricane Mitch, which destroyed 70% of the countries crops in 1998, causing a heavy



setback in the country's development and over 10.000 deaths (World Bank Group, n.d.). This opened a debate about social exclusion as well as lack of access to political power in Honduras, because losses were mainly associated with poverty. Many of the elites in the country had accumulated significant land portions, which led to other societal groups pushed to hazardous zones. This came to show during Hurricane Mitch (Lavell & López-Marrero, 2013). Currently, Honduras is affected by El Nino, which leads to historically low levels of rainfall. The dry corridor of Honduras is especially noticing this lack of rainfall as well as the occasional flooding due to the phenomenon, and food insecurity has risen dramatically. The local grain production had to be supplemented by imported grain due to low water availability (World Food Programme, 2024). Next to regular flooding and hurricanes, Honduras is currently struggling with a dengue fever outbreak that is considered endemic. The situation is worsened due to low capacity in dealing with the outbreak and the vector in some departments (IFRC, 2023).

Concerning women empowerment, even though gender equality has improved in recent years in Honduras, women still face challenges in terms of empowerment: adolescent pregnancies and marriages are still high, 7.2% of women between 15 and 49 were subject to physical or sexual violence by a partner in the last year and only around 21% of parliament seats are held by women. Furthermore, data gaps prohibit an in-depth analysis of the situation (UN Women, n.d.b.). Violence against women is very prevalent in Honduras, the majority being psychological violence, making up almost 50% in the assessed cases (IRC, 2024). While the high crime rate in Honduras affects both men and women, women are often less protected from the law. Honduras has ratified international as well as national agreements on domestic violence, rape and femicides, but due to corruption in the police and the judicial system, persecution is often not possible, and members of these institutions have been reported to partake in these crimes. Women are often blamed for the crimes, which is a mentality that translates from society to police and further on to courts and the judicial system (Menjívar & Walsh, 2017). The prevalence of violence against women is also related to unwanted pregnancies: Abortions are illegal in Honduras without exception, which leads to unsafe abortions that put the woman's life in danger. Carrying an unwanted pregnancy to term has adverse health impacts both for the woman as well as for the child (Sebert Kuhlmann et al., 2019). The prevalence in intimate as well as public violence and a prohibition of abortions under every circumstance can be seen as a hinderance to women's empowerment in Honduras. Meanwhile, internalized misogyny is common in Honduran society as well: while 85.6% of people state, that femicides have increased in the recent years, it is stated as well that it was the fault of the women that they died (10.9%) and that they were killed because they were walking in the street (10.3%) (ERIC-SJ, 2024). This



reflects on a deep stigmatization of violence and sexual abuse against women, which can often lead to negative outcomes in terms of mental health (Kennedy & Prock, 2018). This situation can be seen as another proof for women living in a state of, at least, negative peace, if not conflicted, after (Webel & Galtung, 2007).

## 4.2 Trinidad

The specific case study region is the municipality of Trinidad in the department of Santa Barbara, located in the west of Honduras, here seen in

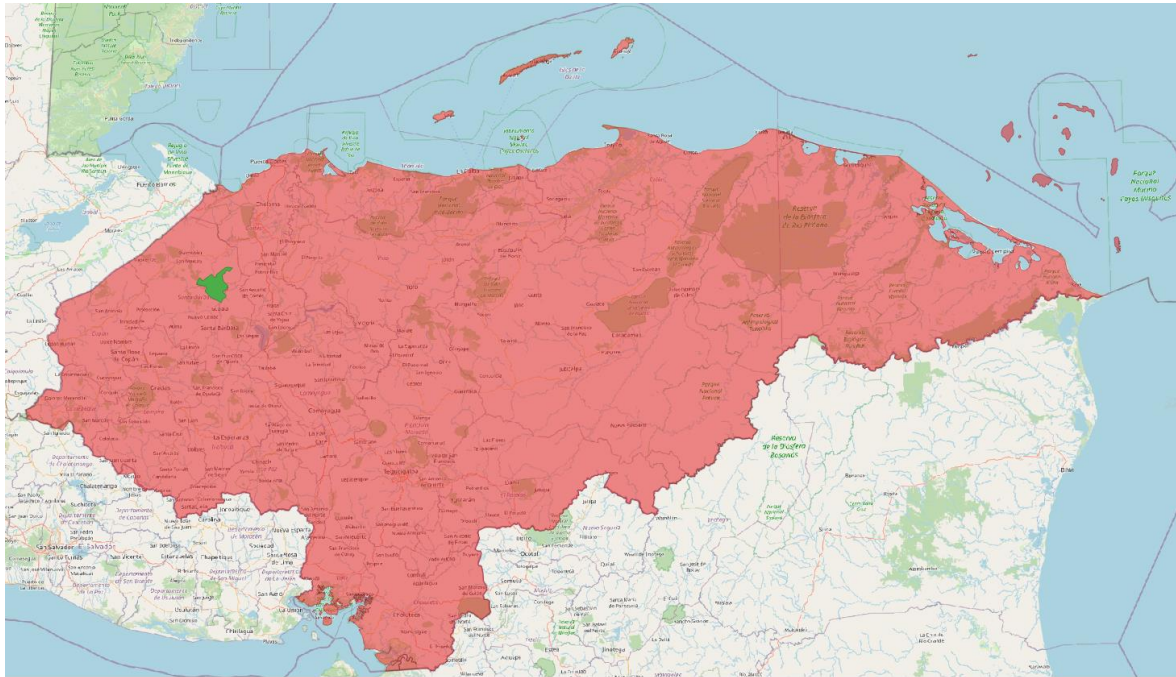


Figure 10. This case study area has been chosen through a personal connection: there is a local NGO, “educate”, which provides scholarships to students to continue their education, whose founder is an acquaintance. Trinidad has been chosen as the case study area due



to ease of access to contacts and security reasons, since the NGO can assure safety better in places they know well and where researchers are seen as an extension of the NGO.

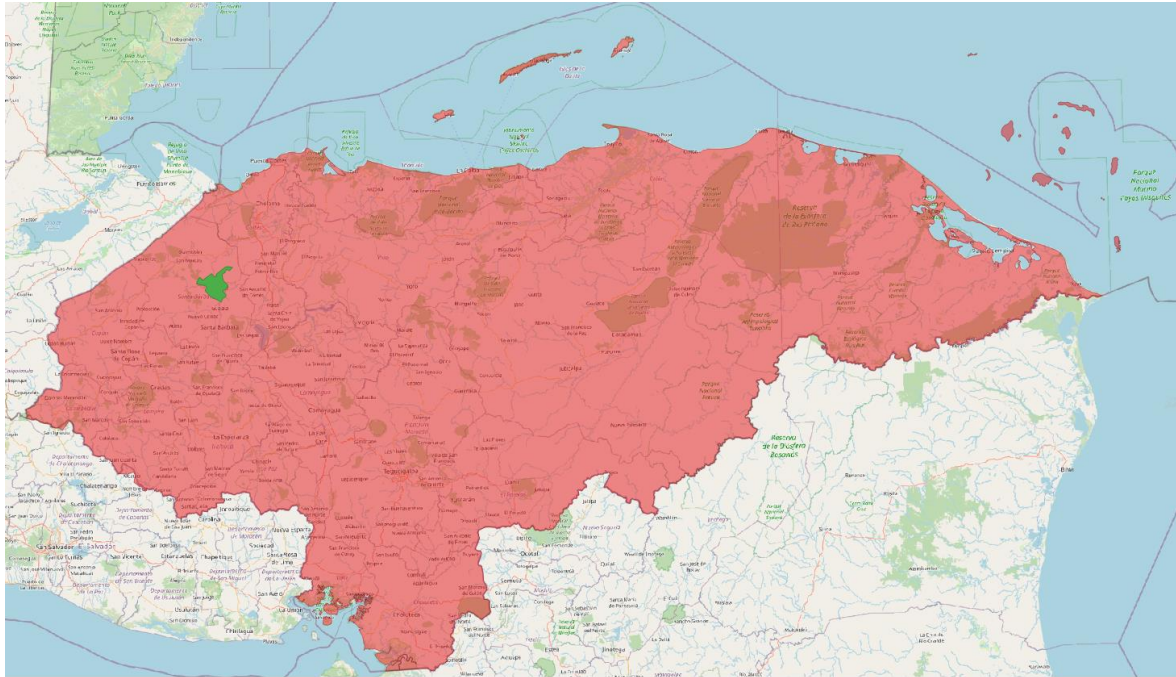


Figure 10: Location of the municipality of Trinidad in Honduras

#### 4.2.1 Population

The municipality exists since the 17<sup>th</sup> century, gaining municipal status in 1794 and the city status in 1926. In 2024, the municipality, which includes the city of Trinidad, but also smaller villages, such as Chinda, Ilima or Colinas, had 16.864 inhabitants. Of that population, 8.247 are women and 8.617 men, which translates into a split of 48.9% to 51.1% (Municipalidad de Trinidad, 2024). The population pyramid looks as seen in Figure 11. Since the provided data is distributed in uneven age intervals, the graphic does not seem to exhibit the



characteristics of a particularly old or young demographic. Still, it can be seen that there are many kids aged 7 to 12 and many middle-aged people, from 30 to 40.

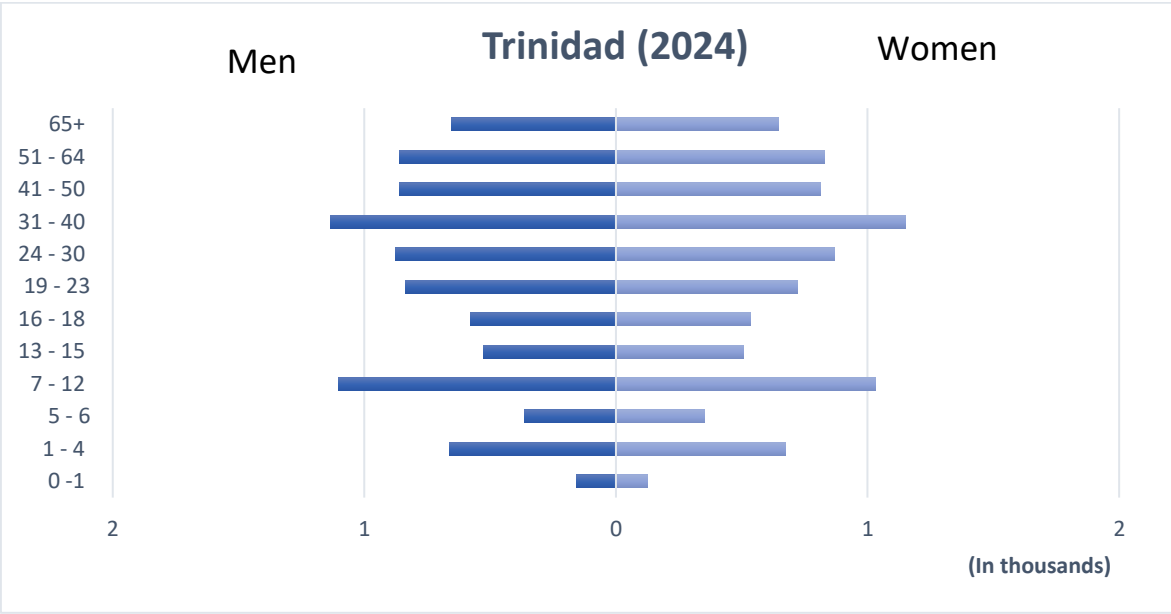


Figure 11: Population Pyramid Trinidad, based on Municipalidad de Trinidad, 2024.

Migration to and from the community is relatively low. 5.34% of the population have lived elsewhere in the country in the last 5 years, and only 0.16% have lived outside of Honduras in the last 5 years (Instituto Nacional de Estadística [INE], 2018).

The people in Trinidad are usually either Catholics or protestants. Trinidad as well as Honduras in general has a large number of evangelical churches, such as Jehovas Witnesses and the Mormon Church. The main part of the population is of originally Spanish descent, but there is a group of indigenous people as well, called the Lenca (Municipalidad de Trinidad, 2024).

### 4.2.2 Education

In a study from 2021, it is reported that 89.1% of women and 86.2% of men are alphabetized in the department of Santa Barbara (Instituto Nacional de Estadística & Secretaria de Salud de Honduras, 2021). In Trinidad 54.2% of the population has a basic education, while 23.8% have no education. 1.8% have a university education (INE, 2018). In personal communication it has been mentioned several times that most children at least complete their basic education until the fourth or sixth grade. After that, many children drop out of school and don't continue secondary school. This is usually based on the fact that the children need to earn money to contribute to the family household, or because the



secondary school is too far away and the daily transportation to go there is too expensive for many households. Another reason is the high rate of teen pregnancies, which affects especially the education of girls and young women. With them starting a family of their own, they need to provide for their children and usually take on domestic tasks as well, such as cooking, cleaning and other household chores. In this situation, they need additional support, both financially and in the practical sense of taking over responsibility for the children, if they want to continue their education (Personal communication A. McGrath, 01.06.2024; N. Fajardo, 14.06.2024). The issue of most children not receiving more than a basic education due to financial constraints is acknowledged by the municipality as well (Municipalidad de Trinidad, 2024).

### 4.2.3 Economic Activities

Since the community is rather rural, the main economic activities in Trinidad are agriculture, cattle farming, silviculture, and fishing, which 39.6% of the population partake in, followed by industrial manufacturing with 26% (INE, 2018). The main agricultural produce consists of coffee, corn, beans as well as fruit and vegetables in smaller amounts. Furthermore, Trinidad is known for their shoemaking craftsmanship. In the city of Trinidad, there is a rather large branch of employment provided by shops and service distributors, such as banks, cafes, restaurants, medical facilities, hotels and stores for clothes, electronics, furniture or groceries (Municipalidad de Trinidad, 2024). This provides a diversification of the economic sector, which increases resilience during a crisis. This only seems to be true in Trinidad itself: in other parts of the municipality there is much less of an economic centre, e.g. in Ilima or Chinda, which has no facilities such as banks or restaurants, but usually only small shops for dry goods.



#### 4.2.4 Housing and Infrastructure



Picture 1: Highway Intersection Trinidad



Picture 2: Sports Field Trinidad

Electricity access is provided by public service in 88.06 % of households in Trinidad (Municipalidad de Trinidad, 2024) which is slightly below the electricity access in the department, which is 91.9% (Instituto Nacional de Estadística & Secretaria de Salud de Honduras, 2021). Energy for cooking is firewood in 63.91 % of households, followed by gas in 28.37 % of households (Municipalidad de Trinidad, 2024). Around 60% of households in the municipality are connected to a local plumbing system, while running water is available in all households, the water is supplied by 3 local springs (Municipalidad de Trinidad, 2024).

Many households lack capital forms to improve their living situation, which is reflected in the assessment of housing: 8.17% of houses don't have a bathroom and only 38.97% of houses are in good condition, which refers to a place of living that has no structural issues and are safe to live in (Municipalidad de Trinidad, 2024). In the case of a natural hazard, this leads to many people displaying an increased degree of vulnerability, where houses could be destroyed more easily.

The city is connected to the Carretera del Norte, which connects Tegucigalpa to San Pedro Sula (Municipalidad de Trinidad,

2024). The bus stop at the highway can be seen in Picture 1, while Picture 2 shows the new sports field in Trinidad. Further impressions can be seen in Picture 4 and Picture 3.





*Picture 4: Side Road*



*Picture 3: Main Road*

#### 4.2.5 Violence and Crime

In terms of violence, Santa Barbara and Trinidad are considered safe. The reason for this is, that the department is under heavy control of a single gang. This territorial claim is not disputed and crimes committed are prosecuted by the gang members, which usually has drastic consequences for the culprits (A. McGrath, personal communication, 30.05.2024). This situation is reflected by low crime rates in the Santa Barbara department, which are always below the national average. In addition to that, 20.9% of women state that they feel very safe and 47.7% that they feel safe walking outside alone at night. In men, the number is higher and in total 86.4% state, that they feel safe or very safe alone at night (Instituto Nacional de Estadística & Secretaria de Salud de Honduras, 2021).

#### 4.2.6 Natural Hazards

The municipality is a multi-hazard location, with a high likelihood of wildfires, landslides, and urban floods and a medium-high likelihood of extreme heat and earthquakes (GFDRR, n.d.). In recent years, heavy rainfalls have led to flooding, landslides, and destruction of infrastructure in Santa Barbara (Núñez, 2022). The department is the one with the heaviest infrastructure damage from rain in all of Honduras (Ramirez, 2022). Furthermore, the region is susceptible to hurricanes: Santa Barbara has been hit by both Eta and Iota, tropical storms of the categories 4 and 5 only weeks apart in 2020. This impacted the community



heavily, destroying homes, schools, health facilities, and contaminating drinking water (Mahtani, 2021). According to the municipality of Trinidad, especially the urban area of Trinidad is at risk for flooding. They list, that next to a number of houses, a school, a church, a football field and the local water distribution system is vulnerable to flooding. All in all, approximately 240 households would be affected in a case of urban flooding in Trinidad. This assessment has been conducted based on hydrological models for flooding. When applying a structural vulnerability index, which takes into account the integrity of houses in the municipality, 2 out of 10 households would be vulnerable to flooding (Municipalidad de Trinidad, 2024). Furthermore, landslides are another hazard in Trinidad. Since the municipality is rather mountainous with steep inclines in several places, many areas have a high or medium vulnerability to landslides. Reasons for the vulnerability are usually that either buildings are built on steep slopes made out of loose material or that water is eroding the slopes and buildings are in the path of a potential landslide further down the slope. The analysis reveals that only in the centre of Trinidad 355 houses are susceptible to landslides. Furthermore, other institutions such as businesses, health centres or important infrastructure is at risk in the event of a landslide (Municipalidad de Trinidad, 2024).

Moving forward in the research, the following factors will be applied in terms of disaster risk:

- Hazard: the community is mainly affected by hurricanes, flooding and landslides, as stated by their own assessment (Municipalidad de Trinidad, 2024). They are furthermore at risk from dengue and COVID-19, which will not be considered moving forward, as they are not seen as natural hazards.
- Exposure: the community is regularly affected especially by hurricanes and heavy rainfalls, which then lead to flooding and landslides. They are therefore exposed to these hazards.
- Vulnerability: While the vulnerability or rather, the other side of this concept, resilience will be assessed later, it can be said already that the community has vulnerable infrastructure, which is both exposed as well as not able to withstand the hazards which regularly affect the community. Furthermore, on the economic, social and community competence sphere are issues present which limit the resilience and therefore increase vulnerability.

Moving forward with the assessment that the community has a high disaster risk, especially towards natural hazards with sudden onset, such as hurricanes, flooding and landslides, the following chapter will discuss the results of the research and aim at answering the set objectives.



## 5 Results

The following chapter will describe the actual living situation of the women in Trinidad, e.g. how and with whom they live, what and how much they work, what their tasks are, what their experiences with violence are. This chapter aims at achieving Objective 1.

Then, the community disaster resilience will be assessed by using the proposed matrix of BRIC and 4R model, as well as elaborating on the different roles and responsibilities in DRM in the community. Ultimately, the role of women in DRM will be assessed across the DRM cycle, while also using the 4R and BRIC model to finalize with the women's contribution on DRM in Trinidad.

### 5.1 Role of women in the community

Ten in-depth interviews were conducted with women about their living situations. The participants included mothers and housewives in marriages or relationships, single mothers, single women and grandmothers living with family. Some women were employed in regular jobs, others ran their own businesses, and some took on various forms of work. To maintain anonymity, specific statements will not be attributed to individuals by name.

None of the women interviewed lived alone. All lived with either their children, their children and a partner or husband, or other family members, such as parents or grandparents. Three women were single, three were married, and four were in relationships but not married. Their ages ranged from their mid-20s to mid-70s, and all but one had at least one child.

#### 5.1.1 Capacities and Capabilities

Capacities and Capabilities are seen as the assets women have that allow them to react to a disaster, which makes them less prone to experience negative outcomes and could therefore be an asset to the community as well in terms of increasing community resilience.

##### 5.1.1.1 *Paid Labour*

All women had at least some small side business or means of income, independently from the fact if they are mainly a stay-at-home parent or not. All single mothers were working full time, and often above what would be considered full time in a European context. Women who mainly stay at home usually tend to their business from there, e.g. selling homemade goods or offering services which can be done from home. Women who have a job outside of the home range from having secure employment, e.g. at an institution or a shop, to taking



on multiple jobs, such as selling different goods in the city, cleaning, doing laundry for others. One of the experts for women empowerment gave the statement seen in Box 1 regarding the pursuit of paid labour of women in the community. Women who have a job have access to

*“Y hay bastantes mujeres que también son amas de casa, doméstica, que tienen sus emprendimientos en sus casas, que también tenemos un tipo de mujeres que sus esposos les da la oportunidad de trabaja. Hay muchas mujeres que son muy profesionales. Es que han salido fuera de Trinidad, que están estudiando también”. (Expert G1)*

*Box 1: Expert opinion on working women in Trinidad*

financial capital and usually also human capital, since they themselves have a skill that is marketable in some way, be that in offering a service or a good to others (UNDP, 2017). This increases their capacity to respond to a hazard and is furthermore an important part of reaching empowerment, since economic freedom opens many other opportunities for women. It can be translated to *power over* (Rowlands, 1997), since the resource women have access to and over is money, which furthermore enables them to gain access over other goods.

#### *5.1.1.2 Extracurricular labour*

Women are frequently engaged in various forms of extracurricular labour that extend beyond their household and economic responsibilities. Many participate actively in community groups, particularly within church organizations and women’s associations, where they contribute time and labour to support group activities. This participation is a key element of their involvement in local community life. These activities require regular time and attention, adding to their daily responsibilities. While this represents another dimension of labour women perform, which adds to a generally high workload, this is one way that women form a strong social network. In exchange with others they strengthen their social capital (UNDP, 2017) and experience *power with*, where they work in a group setting and can influence the community, especially when organized in a more formal setting, for example via the church or a women’s group. This then is a part of empowerment: it was noted during the interviews that especially women who are part of groups consisting of other women seemed to be more aware of gendered issues, like exclusion from decision-making spaces or unequal opportunities. For the community, women organizing themselves is often an asset, because especially in times of crisis, women will fall back on these networks, which others can then benefit from.



### 5.1.1.3 Collaborative and Independent Decision making

Women were asked about the procedures of decision making in their household and who has the last say in decisions about their family and finances. Women were then based on their answers differentiated into four categories: Independent decision maker, collaborative decision maker, dependent decision maker and no decision maker. While independent decision makers are the ones responsible for making a decision and have the last say, collaborative decision makers make decisions in a team. Dependent decision makers may be consulted, but ultimately don't have the last word and will do as the other person decides. No decision makers are those, who do not have a say even in the discussion and are not included in the process.

Decision-making dynamics within households vary significantly based on relationship status, living arrangements, and the presence of male figures. Women often occupy roles as either independent or collaborative decision-makers, with the specific nature of their authority being shaped by the composition of the household. Single mothers, for example, are universally independent decision makers, managing their households without the need to defer to others. Similarly, when women live with other women—such as their mothers, grandmothers, or adult children—they tend to act as either independent or collaborative decision makers, sharing authority and responsibility with other household members. In some cases, older household members might hold somewhat more authority, while in other

*"I: ¿En su lugar hay alguien que tiene la última palabra o se toma decisiones en equipo?"*

*P: Aquí he tomado decisiones así en en pareja vamos a decir." (Woman 8)*

*Box 2: Women's opinions on decision-making dynamics in their households*

cases, younger women are the ones making the decisions. All women interviewed in this case study described themselves as either independent or collaborative decision makers, one such sentiment can be seen in Box 2. Even in households where they share authority with other adult members, decisions are

generally made collectively, rather than through strict hierarchies.

This discussion ties into the topic of power in empowerment: in households, where women are independent or collaborative decision-makers, they hold all 4 types of power based on Rowlands (1997). They have *power over*, by controlling resources and finances, *power to*, in the way that their decisions are being followed and create change, *power with* when there are other people they negotiate decisions with and create solutions together in a collaborative way and, most importantly, *power within*, where the women feel they are capable of leading, of making a decision (Rowlands, 1997). This is not to say that some of these women may struggle with the burden, especially single mothers. Nevertheless, this



self-sufficiency can be seen as a tremendous asset, since these women are used to being heard and their decisions being regarded as valuable. Often, an issue in DRM and women inclusion is, that women feel like their voices are not important enough to be heard (Amaratunga et al., 2020). If women have practice in making decisions already from the way their home life is set up, the step to taking a leading role in DRM is much smaller.

In hazard situations, it is crucial that women are, on the one hand, able to make an independent or at least collaborative decision with other household members, and, on the other hand, they need the self-awareness and agency, that they believe that they can make this decision, in the sense of *power within*. If women can make decisions in crucial moments, it helps not only the women to escape a potentially dangerous situation, but the community resilience is increased, since women can care for others as well and don't rely on external help. The women's ability to make decisions and what it means will be elaborated on in Chapter 5.3.

#### 5.1.1.4 Capital Access

In terms of capital access, the economic and social dynamics of households are shaped by various forms of capital that women have access to, including home ownership, access to natural resources, income generation, and strong social networks.

In terms of physical capital, home ownership was mentioned by three interviewees, but this may also apply to other participants, as the subject was not thoroughly explored during the interviews. Access to natural resources, such as land for growing crops or maintaining a finca, was highlighted by four women, providing them with an additional source of financial stability. This access to self-grown crops contributes not only to household subsistence but also generates income, enhancing their financial independence.

In eight cases, household income was a shared effort, with both the interviewed women and other family members, such as their mother, husband, or spouse, contributing to the financial upkeep of the home. In four cases, the women were the primary breadwinners, while in two instances, the main income was provided by the men. This indicates that many women are either equal contributors to the household income or, in some cases, fully responsible for it, highlighting their important economic role within their families.

Social capital also plays a significant role in the lives of the women interviewed. All women reported having strong social networks, typically consisting of friends, family members, and community groups. These networks often originate from childhood or are cultivated through church and community group involvement, providing both emotional support and practical assistance, such as help with household tasks. However, several women noted that their ability to engage regularly with friends was limited due to time constraints stemming from



long working hours, household responsibilities, and child-rearing duties, which reduce their free time, often to an extent where meeting with friends regularly is not possible. This will be explored more as a vulnerability in Chapter 5.1.2.

A compilation of the capital forms women access can be seen in Table 5 below.

*Table 5: Capital Access of women in Trinidad*

<b>Capital Form</b>	<b>Examples given during interviews</b>
<b>Physical</b>	Home ownership
<b>Human</b>	Marketable skills: offering services or goods to earn an income, knowledge on how to farm or perform various forms of labour
<b>Financial</b>	Contribute to the household income in all cases, sometimes the main contributor
<b>Natural</b>	Piece of farmland, a finca, a garden used for growing produce
<b>Social</b>	Most women reported having a strong social network, consisting of friends, family and other community members, are involved in organized groups such as church, women's groups, activist groups etc.

This list is not meant to indicate, that all women can access these capital forms. A lot of women are, for example, not homeowners. This list rather aims at showing that there is the possibility of women to access these capital forms, which increases their capacities to respond to a hazard. More capital access, or the access to more capital forms increases resilience, since rebuilding is easier with several capital forms available. Another issue is, that after hazards, women's main source of income often breaks away and they have a harder time finding work again compared to men (The World Bank, 2021). The more capital forms women have, the higher is their individual resilience and arguably also their degree of empowerment, since they are less dependent on others, which increases their ability to make choices for themselves. Theoretically, empowerment and resource access is intrinsically connected: women are only able to make choices if they have resources backing them up (Kabeer, 1999). This is one reason, why *power over* is considered one of the key elements to empowerment (Rowlands, 1997). Therefore, that a substantial number of women in Trinidad have access to different resource forms is both an immense step in support of empowerment, but also helpful in creating disaster resilience. This will be explored later again when talking about the general community resilience.



## 5.1.2 Vulnerabilities

While the previous chapter explored capacities of women connected to their role as women, the following chapter will focus on the vulnerabilities they exhibit.

### 5.1.2.1 Domestic work and care work

While all women work in some form, the tasks they perform at home take up a lot of the workload for most women. All women reported that they are the ones in charge of the household: they are responsible for cooking, cleaning and taking care of the children: This can be seen in the quotations in Box 3: Expert Opinions on the role of women in Honduras. These two quotations state clearly that all domestic tasks are first and foremost the responsibility of the women. They are also the ones mainly taking care of the children.

When asked after the distribution of chores, women in a relationship usually state, that the husband or partner also does some chores, but it is often stated in the way of “helping”. The phrasing indicates that the man helps, but these tasks are not a shared responsibility. Care work for other relatives is usually the responsibility of the women as well, with men “helping out” if the woman is unable to do the task. In some cases, this takes on extreme extents, where the woman is responsible for the household income and the care of disabled relatives or children as well as household tasks like cooking or cleaning, leaving little to no time for other things.

This highlights the doubled burden many women experience. The question arises, if women can have substantial agency and make independent choices for their own lives if they are burnt out or overworked to the point of exhaustion. In theory, it is known that women often take on this triple role of caregiving, household work and paid labour, which is, as it is in this context, often not honoured adequately (Dhungel & Ojha, 2012).

Q1: “En la mañana las mujeres hacen el desayuno para su esposo, la merienda para sus hijos que van para los colegios, despachan a su esposo, a sus hijos, ya lo que es en el mediodía es tener listo el almuerzo en el transcurso de la mañana los que hacen el lugar, como dicen acá del hogar, el aseo el aseo de la ropa en la tarde, esperando sus hijos para ir a prepararse para lo que es la cena” (Expert G1)

Q2: “Entonces la participación, el rol de las mujeres en general en Trinidad y es eso: el cuidado de los hijos en la casa y en muchas ocasiones cuando hay Mamá soltera, entonces a mamá soltera le toca las dos cosas, los dos roles de un poco difícil, porque la cultura muchas veces no les permite ir más allá a las mujeres” (Expert G2).

Box 3: Expert Opinions on the role of women in Honduras

This distribution of tasks means different things for different women: if they are housewives and the house is simply their domain and they have power over these tasks, it could mean



an increased agency for women: here, they are in charge and experience *power over* the available resources, *power to* in the way things around change based on their input and *power within*, where the women are truly empowered in this domain and feel free to make this choice of being a mother and a housewife. They can manage these spheres and have the ultimate say. For other women, who contribute significantly to the household income, but still need to perform at home in terms of executing tasks without or with little help, it means a vulnerability: there is no shared responsibility in all the tasks which need to be accomplished in a household, meaning that women are stretched thin between all the work they must do. It represents an unequal share of labour and clearly shows the double or triple role many women take up, doing paid labour, care work and household chores, while men can claim that they are the provider (Dhungel & Ojha, 2012). What implication the workload has for women's abilities to be active contributors to community resilience will be explored in chapter 5.4.

#### 5.1.2.2 Workload

The perception of workload among women varies significantly depending on their financial stability and family structure. Single mothers often report feeling overwhelmed, burned out, and exhausted by the sheer volume of work they handle. Without secure employment, many of these women juggle multiple jobs to support themselves and their children. This precarious financial situation, combined with the demands of childcare and household chores, leaves them with little time for rest or personal well-being, as can be seen in Box 4.

*"I: Okay y tiene tiempo libre para hacer cosas que le gusta?  
P: A mi?  
I: Mhm (positivo)  
P: Eh, no, nada."  
(...)  
"P: Me siento cansada.  
I: Sí, entiendo.  
P: Sí, muchas veces me ha sentido débil así como que día no quisiera ya nada que ver Va pero yo le digo al Señor con ayuda de Dios le digo yo a El señor, que me dé más salud verdad Y para ir más fuerza para seguir adelante en verdad que se lo mejor que la vida que Dios le da de lo más bello. Yo me enfoco en las niñas, que digo no, yo tengo por quién ir adelante luchar por ellos para verlos a ellos, pero sin verdad más haya un futuro más bueno para ellos, verdad, porque ya uno ya va" (Woman 4)*

Box 4: Statement regarding the feeling of exhaustion women experience

In contrast, women who live in more financially secure circumstances generally report feeling satisfied with their workload. These women often mention having free time, which allows them to manage their responsibilities without experiencing the same level of stress or burnout.



The sense of burnout, especially among single mothers, is often attributed to a combination of factors. These include the challenges of raising one or multiple children, maintaining insecure sources of income, and continuing to handle household tasks. These overlapping responsibilities create a heavy burden that can significantly impact their well-being, leaving them with little to no time for themselves. This also translates into a higher ability for financially secure households to contribute to the community due to higher available capacities. This issue will be discussed later again when talking about women in DRM.

Furthermore, this represents the antithesis to the capacity factors of paid labour and extracurricular labour: while it is a factor of empowerment when women have their own financial capital and create a strong social network, the tremendous amount of work they often have to execute is a disempowering factor. Women, who are so preoccupied with surviving have no time left to organize themselves as a community of women and have no time to think about issues such as if they can make free choices, if they are satisfied with their life, least of all if they can serve the community with the capabilities they have. Therefore, a pathway to empowerment at this point is also lightening the workload women experience. Additionally, the capacity of being able to make free choices that can be an empowering factor for single mothers is on the other hand a source of deep struggle, when they are burdened with a high workload, which leaves no capacities for other things, let it be free time or space for connecting with others in a community sense.

#### 5.1.2.3 *Dependent and no decision making*

When there is a male figure in the household, particularly in cases where the man is viewed as the head of the family, the decision-making structure shifts. While above it was discussed that the interviewees are mainly collaborative decision makers, in these situations, women are often

“P: “Pero en la mayoría de las tomas de decisiones, el hombre consulta a la mujer: “está de acuerdo, te parece? Vamos”. Pero en la mayoría de los casos, el hombre es el que tiene la última palabra, pero que nosotros estamos buscando en la solidaridad y en la formas de género empujar a la mujer para que ella pueda tener roles más claros, más empoderados en el hogar.” (Expert G3)

*Box 5: Expert opinion on decision-making dynamics*

dependent decision makers, consulted but not granted final authority. This was especially highlighted in expert interviews, where the influence of a machista society was evident. In such contexts, men see themselves as the primary decision makers and may only seek input from women without fully collaborating with them. In more extreme cases, women may



be excluded from decision-making altogether, with men making household decisions unilaterally, without consultation or debate. A textual example can be found in Box 5.

In male-headed households, women may have a more limited *power over* key decisions. Here, men, often positioned as heads of the household in a machista society, may retain the ultimate control, consulting women but not fully collaborating with them. In extreme cases, women may have no *power over* decisions, as men make unilateral choices without considering their input. This can then include the classical sense of *power over* resources, where most of the capital might be in the man's name and women might lack resource access. This then leads to a lack of resources which can back up empowerment structures (Kabeer, 1999). Another important issue is *power within*: women who don't partake in decision making and decide it is not their place to even participate in the process, might lack power from within. This can be related to a lack of self-worth or agency, where the women do not realize that they are entitled to the space in decision-making discussions and should be seen as an equal partner, especially in a family, a marriage or a relationship.

This is the opposite of what was discussed in the chapter about independent and collaborative decision makers and can be seen as a vulnerability in a disaster situation: women do not have decision-making power and no experience in making decisions on their own, which puts them and people they are responsible for, at risk. This can be seen as a opposition to single women: they are used to make decisions of their own, control the resources they have access to by themselves, even though they might be little, and are generally the head of the household, but are limited due to their heavy workload, where they cannot even begin to think about making liberated choices or involve themselves more in the community. The opposition to this are women in often male-headed households: they have less *power over* or *power to*, since decision-making and resource access is often delegated or given access to by men. Women with this lifestyle are often not as used to making decisions independently or relying on themselves. Both situations have unique vulnerabilities, especially in hazard situations, which will be discussed during chapter 5.3.1 and 5.4. What can be said at this point is, that both a lack of time, as can be seen in single mothers, as well as the inability to participate in decision-making and only access resources through men is a limiting factor on empowerment for women. This is an issue which will be discussed in chapter 6 as well.

#### 5.1.2.4 *Machismo*

Another crucial point for assessing the empowerment of women in the community was the discussion of machismo. All interviewed women identified *machismo* as a significant problem, both locally and in the country as a whole. The deeply rooted patriarchal



structures, particularly in rural areas, exacerbate this issue. Many women explained that men are often regarded as the centre of the family, with women expected to cater to their needs, and women's career advancement is frequently tied to having a husband. All the women emphasized that men and women are not equal, viewing this inequality as a serious societal problem. Men are reported to exhibit a sentiment of superiority towards women. This societal climate where men are seen as better than women can be related to the concept of negative peace: here, women are not free to live the life they desire, since societal structures and norms are tailored towards men. Meanwhile, women have to both cater to the men in their lives, and the general societal structures enforced on them. Issues where this becomes clear are, for example, the distribution of tasks in the household. With all women acknowledging machismo as an issue, it is clear that there is at least a certain degree of awareness concerning gender relations. This will be discussed further in the following chapter.

#### 5.1.2.5 *Lack of equal opportunities*

When asked about equal opportunities, there is a notable divide in perceptions. Many women reported that they believe men and women have equal opportunities, a view that contrasts sharply with their acknowledgment of *machismo* and unequal gender relations. This contradiction is particularly evident when considering the responses of professionals, who overwhelmingly agreed that men and women do not have equal opportunities.

This divide is also generational. Younger women, especially those with university education and career ambitions, consistently reported a lack of equal opportunities, while older women, especially those who take on more traditional roles as mothers and housewives with small side businesses, often claimed that equal opportunities exist. This was even reflected within households: daughters expressed that they did not have the same opportunities as men, while their mothers believed otherwise. Furthermore, better educated women who pursue a career pointed out that women are still largely expected to fulfil traditional roles in society.

This discrepancy in perceptions can be interpreted as a coping mechanism. Women who feel constrained by societal norms may choose to embrace traditional roles, as it helps them avoid the frustration of not being able to achieve what they might aspire to. By conforming to these roles, they can avoid confronting the barriers that limit their opportunities, thus preserving a sense of fulfilment within the roles they can realistically pursue. This is a common tactic used to dismiss gender inequality by denying that it exists, or stating, that equality is achieved by women being at home and having the last word there. This is a mechanism which often stems from policies and infiltrates personal choices: here, women



staying at home is portrayed as this highly valued act, that women will like it better at home anyways, which ultimately creates a climate in which either women conform to these stereotypes and what they presumably want, or insist that, in the case here, equal opportunities are not given, and exist in an environment which devalues their choice (Rhode, 1991).

At the same time, this reflects a lack of cognitive empowerment, particularly in terms of *power within*. Many women do not recognize the limits placed on them by societal structures and may set boundaries on their own aspirations, not realizing the extent to which gender inequality and related policies and the societal climate shapes their opportunities and desires (Rhode, 1991). As one expert highlighted, women are often “given” permission to work, which suggests that their access to economic participation is controlled by male-dominated systems of power.

Further complicating the issue is the fact that women are often excluded from important processes and discussions. A lack of education, which is sometimes the result of financial constraints or early pregnancies, frequently limits women's ability to break out of traditional roles (Dhungel & Ojha, 2012).

In the broader context, however, there are signs of progress. Empowerment is beginning to gain momentum in some sectors, with more women taking on leadership roles, whether as project leaders or even in high political positions, such as the election of a female president. Yet, despite these advances, women remain insufficiently protected by law in many areas, leaving them vulnerable to both economic and social challenges.

#### **5.1.2.6 Violence and Threats**

The ultimate indicator of women empowerment is the presence or absence of violence against women. One of the dimensions of empowerment is, that women can lead a life free of violence or fear of harm, both physically and psychologically (Sen & Mukherjee, 2014). This can be seen as a baseline indicator: violence against women is such a tremendous threat on women's agency and ability to make informed and free decisions for themselves, that the presence of violence inhibits any further possibilities of leading an empowered life, if the situation persists. Furthermore, the discussion on negative and positive peace refers directly to violence against women: here, the presence of violence would then be described as conflict, the absence of violence as negative peace and a fully empowered life as positive peace (Webel & Galtung, 2007).

In Trinidad, most women reported some kind of experience with violence against women. Eight out of ten women mentioned that either they themselves or someone they know had experienced violence, threats, or stalking. Most women initially stated that they had not



personally been affected by such violence, but when asked more generally about whether violence against women is a problem, they unequivocally said yes, and mostly offered stories either about their personal experience or of “someone they know”. This suggests that while some women may have been hesitant to share personal experiences, violence against women is indeed widespread, and many are aware of cases within their community, whether they have experienced it firsthand.

This hesitance to disclose personal experiences may reflect societal stigma around discussing domestic violence, as well as a lack of trust in systems that protect women from retribution (Kennedy & Prock, 2018). As Expert G1 explained, violence in Honduras often takes the form of domestic abuse, including verbal violence and coercive control by husbands: “Es la violencia y la violencia doméstica, la violencia verbal y el sometimiento por parte de su esposo y muchas mujeres estamos sometidas por lo que es con una persona que nota violencia doméstica” (Expert G1). Many women endure these forms of violence in silence, feeling trapped in relationships marked by domination and submission. This dynamic of power and control is further exacerbated in rural and conservative areas like Trinidad, where patriarchal norms are especially entrenched.

In addition to domestic violence, women involved in political activism, environmental protection, and human rights work face even greater threats. Those who engage in political and environmental struggles often become targets of violence on a much larger scale. This means, that women are punished in Honduran society for voicing their opinions and organizing effectively, both on a household scale as well as on a larger, political dimension. On household level, women often suffer domestic abuse and when they organize and take up space, trying to reach places of decision making and control, they are faced with violence as well. This leads to the conclusion that the situation in which women live can, in the context of positive and negative peace, only be described as conflict. To determine the situation as negative peace, women would need to be free of bodily harm already, which they are obviously not (Webel & Galtung, 2007). On all levels, women are vulnerable to physical and psychological violence, both in their own home, if they live with a man, and in society in general, especially if they do not accept the norms and structures society dictates them.

### 5.1.3 Women Empowerment in Trinidad

Women's empowerment in Trinidad is a multifaceted issue, deeply influenced by both traditional gender roles. While some progress has been made, significant barriers rooted in cultural norms, economic inequality, and structural challenges persist.

Capacities that women in Trinidad possess are mainly their strong social network, their ability to earn their own financial income and connected skills, their capital access which



often includes natural capital and that they usually, at least in case of the interviewed women, are able to collaborate on decisions or make them independently.

Vulnerabilities are, that women often carry a heavy workload and a triple role, where they are responsible for making an income, caring for family members and doing household chores. Furthermore, societal structures severely limit the role women have in society: machismo and the sentiment that men are superior to women, a lack of equal opportunities on the labour market and the prevalence of violence, both on a household level and on a societal dimension prevent women from reaching a stronger status of empowerment. Furthermore, the prevalence of violence creates a situation of conflict, which makes it significantly harder or even impossible for women, to make choices about their own life independently and pursue an agency they created.

The different kinds of power women can access is highly dependent on their living situation: while single mothers are able to experience especially *power over*, *power to*, and maybe *power from within*, due to them being the sole decision-maker and head of household, women in relationships with men, especially when there are children involved, often experience less *power over* and *power to*, since resource access is often negotiated through men and men have the last word in decisions. The notion, that women want to be in this position can be rejected in the sense of embracing differences in the empowerment debate: while certainly there are women who prefer this setup, the societal structures aim at women's subordination and them choosing what society wants from them, that is to be a housewife while still in some cases earning an income (Rhode, 1991). This creates the illusion of choice. If women were to fully exercise their *power from within*, a true choice independent of external pressure could be made under the presumption, that external aggression such as violence is not a retribution for an undesirable choice being made, which circles back to the discussion about peace and conflict (Webel & Galtung, 2007).

With this in mind, it has to be acknowledged that there is still a way to go until empowerment is reached for women in Trinidad. While there has been positive change in recent years, especially in the spheres of violence and agency women still live a somewhat limited life. Still, since empowerment is a process where women which were denied to make choices gain this ability (Kabeer, 1999), it can be determined that steps have been made in a direction that can aim at reaching this goal, even though right now, the situation of women can, in many cases, not be described as particularly empowered.



## 5.2 Community disaster resilience

While the chapter above served to resolve what the role of women in the community is, which is Objective 1, this chapter aims at assessing what the current status of community disaster resilience is, which is Objective 2. For this, first DRM actors will be discussed, and then their responsibilities will be detailed. In a final step, the assessment of resilience will be conducted, using both input from the DRM cycle as well as other information collected during the research, e.g. in the interviews or during desk research.

### 5.2.1 DRM actors

DRM responsibilities in Trinidad are distributed over different levels and institutions. The main institutions are the following:

- COPECO: Comité Permanente de Contingencias, the state authority working in DRM and DRR
- CODEM: Comité de Prevención y Emergencia Municipal, the local committee organizing DRM activities, creating plans and activating other levels in case of an emergency
- COE: Centro de Operación de Emergencia is activated by CODEM during a hazard to take quick action
- CODEL: Comité de Emergencia Local is the local or neighbourhood extension of the CODEM

These institutions work on different levels or at different times. Furthermore, non-state actors such as NGOs or church organizations play a role in Trinidad. The main NGOs working here are the Red Cross (Cruz Roja) and Comisión de Acción Social Menonita (CASM). A reduced structure can be seen in Figure 12.



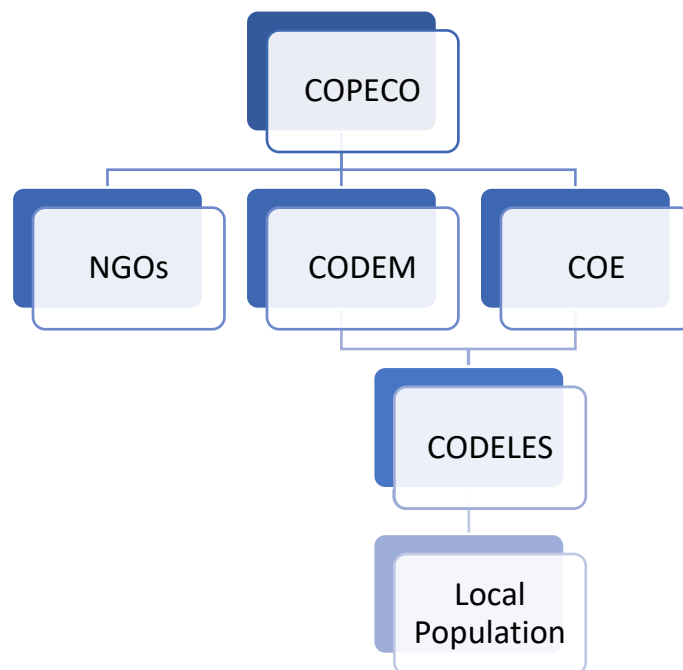


Figure 12: DRM Actor hierarchy

### 5.2.2 DRM Responsibilities

CODEM is in many cases the main responsible actor in Trinidad itself. In non-crisis times, the committee has split itself into different sub-committees, which work on different topics and issues and prepares plans for the time of a crisis. This can be seen in Figure 13. CODEM is the central unit of activities, since most of the DRM efforts in Trinidad are connected to this institution. CODEM consists of people from the municipality, NGOs working locally and citizens that have knowledge in the field or work in important sectors, such as health or education (Municipalidad de Trinidad, 2024).

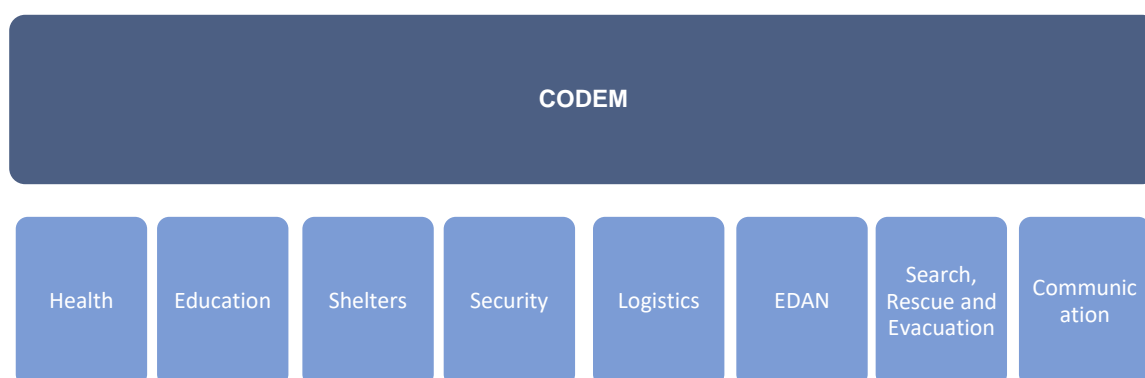


Figure 13: CODEM organizational structure

One of its primary responsibilities is to elaborate and update the municipal emergency plan. This process is grounded in the latest vulnerability analyses, risk assessments, and resource inventories, alongside data from at-risk population censuses. By integrating these



elements, CODEM ensures the emergency plan reflects the current realities of the municipality, prioritizing areas and populations that are most vulnerable (Municipalidad de Trinidad, 2024).

An essential aspect of this work involves organizing and training local emergency committees within the most vulnerable communities. CODEM takes the lead in ensuring that these committees are prepared to respond to emergencies by providing targeted training and equipping them with the necessary tools and knowledge. This also includes regular supervision of these committees, ensuring that they function effectively and adhere to their work plans and established procedures (Municipalidad de Trinidad, 2024).

In addition to local coordination, CODEM engages in collaborative efforts with institutions and agencies at both the municipal and national levels. These partnerships are critical for comprehensive disaster preparedness activities, including prevention and mitigation actions, as well as recovery planning and post-disaster reconstruction. Through this multi-level coordination, CODEM strengthens the municipality's resilience to hazards (Municipalidad de Trinidad, 2024).

Equally important is the role of CODEM in disseminating and socializing the municipal emergency plan among the population. This includes public awareness campaigns to ensure that residents are informed about safety protocols and protection measures. By making the emergency plan accessible and understandable to the general population, CODEM fosters a culture of preparedness within the community. To ensure ongoing readiness, CODEM coordinates training, information, and follow-up programs for local emergency committees (Municipalidad de Trinidad, 2024).

Another key task is the organization of the Damage Assessment and Needs Analysis Team (EDAN). This team plays a pivotal role in assessing damage after an emergency and identifying immediate needs for recovery, but its organization and preparedness are established well in advance of any hazard. To test the effectiveness of the emergency plan and the overall preparedness of the municipality, CODEM regularly conducts simulations and drills. These exercises help identify gaps in the plan and provide valuable practice for emergency responders and local committees (Municipalidad de Trinidad, 2024).

Lastly, CODEM is responsible for alerting the population to the imminence of an emergency when necessary. This task involves activating early warning systems and communicating effectively with the public to ensure timely evacuation or other protective actions are taken. Many of these tasks fall into the Preparation or Mitigation, so the pre-disaster phase of the DRM cycle (Municipalidad de Trinidad, 2024).



What happens during a hazard is, at first, depending on the system of alert: COPECO, the national authority in that matter, issues a warning, which is either green, yellow or red, depending on the severity of the hazard. A green alert means, that a hazard has been detected that should be monitored, but there is no immediate danger to the territory. Yellow alert means that the event represents a danger to the territory, which may cause damage to lives and property. Action needs to be taken, especially in high-risk areas. The highest alert is the red alert, which means that the adverse event will impact the territory and may cause damage to lives and property. With a yellow alert issued, the CODEM will call the COE into action, which is the main centre of operations during the hazard, where decisions can be taken more rapidly. The president of the COE is the president of CODEM, which is in the case of Trinidad, the mayor (Municipalidad de Trinidad, 2024).

During a hazard, COE has different tasks to fulfil: they implement the commissions' action plans, ensuring that each team works according to predefined roles. COE also prepares the necessary documentation for authorities to issue formal emergency declarations and keeps the public informed about the evolving situation, ensuring transparency and timely communication (Municipalidad de Trinidad, 2024).

To maintain an organized response, the COE draws up shift schedules for personnel involved in emergency operations and stays in constant communication with COPECO authorities to report on the management of the situation. When resources from traditional emergency agencies are insufficient, COE requests additional support from public and private institutions to address unmet needs (Municipalidad de Trinidad, 2024).

As the situation develops, COE initiates rehabilitation activities in affected areas, mobilizing the appropriate commissions to begin recovery. They also coordinate evacuation, shelter, and humanitarian aid in partnership with CODELES (Local Emergency Committees), ensuring the protection and welfare of the displaced population. A CODEL is the institution responsible on the micro-level of a neighbourhood: since the CODEM is positioned in central Trinidad, but many people live in rather remote communities in the municipality, the CODELES are the ones locally responsible in places, where the central authority has no access during an emergency (Municipalidad de Trinidad, 2024).

Lastly, the COE is responsible for negotiating resources with national and international institutions, seeking financial and material support to manage and mitigate the impact of the emergency effectively. These tasks all fall into the phase of Response in the DRM Cycle. The COE is disassembled when the alert is no longer issued, and the emergency has passed. Then, the CODEM is in charge again (Municipalidad de Trinidad, 2024).



When the hazard has passed and it comes to recovery, CODEM takes part in recovery efforts. They begin by requesting the complementary damage assessment and needs analysis report to understand the full scope of the impact. Based on this information, they initiate rehabilitation and reconstruction activities, mobilizing the appropriate commissions according to the affected area (Municipalidad de Trinidad, 2024).

The CODEM also leads the assessment of recovery needs in critical areas such as livelihoods, housing, and community infrastructure. They then develop recovery plans that prioritize risk reduction, human rights, and gender considerations. To support these efforts, COE negotiates with relevant authorities to secure assistance for the recovery of affected regions (Municipalidad de Trinidad, 2024).

Throughout the recovery phase, CODEM is responsible for preparing reports on activities carried out and submitting them to COPECO. They also conduct follow-up and evaluation of all recovery activities and implement corrective measures as needed to ensure the success of the recovery plan (Municipalidad de Trinidad, 2024).

In this phase, a lack of financial means was noted by experts, meaning that recovery efforts are often slow due to the inability to finance them. One prominent example in the municipality is a bridge, which was destroyed during a river flood. While it took a long time to rebuild it in a safe location, it is still not usable today because of construction mistakes, which makes the bridge unsafe to use. In the recovery, external actors such as US AID were also mentioned, which rebuilt the water system in a quarter of Trinidad. Here, external aid is often necessary for rebuilding infrastructure. Often, NGOs help here to acquire the necessary funds.

In the phase of mitigation and prevention, COPECO plays an important role. All scientific and engineering assessments are done by the federal agency, since Trinidad has not the capacity to conduct this on their own. Then, in a joint effort of COPECO, the municipality and NGOs, mitigation measures are implemented, such as choosing new locations to rebuild or implement new measures that might prevent the same extent of a hazard in the future.

In the following Table 6, responsibilities are shown related to the tasks which were already presented in the above shown DRM cycle. For better visibility, the cycle was translated into a table. It is evident from this chapter, that on an expert level, the municipality, in accordance with other actors, is well organized and has distributed tasks that can be done by professionals. It is, however, unclear, if this actually holds up during a hazard. While these statements, named in the DRM plan, were repeated by experts, a high pressure situation might lead to a different experience than previously planned.



Table 6: Responsibilities of DRM actors in Trinidad

Phase	Sector	Task	Responsibility
<b>Response</b>	Search and Rescue	Search and Rescue	Cruz Roja
	Shelter	Shelter	CODEM / Cruz Roja / CASM
	Evaluation	Needs	COE EDAN
		Damages	COE EDAN
	Analysis	Requirement Analysis	COE EDAN
		Resource Analysis	COE EDAN
		Procurement	COE EDAN / COE Logistics
	Logistics	Warehousing	COE Logistics / CASM
		Transport	COE Logistics/ CASM
		Distribution	COE Logistics/ CASM
<b>Recovery</b>	Rehabilitation and Reconstruction	Housing	Municipalidad / NGOs
		Water	Municipalidad/ NGOs
		Agriculture	Municipalidad/ NGOs
		Infrastructure	Municipalidad / NGOs /COPECO
		Commercial	Municipalidad/ NGOs
		Development Opportunities	Municipalidad /NGOs /COPECO
<b>Mitigation and Prevention</b>	Disaster History	Written	CODEM
		Memory	
	Scientific Analysis	Meteorologic	COPECO
		Geologic	
		Hydrologic	
		Agriculture	
		Environmental	
		Epidemiologic	
	Vulnerability Analysis	Community Experience	COPECO / Municipalidad /CASM
		Technical Evaluation	COPECO / Municipalidad /
		Engineering	COPECO / Municipalidad /
	Long-term improvement	Land Use Regulations	COPECO / Municipalidad
		Construction Norms	COPECO / Municipalidad
		Crop Cycle Adjustment	COPECO / Municipalidad



		Organization	COPECO / Municipalidad
<b>Preparedness</b>	Community Planning	Procedures	CODEM
		Stockpiling	CODEM
		Awareness	CODEM Educacion / CASM
		Resources Inventory	CODEM
		Communications Planning	CODEM Comunicacion
		Logistics Planning	CODEM Logistica
	Prediction and Warning	Technology	COPECO
		Interpretation	COPECO
		Tracking and Warning	COPECO
		Communication	COPECO / CODEM / CODELES /CASM
		Public Response	CODEM /CASM
		Evacuation	CODELES / CODEM / CASM

### 5.2.3 Community Disaster Resilience Assessment

The following table shows an assessment of disaster resilience, based on the 4R and the BRIC model discussed in the theory chapter. While this discusses resilience on different dimensions, it does not differentiate between scales, which means that responsibilities and issues are discussed on an individual, a household or a community level.

	<b>Resourcefulness</b>	<b>Robustness</b>	<b>Rapidity</b>	<b>Redundancy</b>	<b>Rating</b>
<b>Ecological</b>	Agricultural diversity (coffee, corn, beans) provides resilience to food security in times of crisis Constraint: use of firewood might deteriorate forestry resources.	Ecological resources are vulnerable to landslides, flooding and hurricanes. Interviewees recorded events after hurricanes with no food availability.	Ecological recovery from disasters (e.g., floods, landslides) is often slow due to limited local resources for restoration.	Small scale farming of different crops creates redundancies, large scale destruction of key crops could lead to low food availability.	
<b>Social</b>	Strong social networks within churches, community groups, and family help mitigate social crises and provide mutual aid.	Community members, especially young and single mothers struggle due to low availability of help in income generating activities and education. Abuse and domestic violence	Quick social mobilization in the face of emergencies through church groups and local networks, especially lead by women through their social ties	Different overlapping networks such as friends, families, church, community groups create redundancies in the social network	



	Decision-making spaces often still occupied by men, which leaves out the resource of women's knowledge	lead to lower robustness of social system			
<b>Economic</b>	Unemployment was named as a problem by several participants and is a general issue in Honduras	<p>Economic challenges due to insecure jobs, especially for women, lead to increased vulnerability in times of crisis</p> <p>No available social security leads to personal crisis if during a disaster, one or several income sources break away</p>	Quick recovery often not possible due to economic constraints, both on individual as well as on municipality and country level	Most people rely on multiple sources of income, creating economic redundancies for themselves	
<b>Institutional</b>	Institutions like CODEM and COPECO provide disaster management support, issue guidelines and take part in preparation, response and recovery	Detailed plans on how local institutions should handle different types of alerts suggest robust institutions	Rapidity seems to be based on alert system and therefore depends on external actor (COPECO)	Overlapping disaster response institutions exist (e.g., local vs. national), how well cooperation works is unknown	
<b>Infrastructure</b>	Community reliance on mixed energy sources (electricity, gas, firewood) reflects flexibility, but also limited access to some resources.	Structural issues in many homes make them vulnerable to destruction during natural disasters (e.g., landslides, floods). Streets, houses, bridges were destroyed in the past	Repairs to infrastructure (homes, water systems) are slow, reflecting lack of resources for quick rebuilding. Dependency on external actors	Infrastructure redundancy given in some areas, e.g. electricity: some people own a generator, which allows for basic functionalities in the community, cooking is often done independently from electricity.	
<b>Community Competence</b>	Community members, particularly women, are active in local religious groups, which fosters collective action and support: the abilities to cope with hazards	Women face significant social and economic challenges, including teenage pregnancies, lack of education, domestic violence, and limited political representation, which leads to lower	<p>Women's strong social role in caring for children and community shelters is swift, though decision-making power is limited</p> <p>Ability to act quickly is heavily</p>	Community relies on social and religious organizations; different levels of DRM create redundancies and allow response during times of non-functioning communication.	



	should be available	competencies in DRM spheres  Limited awareness of disaster preparedness, reducing the community's ability to effectively respond to sudden hazards.	dependent on their work and living situation		
<b>Summary</b>	Overall good resource accessibility, but leaving human resources, e.g. women, underutilized. Unemployment can be even more detrimental without other sectors such as social and ecological alleviating the issue	Low system robustness due to cross-cutting issues such as violence, job insecurities, vulnerability of resources and infrastructure and limited education and awareness.	Fast response on the social side, but limitations on all levels which cannot be directly influenced by the community, e.g. infrastructure, financial means available	Redundancies are created in almost all areas, especially due to social networks creating different overlapping social groups. Could be increased in terms of hazard education and education in DRM to distribute responsibility	

In the following section, this table will be summarized for what each row means in terms of community disaster resilience and where this leads in terms of capacities and vulnerabilities.

### Ecological

The agricultural diversity in crops such as coffee, corn, and beans provide an important buffer against food shortages during hazards. However, the reliance on firewood for energy raises concerns about the sustainability of forestry resources. Natural hazards often lead to food scarcity. Recovery from these ecological disruptions tends to be slow due to a lack of sufficient resources for restoration. While diverse small-scale farming offers some level of resilience, the destruction of major crops can still cause critical shortages in food supply.

### Social

Communities benefit from strong social ties, including connections through churches, family networks, and local groups, which help in times of crisis by fostering mutual aid. However, the exclusion of women from decision-making spaces limits the community's ability to fully utilize their knowledge and contributions. Social stability is further weakened by issues such as domestic violence and inadequate support for vulnerable populations like single mothers. Despite these challenges, social networks respond quickly during emergencies, often led



by women who mobilize through their extensive connections. The overlapping nature of these networks creates multiple avenues of support, enhancing their overall reliability.

### **Economic**

High unemployment and job insecurity, particularly for women, increase economic fragility in times of crisis. Without social safety nets, the loss of even one income source can lead to severe hardship. Economic recovery tends to be slow due to financial constraints at all levels—from households to municipalities and the national economy. On the other hand, many people maintain multiple income streams, which provides a form of economic redundancy that can cushion the impact of financial disruptions.

### **Institutional**

Local institutions, such as CODEM and COPECO, play an active role in disaster preparedness and response by issuing guidelines and implementing recovery measures. These organizations are equipped with detailed plans for different disaster scenarios, showcasing institutional strength. However, the speed of response often relies on COPECO as an external actor, which can delay action. While the presence of overlapping institutions at the local and national levels offers some redundancy, their ability to collaborate effectively remains unclear.

### **Infrastructure**

The use of diverse energy sources like electricity, gas, and firewood demonstrates adaptability, though access to these resources can be uneven. Infrastructure, such as homes, streets, and bridges, is frequently at risk of damage during disasters due to structural weaknesses. Repairs are often delayed because of limited resources and reliance on external support. In some areas, redundancies like private generators and alternative cooking methods help maintain basic functions when primary systems fail.

### **Community Competence**

Women are actively involved in community and religious groups, contributing to collective efforts and providing critical support during crises. However, significant social challenges, including domestic violence, teenage pregnancies, and limited educational opportunities, hinder their broader participation in disaster risk management. A lack of awareness about disaster preparedness further reduces the community's ability to handle sudden emergencies effectively. Despite these barriers, women's roles in caring for others and managing shelters enable the community to respond promptly. The overlapping presence



of social and religious networks adds a layer of resilience, ensuring support systems remain functional even during communication breakdowns.

In terms of 4R, the situation is as follows:

### **Resourcefulness**

In this dimension, it was seen that overall, resources are available in the community, but that there is underutilization in some areas as well as cross-cutting issues. In decision-making spaces, women's voices are often not present, which leaves out a significant part of the community and, in a neoliberal sense, doesn't utilize available resources in an efficient way. Here, measures can be agreed upon which are not working in the best interest of the community. Furthermore, some issues are highly dependent on others, e.g. unemployment, or the lack of the resource "work", is currently being alleviated by a strong social network, if this were to deteriorate, this issue could be exacerbated.

### **Robustness**

Overall, the situation in the field of robustness can be found somewhat lacking. Issues such as unemployment, lack of education, violence, machismo and other societal patterns, combined with vulnerability of ecological resources, can be translated into a low level of robustness.

### **Rapidity**

While the rapidity in response from an institutional standpoint seems to be quite well, especially considering different responsibilities and clear plans, the community might be lacking the proper education to perform necessary tasks. Furthermore, there is an evident lack of funding, which is not per se the fault of the community, but rather an overarching issue which limits recovery efforts and decreases the rapidity of recreating functions.

### **Redundancy**

In many areas of life, redundancies have been created in Trinidad, e.g. energy, agriculture, economy. Furthermore, overlapping social circles create redundancies in the social network, leading to the assumption that most people are involved in some of them. What can be criticized here is again a lack of DRM education in the community, which leads to not creating redundancies in terms of responsibility during a disaster. Here, it is not possible to assess whether the institutions can carry the responsibility or if it were beneficial to invest into proper disaster education for the community.



In summary, the community exhibits several strengths, like a strong social network and community competence when it comes to DRM. Here, women are already intrinsically working on community resilience. This will be explored more in a later chapter. On the other hand, the community suffers from issues on the social side as well, like violence or exclusion of women from decision-making spaces. Furthermore, economic and infrastructural weaknesses can delay and inhibit recovery efforts in the community. The community has strong resource availability and social networks, but key resources, like women's contributions, are underutilized. Unemployment and cross-cutting issues such as violence, job insecurity, and limited education weaken system robustness. While institutional rapidity in disaster response is strong due to clear plans, limited funding and community education hinder recovery efforts. Redundancies exist in areas like agriculture, energy, and social networks, but gaps in disaster risk management (DRM) education prevent sufficient redundancy in disaster responsibilities, leaving the community reliant on external institutions.

To assess how to move forward, in the following chapter the role of women in DRM will be assessed, which will then lead to Objective 3, the impact of women's role on community disaster resilience. Here, a glimpse was already given into the degree of influence women have, this will be elaborated on further.

## 5.3 Role of women in DRM

To analyse the influence of women on community disaster resilience, first the roles of women in DRM need to be studied. In research, women are often seen as passive victims of hazards, that are more vulnerable due to patriarchal structures. In newer literature, it has been acknowledged that women often work on tasks that create community cohesion and are more closely related to their traditional roles as caregivers. The importance of these tasks is often neglected. The role of women will be discussed according to the DRM cycle established above.

### 5.3.1 Preparation

The following Table 7 details the inclusion of women into the phase of preparation in the DRM cycle, detailing different tasks, their given role, which means what is expected from them by society, their actually executed role, the ideal role and the gap in Trinidad. This will be done for all the other phases across the DRM cycle as well. A more detailed version of the table can be found in the Annex.



Table 7: Women's incorporation into preparedness

Sector	Task	Given Role	Executed Role	Ideal Role	Gap
<b>Comm- unity Planning</b>	Procedures	Not expected of women	Women are not participating in this task since it is conducted by CODEM or other actors	Women know about necessary procedures that ensure safety.	Women often do not know about established procedures due to unawareness of risk.
	Stockpiling			Households have reserves of food, water, medication to be able to sustain themselves during a crisis	Due to unawareness of risk, households might not have sufficient resources to sustain themselves during a hazard
	Awareness			Women are knowledgeable about hazards and how to behave during one.	Women often not sensibilized to a sufficient degree about hazards
	Resources Inventory			Women have a general knowledge about available resources, communication chain and logistics to be able to access help in case of a crisis	Due to unawareness of risk, women might not know about available resources
	Communication Planning				
	Logistics Planning				
<b>Predic- tion and Warning</b>	Technology	Not expected of women	Done by COPECO	Task is conducted by educated professionals	
	Interpretation				
	Tracking and Warning			Women are able to follow the guidelines given out with each alert, they trust in the issued alert.	Possible gap in communication: understanding and believing the alerts and issued guidelines



	Communication	Women are thought to have a stronger social network, and it is expected that they spread awareness through their social network	Women who are aware of the risk spread awareness through their network, others who are not aware lack the knowledge to partake in this task or might offer misleading information	Women communicate effectively through their social network and raise awareness of the hazard in others. They can assess the credibility of news they receive from others	Women often not educated enough about natural disasters, so that their communication is not as effective or even detrimental, if they provide false information to others.
	Evacuation	Women are expected to take care of those under their care in case of a necessary evacuation	Depending on awareness level, women either choose to evacuate themselves plus family or stay at home.	Women have the knowledge and abilities of when to evacuate and can evacuate themselves and people under their care.	No school evacuation plan, women often do not know when to evacuate and might lack strength to evacuate elderly relatives.

The participation of women in the preparation phase in Trinidad is somewhat critical. They are not participating much in the community planification, which encompasses setting procedures, accumulating reserves, sensibilization, checking the inventory of resources, communication planning and logistics planning. These tasks are done by CODEM in accordance with other actors, which makes sense for certain aspects, such as procedures, logistics and communication. On other areas, the issue is more a lack of education and communication in reaching everyone in the community. If this way of handling things would be working, then presumably more women in the community could recall steps to take in preparation for a hazard. Meanwhile, in the interviews, many women simply stated that no hazards happen there. Here, it seems like women are in a situation which is often common in DRM: they lack education and access to knowledge and important information (Dhungel & Ojha, 2012; Roy & Mukherjee, 2024), which would help them understand the situation better and take precautionary measures, such as accumulating and checking reserves of food, water or other necessities, sensibilizing others and understanding procedures. Primarily women need education to be empowered in making decisions for themselves, both in a DRM setting as well as apart from that. If women were better educated, which could be part of the task sensibilization, they could increase community resilience by improving preparedness. Here, educating women could be seen in the light of creating



redundancies for responsibilities in DRM (Tierney & Bruneau, 2007). If more people know the correct behaviour, responsibility can be shared more easily. Right now, most if not all tasks are in the hands of CODEM and related institutions, which cannot oversee every task of preparation themselves. Therefore, investing into education and sensibilization, which CODEM does according to their DRM plan, but apparently does not reach many women, could be a pathway forward. Furthermore, if women were educated better, they could be included in other issues, such as communication. It has been stated both in literature (Reyes & Lu, 2016) and in the interviews that women have a big asset by being included in strong social networks, be that friends, family or organized groups via the church or a women's group. Addressing these social networks could help spread awareness about procedures, tasks to do and methods to stay safe, especially if they are executed by women who are well-educated in the topic. Currently, women and the households they organize are at risk because there is an apparent gap in knowledge. To close this, educational workshops or spreading of information via easily accessible communication channels could be a pathway forward. Additionally, while some women may have the capacity to educate themselves, it is important to look at the high workload especially single mothers experience. Here, a lowering of their workload would be necessary before many of them can even start to think about receiving information about hazards and correct behaviour. This will be discussed more in depth in Chapter 6.

In the subsection of hazard prediction and alert, there is little involvement of women apart from women working at COPECO. They are the ones who have the technology and capabilities to predict, alert and track hazards. Women exclusion here is therefore based on professionalization. This in itself is not an issue, but it should be looked into supporting women in the workplace to enhance diverse perspectives and creative approaches to preparedness. The professionalization and women inclusion will come up in the sub-chapter on women's role in mitigation and will be explore more there.

Moving on from alert and into the communication chain, the topic of education comes up again: in order to fulfil the task of spreading alert in their social network, women need to understand what the alert means and how to behave, which then they can spread to others. Furthermore, they should be able to trust the information and be able to receive information and evaluate its credibility. Here the same issues as above are showing again: Many women lack the necessary education on hazards and correct behaviour. This consequently affects the topic of evacuation: with lacking education on the topic, it can be difficult to determine when to evacuate. Here, learning about the right behaviour and timelines to follow is important. Furthermore, there needs to be evacuation plans for other institutions, such as schools or medical facilities: otherwise, women may rush to the schools to collect their



children instead of evacuating directly. This would then, on the one hand, create more redundancies, as discussed above, but also increase the robustness of the system. Evacuation is, in the worst case, the decision on which it depends whether people live or die. Many people not evacuating or misinterpreting information and subsequently dying can certainly be interpreted as a hit to the system's robustness, as well as an avoidable tragedy, if the right information and education is spread in time. Furthermore, rapidity can be increased through education: if warning signs and hazard alerts are interpreted correctly by the community, crucial time can be saved in the reaction to a hazard (Tierney & Bruneau, 2007).

Another issue to consider here is, that while women may be the ones responsible at home, men are still often considered head of the household, who will make the final decision. This can apply to evacuating as well. Therefore, next to education on correct behaviour, the inner empowerment as well as the external oppression needs to be addressed. Women need to feel confident enough in themselves to make the decision to evacuate, based on the knowledge available, even if it goes against the opinion of their husband or partner. In many cases, men might not be at home, in which case women need to make a decision. Furthermore, women need to live in an environment where they don't fear abuse if they contradict their partner. Obviously, there is still a long way to go to reach this status, considering the role of women in Honduras. Nevertheless, it has been shown in research, that women who participate in knowledge and empowerment workshops connected to DRM gain, on the one hand, confidence to stand up to others, and on the other hand receive more respect, showing that they are knowledgeable and able decision-makers in these situations (Aryal, 2014). While it should not be the case that women have to prove themselves to gain respect and a life free from violence, deconstructing the notion that women are unable to fulfil certain roles probably will not come without doing exactly that: proving their capabilities to men.

To summarize, in the preparation phase it seems crucial to invest into women's education concerning hazards and procedures to follow, which will allow women in the future to make educated decisions about their own lives, a prerequisite for empowerment (Sen & Mukherjee, 2014), and consequently raising resilience, since others, depending on women's choices, will benefit as well. This will have especially an influence on redundancy, rapidity and robustness of the system. Consequently, it is also important to invest in raising women's confidence and working with men on their reception and behaviour towards women. Physical or verbal abuse is never the correct behaviour, and for women to live in an environment free of violence and even positive peace (Webel & Galtung, 2007) where



they can make informed life decisions for themselves, not only women but men have to do the work.

### 5.3.2 Response

In Table 8, the given role, executed role, ideal role and the gap in Trinidad are listed. This will be the base of discussion for the following chapter. A full version of the table can be found in the Annex.

Table 8: Women's integration into response phase

Sector	Task	Integration of Women in Trinidad		Ideal role of women in DRM	Gap in Trinidad
		Given Role	Executed Role		
<b>Search &amp; rescue</b>	Search & Rescue	Responsible for evacuating those at home	Women do not work in S&R, done by Red Cross	Women evacuate those under their care in a timely manner	Women have little knowledge about hazards and often don't evacuate
	Shelter	Women are responsible for life in shelters: translation of trad. role	Women organise life in the shelters	Ideal role is executed in Trinidad	Issue of sexual abuse
<b>Evaluation</b>	Needs	Women are in charge of seeing what others need in the community	Women report needs to authorities, both physical and psychological, look out for others	Report needs and are supported in caring for others, have resources available	
	Damages	Women not charged with damage assessment	Women might report damages in a social sense or if their infrastructure is destroyed	Women are aware of damages and can report them, know about associated risks	Women often not knowledgeable about damages and related risks
<b>Analysis</b>	Requirement Analysis	Conducted from professional side	Analysis is done by COE EDAN, women are involved if they work in COE EDAN.	Coordination of basic needs provision often done by women	Low involvement due to professionalized process
	Resource Analysis				
	procurement				
<b>Logistics</b>	Warehousing	Women are not expected to participate in the logistics, since this is conducted from a	Conducted by COE and CASM	Women are mobilizing resources and organizing the logistics, coordinate basic needs provision	Low involvement due to professionalized process
	Transport				



		professional side			
	Distribution	Unclear if women are expected to participate	Women help during distribution in schools or shelters		

During the response phase, women are particularly active. They work especially in the shelters and communicate the needs of the community to authorities. In Trinidad, it has been voiced that women are often those in charge of caring for others:

“Así en la comunidad hay una persona que está enferma, quien la reporte es una mujer, quien se anda preocupando en la comunidad por organizar el Patronato, son las mujeres, quien informan que algún niño están recibiendo algún tipo de violencia, un vulneración, son las mujeres.” (Expert G2).

This sentiment translates to the response phase: women are those who regularly organize social life, organize the community and their family. This work stays identical during a time of crisis and in a shelter. Women are those who look out for others, who organize that the shelters work. They communicate needs to authorities and to some extent, they report dangers, especially when it comes to sexual abuse and bodily harm which women are endangered by in the shelters. Here, it is evident that on the one hand, women seem to be in a very empowered position which also increases community resilience. They oversee these tasks, can make independent decisions in a group setting and work together with institutions and external actors, such as the Red Cross. This has an influence on the dimension of resourcefulness, where women can determine a course of action and creatively look for solutions (Tierney & Bruneau, 2007) as well as *power to*, where changes happen based on the guidance and decisions women make (Rowlands, 1997). Additionally, the group setting, where several women work together, communicate with stakeholders and establish rules can be seen as *power with*, where community is a driver for empowerment (Rowlands, 1997).

On the other hand, this work represents an extension of societal norms and rules placed on women. Caring for others and organizing the home life is seen as an inherently feminine task, as discussed above already. These rules and expectations become even more apparent during a time of crisis. Women are instantly expected to take up this work, which they do, because they very likely know that they can do these tasks, trust themselves to do them and they receive the trust and space to execute the tasks.

It is difficult to analyse if this now represents a state of empowerment, because women are able to take agency, make decisions and are likely respected in these spaces, or if it is a



sign of disempowerment, because it cannot be assessed fully if they take up this work voluntarily in an act of choosing for themselves that they want to work for the community in this way, or if they take it up due to a lack of choice and societal pressure. Here, the notion of embracing diversity by Rhodes can play a role again, where the tasks women do are portrayed in a positive, but also slightly dismissive light: “women are not incorporated into decision-making spaces, but why would they want that anyways, they can care for the children and elderly so much better. Leave difficult decisions to the men, women are simply not made for it”. This societal stance on gender roles is then internalized, influencing women to stay with traditionally feminine tasks (Rhode, 1991). While this has never been outright stated, it has also never been acknowledged that women usually perform a triple role in society and take up hard work that is considered to be men’s work across the DRM cycle (Delaney & Shrader, 2000).

Clear is, their work in the shelters, keeping a sense of normalcy, helping others and organizing life is crucial for the community. At this point, while I argue that women do not take up this work due to an intrinsic desire in the first place, because society has shown women in this context for decades that their place is the work around the home, them taking up this task can still be seen as an act of empowerment. While the initial stepping up to do the work might not be coming from a place of desire and agency, the execution of the work can be. During interviews, it was apparent that the work women do in the response phase and around the shelters is highly valued. Furthermore, while they execute these tasks, they can achieve both internal and external markers of empowerment, such as *power within*, where they realize their own agency and *power with*, where they are able to work in a group setting with other women to achieve a joint goal and power to, where women can achieve goals and make decisions. The traditional notion of *power over* can be fulfilled as well, since women oversee the shelters and others must behave according to their rules and judgement. Furthermore, while it should not be necessary, women can prove themselves to a male dominated society around them: they are able to lead, make decisions and organize. The repeated respect given by men to the women during the interviews proves, that them doing these tasks is valued and women are respected more due to it. An argument could be made for destabilizing the assumption of an inherent difference between the genders by women executing this work: they prove that they are not so different from men by taking over responsibility and making decisions in this domain, thereby derailing the notion that women are not able to do so (Rhode, 1991). Especially the women’s work in the shelters, combined with their efforts in communicating needs and risks to the authorities is therefore essential to the community.



What can be criticized in this phase is on the one hand the part of search and rescue, on the other hand the communication of damages. In the search and rescue task, women are not as active due to a professionalization. Search and rescue is usually done by the Red Cross in Trinidad. An issue here is a lack of education on the part of women and possibly other community members concerning the dangers of natural hazards. Many women reported not really knowing much about natural hazards or possessing any disaster memories. This puts them and others at risk during a natural hazard, since they might not evacuate in time and would therefore need search and rescue efforts. Here, increased education could be a solution to this issue, creating, as discussed above, more rapidity, redundancy and robustness in the system overall. Furthermore, while women do not work in actively rescuing people from collapsed buildings, they often know about missing people due to a strong social network. Furthermore, they are the ones taking care of rescued psychologically, which is reported often in literature (Dema Moreno et al., 2022; Reyes & Lu, 2016; Roy & Mukherjee, 2024). To increase community resilience, a stronger participation of women could therefore be beneficial in this task. Since the community reported that conducting search and rescue was not necessary in recent history, it cannot be fully assessed if there is something not working in the system which would benefit from women participation.

The issues which can be seen in analysis of damages is, that since women are often not as educated in natural hazards and DRM, they might be unaware of risks, evaluate them incorrectly or communicate wrong findings to others, which increases vulnerability. That women lack crucial information is a common issue in community-based DRM, in all contexts (Amaratunga et al., 2020; Dhungel & Ojha, 2012; Hemachandra et al., 2018; Lee et al., 2022; Roy & Mukherjee, 2024). While women are not the one in charge of conducting a damage analysis, it is important that locals report damages they experience to the authorities making the assessment, especially since they cannot be in all parts of the community to equal amounts. Therefore, local education is important in the community.

Women are in Trinidad not part of Logistics and the analysis and acquisition of goods. This is a task done by the COE or CODEM, depending on the state of emergency, and is therefore a professionalization of the task. That women are not particularly included in this task is therefore not seen as an exclusion based on gender, but an exclusion based on professionalism. Men that are not working in this committee, are not part of this analysis and the logistics as well, therefore there should be no issue with continuing these tasks as is, as long as there are not issues with misconduct or the process not working. On another level, there could be an initiative to support women who want to pursue an education and a career in the field of DRM, so that long-term, the institutions which conduct this analysis are



not as male-dominated as they tend to be now. This could in the long run increase resourcefulness in community disaster resilience, since women have different life experiences and perspectives on hazards (Samuels, 2016) and can therefore create new, creative strategies in dealing with hazards. Furthermore, it utilizes women's knowledge, since it was discussed already that, if seen as a resource, the community leaves out a valuable asset by not including women in decision-making processes. This is a sentiment which will reappear in the following sub-chapters. In some cases, women might be expected or executing the task of distribution, since this is usually done in schools and women who have children in the school might work in this task, which then translates again into a traditionally female role being used in DRM, since the presumption is, that women would be better or more interested in this task.

One issue which has become clear in this chapter is the low ability of the Schramm and Newman (1986) framework, to properly assess community and women-centric tasks across the DRM cycle. The work women do in the shelters is multifaceted and crucial for the community. It is not only providing shelter, which is not what they do, since shelters are assigned by the municipality. They organize life here, create cohesion and a sense of community, provide physical safety, support people mentally, keep up hope, make food and create organizational plans in terms of labour division. Still, in terms of the logic by Schramm and Newman, these tasks are nowhere in their DRM cycle, which on the one hand shows an approach, where the local community is seen as recipients and not actors, and, where work women do traditionally is devalued by not even including it, even though it is valuable for the community and is actually a big capacity that women possess. It was already mentioned that the used approach might not capture the reality in Trinidad, but especially here, where women are very active, it shows that this reality and the used tool do not particularly overlap.

### 5.3.3 Recovery

The phase of recovery is a phase where, according to the interviews conducted in Trinidad, women do not work in. While in literature, women are often reported to be working in recovery (Hemachandra et al., 2018), this does not seem to be the case in the case study region. The following Table 9 shows a differentiation of women's role in recovery in Trinidad in the sector of rehabilitation and reconstruction:



Table 9: Women's integration into recovery in the sector of rehabilitation and reconstruction

Task	Given Role	Executed Role	Ideal Role	Gap
<b>Housing</b>	Women do not work in this phase since it is either considered too hard work (physical reconstruction) or external actors are needed.	Women only involved if their assets are hit and there is no one else taking the task: e.g. single mothers, business owners, female farmers etc.	Women are involved in rebuilding as key actors, equally to men. They take initiative in rebuilding and collaborate with external actors for rebuilding the community in a more safe and inclusive way. Their opinion is valued equally	Gendered issue of women exclusion due to physical differences and low number of women in decision-making spaces
<b>Water</b>				
<b>Agriculture</b>				
<b>Infrastructure</b>				
<b>Commercial Development Opportunities</b>				

Here, women are not expected or considered for this work for several reasons: On the one hand, women might not be considered for these tasks due to a presumed lack of physical strength. While this has never been said outright during interviews, it is a belief that aligns with common thought patterns present in Trinidad, such as that the women's role is around the house. It is also something regularly stated in literature in the sense of a vulnerability of women in hazard situations (Mangahas et al., 2018), which could be translated into the recovery phase. Furthermore, it was made clear during the interviews, that external actors are usually needed for reconstruction. There is often a lack of finances, knowledge or ability in Trinidad post-hazard, therefore external actors like NGOs, relief organizations such as US AID or government agencies are consulted and brought in.

While not being involved is the expected role for women, it might be a little bit different during the actual recovery. It was established already that everything household related is usually the work of the women. Therefore, it can be assumed that they support recovery efforts not by rebuilding, but by organizing the community for this task. Women reported that they watch other people's children during this phase, or give shelter to friends or neighbours who lost their home:

P: [...] A mí y llevábamos así como víveres sí, y también ofrecimos alojamiento si alguien necesitaba.” (Woman 5)

While this is not classical rebuilding, these tasks are necessary for the community to be able to move forward and have enough capacities to rebuild. This highlights another



shortcoming of the method of Schramm and Newman (1986), since these organizational tasks, done by women, are not considered.

Another thing to be considered is in what tasks in rebuilding specifically women are involved and how that differs according to their lifestyle and living situation. Women are presumably not involved in rebuilding things like water or energy infrastructure since this is a task for trained professionals. Therefore, this is another exclusion based on professionalization and not on gender. In other areas, such as commercial, agriculture or housing, there should be instances of women taking the lead in these rebuilding tasks, if not by building something themselves, then in organizing people, getting help and leading the task from a decision-making standpoint. It can be expected that there are women who do this, especially women who work in agriculture or who own a shop or restaurant in town. Furthermore, single mothers must take the lead in rebuilding if their property or livelihood is endangered or destroyed after a hazard. For them, there is no one else initiating. All single mothers reported that they are independent decision-makers. Therefore, it must be assumed that they are taking the initiative in rebuilding if it affects themselves. While this cannot be proven due to a lack of actual experience of interview participants, what has been reported by them leads to this assumption.

It is somewhat difficult to assess what this type of participation means for the standpoint of women empowerment due to a lack of actual stories from a rebuilding period. It is certain that, according to literature, communities profit from women being involved participants in rebuilding. This does not necessarily mean that they must perform physical labour, since there is an argument to be made about average strength of women and men not being equal. Nevertheless, in many contexts women can assess needs of the community from a different viewpoint. They can give insights into improvement ideas, what additional functions might be needed and are furthermore often those organizing and managing efforts to build back better (Thurairajah et al., 2008). Additionally, the notion that women can only do these tasks is wrong, not only globally, but in the context as well: after hurricane Mitch, women have been reported to build wells, rebuild houses and done work that is generally seen as “men’s work”, often against the wishes of the male population. Simultaneously, men only rarely took up work that is considered to be for women, showing the increase in women’s workload during post-disaster times (Delaney & Shrader, 2000). For empowerment of women, this could mean several things: the ideal situation would probably be, that women are consulted and incorporated into rebuilding efforts equally to men: this does not have to be on a physical level, even though the women in Honduras are certainly able to do that as well. Scholars have already proposed ideas such as education for certain skills for women necessary in rebuilding, contracting with women or female-owned businesses, workshops



for increased confidence in these areas and actively including women into decision-making spaces and discussions (Amaratunga et al., 2020). Educating and empowering women in their self-worth could increase their participation in this phase and offer new viewpoints to the community, which could lead to positive developmental opportunities. Issues like increased safety for women and girls, improved function of infrastructure or a redesign to accommodate a wider range of people could be the results of these rebuilding restructurings. In terms of resilience, the community is leaving out the possibility for increased resourcefulness by not incorporating women's perspectives into rebuilding the infrastructure.

On the other hand, it has been said already that post-hazard, women often have a higher workload than men, their roles stay the same, they often lose their employment or means of income and, sometimes, take up men's work additionally. Simply burdening women with more work is not equal to empowerment. Ideally, women will take up rebuilding if they have the knowledge and capacity to do so, but in a post-hazard environment, these are often not questions that communities can spare to ask themselves, since they are fighting shortages on several ends, which means that often, people will just pick up work. Here, it could therefore be worthwhile on the one hand to invest in education: just as stated by Amaratunga et al. (2020) women should learn about rebuilding concepts, how to work with materials and work on their independence and agency. Especially women who must take up work in the recovery phase are then better equipped to execute these tasks. Furthermore, while this should not be the case, as discussed already, many men will react to women proving themselves in these situations in a way that can enhance empowerment. They see that women can execute work that is traditionally done by men. This disrupts the notion of unbridgeable differences between men and women, which might be the reason in some cases that, based on internalized beliefs, women are barred from decision-making spaces due to a presumed incompetence (Rhode, 1991). In some contexts, this might help the cause of empowerment when women can show that they deserve a seat at the table by proving that they are capable equals to men. Again, this should not be twisted into saying that women are disempowered because they did not prove themselves enough, but since the road to gender equality is still long, issues like this should be discussed. On the other hand, in the context of Trinidad, it could also just be the other way around: men were obviously displeased during hurricane Mitch that women took up some of their tasks (Delaney & Shrader, 2000). While this is outside the scope of this work, it must be evaluated how men react if women take over the tasks that are traditionally theirs. This is not to advise against a new share of labour, but rather to ensure women's safety if men find themselves in an unknown position, where they might feel not needed anymore. A new division of labour



and increased women's right have already shown in other countries that men might react in hostile ways to this, therefore this should be a concern moving forward (Schuler et al., 2018).

In conclusion, it is on the one hand ill-advised to say for every task that women should do them for empowerment's sake. They are already heavily burdened in post-hazard situations. Nevertheless, women often reported that they want to participate more, and that exclusion is one of the main obstacles they face. Therefore, a starting point here could be investing in education for women, so that they are more capable of making independent decisions and taking action, while still being able to ask for help from the community. Additionally, the kind of proposed workshops could increase women's self-esteem, they can act in a group setting and rebuilding could become, in some cases, an empowering tool, seeing what oneself, or women in a group setting, are capable of. This then relates to the power concepts by Rowlands (1997), increasing women's power within, power with and power to. The question if taking over traditionally male dominated roles is a way towards empowerment or a danger to women in rural places cannot be answered at this point but is an issue to be considered moving forward.

### 5.3.4 Mitigation

The following Table 10 elaborates on the role of women across the task of mitigation in the disaster risk cycle

*Table 10: Women's integration into mitigation*

Sector	Task	Given Role	Executed Role	Ideal Role	Gap
<b>Disaster History</b>	Written	Not expected of women	Done by the municipality through DRM plan	Inclusion into creation of written disaster history	Open discussion on whether this approach works
	Memory		Women are usually not keepers of disaster memory: feeling of unaffectedness	Women are keepers of disaster memory: increase of resilience for community and safety for women	Lack of disaster memory leads to higher vulnerability
<b>Scientific Analysis</b>	Meteorologic	Not expected	Analysis done by COPECO:	Task is conducted by	Professionalization, not



	Geologic	of women	women involved in professional setting	educated professionals	gendered issue: no reason to change if it is working
	Hydrologic				
	Agriculture				
	Environ-mental				
	Epidemiologic				
<b>Vulnerability Analysis</b>	Community Experience	Not expected of women	Analysis done by COPECO and municipality, women involved in professional setting	Women are able to report their experiences with regard to how their experiences and needs differ from mens and are taken into account for future adaptations and strategies	Involve women into reporting and analysis on community level for broader report of experiences
	Technical Evaluation			Women have equal opportunities to men to pursue a career in technical fields and are able to participate equally in evaluations	Support women who work in the technical field
	Enineering				
<b>Longterm Improvement</b>	Land Use Regulations	Not expected of women	Done by municipality and external actors, women involved in professional function	Women are involved in creating better land use patterns	Women are not involved in creating a long-term improvement of land-use, even though they are impacted by it
	Construction Norms			Construction norms are decided upon by an independent institution.	
	Crop Cycle Adjustments			Women who are involved in farming are involved in adapting crops	Women are not on an institutional level involved in creating better farming strategies
	Organization			Women are involved in creating better organizational structures,	Women are not included in creating better organizational structures



In interviews, experts often revealed that women are not particularly working in the mitigation phase. One area, where this is of particular concern is the topic of disaster memory. Typically, women are often the keepers of disaster memory, they carry local knowledge and are able to keep the memory of what happened alive, especially by sharing it in their social network (Saavedra et al., 2019). Additionally, they remember different things compared to men, especially when it comes to norms enforced on them, which gives a different perspective on what is needed in a hazard situation compared to the assessment men make (Samuels, 2016). In Trinidad, women are usually not keepers of disaster memory. In interviews, women often reported not remembering the most recent hazards, even those, which had a recorded detrimental effect on the region and the community, like Eta and Iota. While on the side of the written disaster history, this might not be such an issue, it is on the remembered history. The written disaster history in Trinidad is conducted by the municipality, which considers its disaster risk management plan as the written history. How useful this is, is questionable, since a management plan is not the same as a recorded history of events, but the necessity of having a written down record is somewhat questionable in the environment due to lower literacy rates and the availability of said document. In the community, what seems much more important is the memory and it being kept alive via oral transmission, especially since the social network is a big asset of Trinidad. Here, where traditionally women have a big role, they are rather inactive. This could have several reasons: they could not remember a disaster happening because where they live, nothing detrimental happened. Other reasons could be the risk perception of the participants, that they simply think they are or will not be affected by a natural hazard, and therefore there are no particular memories connected to natural hazards. Furthermore, a high degree of place attachment can lead to people feeling like they are in control of their environment, which reduces the preparedness due to inaction (Navarro et al., 2020). The opposite is fatalism, where the population feels like hazards and the consequent destruction are unavoidable, which also leads to inaction, since they feel like the outcome can't be changed (McClure, 2017). Another reason for their inability to recall the events or being unable to speak about them with a foreigner and stranger is trauma, where they do not want to remember the situation (Ai et al., 2022).

In terms of resilience, this is obviously critical for the community. It is important for future events to have a reference point, to be able to assess what worked in the past or how could the line of action be improved (Saavedra et al., 2019). Here, the community is missing out on creating redundancies by spreading memories and experiences of a past hazard. This can then influence the rapidity of reacting to a future hazard, since people have no reference point (Tierney & Bruneau, 2007).



It is important here to say that women should not be blamed for not taking on this task. As established, there are many possible reasons why they don't do it, and furthermore, it is wrong to assume that women would do it, but not expect the same of men. The fact that often women are the ones to memorize such events is no indicator for this context to say, that men don't have responsibilities in this field. At this point, it is not possible to know the status of men's disaster memory, since they were not interviewed in the way women were during this research, therefore this part will continue with a focus on women. Now, how to move forward with this issue? Depending on the reason for a lack of disaster memory, different pathways forward are possible. If women lack a space to talk about these issues, the creation of women's groups, or the introduction of this topic could be beneficial. If women struggle to express themselves because it is a traumatic event that they suppress, psychological aid is necessary, especially thinking about the fact that women's mental health is often affected post-disaster (Alam & Rahman, 2017). While investing in these pathways might not seem like a pathway to empowerment per se, it could lead to women gaining a new confidence in addressing traumatic experiences and, in the long term, strengthening their social network and their recognition in the community by being able to report experiences from past disasters.

One area of work where a lack of women's participation does not seem of particular concern is the scientific analysis of the hazard. This is a task conducted by COPECO, the national agency for disaster risk management. Trinidad is lacking the capacity to conduct this analysis themselves, both in people that can do it and in materials needed, such as technical equipment. Therefore, this seems like an issue where women are not included because there are actors who do it better. Equally, local men in Trinidad are not conducting this task. It can therefore be said that this is a professionalization which benefits the community, due to an established structure which performs the task, instead of regular people having the burden to perform this analysis. Furthermore, here we can see women inclusion in a growing number of women working in the field: it has been reported that the share of women pursuing a career is continuously growing, which signals an increasing empowerment of women. Consequently, more women are in leading positions at COPECO and other entities which work in DRM, increasing the share of women in the field and bringing in new dimensions and viewpoints into the work.

Another task which is conducted by COPECO and the municipality in a joint effort is the vulnerability analysis. Women are here not expected to participate as well, since this assessment is part of a professionalized system as well. This is unproblematic in the fields of a technical and engineering evaluation, since here, women who are professionals in the field are involved and third parties, both men and women, presumably do not have the



expertise to discuss technical failures or possible engineering solutions. Here, just as in other areas of professionalization, it is important to keep supporting women to further their education and pursue a career if they want, which will increase the number of female working professionals in the upcoming years and increase disaster resilience resourcefulness, as mentioned already.

On the dimension of community experience a lack of female involvement is, on the other hand, a concern. To achieve the goal of mitigating future risk, women need to be able to share their experiences. Women hold local knowledge, furthermore, they have a different experience of a disaster compared to men, since their tasks differ and they possess other vulnerabilities (Kaya et al., 2024; Tobi et al., 2023). When these perspectives are not recorded in a vulnerability assessment, the following steps for mitigation are not inclusive of women and their needs, which are already underrepresented and not met adequately all over the DRM cycle (Kaya et al., 2024; Reyes & Lu, 2016). Here, it is unclear whether women are incorporated into this task, since the mechanism of how the analysis is conducted was not discussed in detail during the interviews and the provided literature from Trinidad does not answer this question. Therefore, a judgement cannot really be made at this point if women are incorporated in an inclusive way. Nevertheless, it should be mentioned that, for their experiences to be shared, women should be able to do so in a safe environment. This means, that on the one hand, women need empowerment: often in post-disaster situations, women do not feel like their voices and experiences matter, which could either be an internal lack of *power within* (Rowlands, 1997), or external oppression in the sense of conflict or negative peace, where women expect repercussions if they speak out or have already experienced them (Webel & Galtung, 2007). Especially sexual abuse is related to a strong stigmatization, and reporting these experiences can be incredibly hard for women, especially in the societal climate of Honduras (ERIC-SJ, 2024; Kennedy & Prock, 2018). This leads, on the one hand, to women needing support in being able to speak out. A pathway to achieve this are empowerment workshops, which help women in gaining confidence if the issue is a lack of it (Amaratunga et al., 2020). Furthermore, it is necessary to provide a safe space for sharing experiences. In the case of women's experiences during a disaster or hazard, it is important to provide time without men in attendance, since it could inhibit the women's willingness to share personal problems, such as sexual abuse or issues regarding women's health and hygiene. Since the actual execution of the task cannot be assessed now, it cannot be said what impact the situation has on women empowerment. It is, nevertheless, safe to say that the inclusion of women in the process is positive for community resilience, since a higher acknowledgement of women's needs and perspectives can help in future hazards to better manage the situation.



The last stepstone in the phase of mitigation is investing in long-term improvement in the fields of land-use, construction norms, crop cycle adaptation and organization. Women are not expected to participate here and are not doing so usually, since this task is done by the municipality and external actors. While construction norms for example should be set by responsible agencies, women should be incorporated into the other areas, especially if they are part of a relevant stakeholder group. This means, when talking about land-use and crop cycles, farmers, both men and women, should be involved. Furthermore, issues like rebuilding in new locations should consult female perspectives just as well. On the topic of organization, it seems almost illogical to not include women, especially after it has been stated by almost all interviewed people that women are the ones organizing the community, looking out after others and generally planning and coordinating. Since many of these adaptations heavily influence women's lives, it would be incredibly unfair to not include them. How this is done exactly cannot be assessed at this point due to a lack of data, but here it seems like externalizing the task is not in the best interest of the community, since resilience can suffer if adaptations are done which do not serve the community. Here, it would be beneficial to include stakeholders like women's groups which have a direct contact to issues such as land-use, agriculture or community organization. These women could then connect to others, which would be affected by changes and gather opinions and concerns. Here, women could exercise a power with, where group action leads to an increase in empowerment.

### 5.3.5 Women's disaster resilience

At this point, it is necessary to assess the resilience women have towards natural hazards in the same way as it has been done for the community, to create a cohesive picture and keep the focus on women. Therefore, the interlocked BRIC and 4R Model will be applied again in the following Table 11:

Table 11: Resilience assessment of women in Trinidad

	Resourcefulness	Robustness	Rapidity	Redundancy	Rating
<b>Ecological</b>	Ability of some women to access ecological resources such as fields, gardens or a finca	Can be critical, since access to this resource is often negotiated or facilitated through men. If that is not the case, robust access, only issue is ecological robustness	Rapidity to recover after hazard depends on willingness of women and other community members to invest in recovery	Usually, only access to one ecological resource, e.g. a garden. Here, redundancies can be created by planting diff. crops	
<b>Social</b>	Most women are involved in several social circles or	Most relationships seem to be quite	Rapidity during a crisis in the social	Different social networks	



	networks, e.g. friends, family, church, school, women's group, which creates more of the resource "social network" for them	strong: intergenerational ties, women helping each other with tasks, looking out for each other	network can be quite fast, depends on education whether information can be processed correctly	create redundancies in the system	
<b>Economic</b>	Most women pursue some kind of paid labour, often utilizing different skills they must make an income	After hazards, women are more affected by losing their income opportunities, which indicates a lower robustness. Gender stereotypes lead to difficulties in organized job market	Lack of financial means on the individual or household level can diminish disaster resilience for women and the community	Often difficult for single mothers, since they are the sole breadwinner, easier for women who live in community with others (men or women)	
<b>Institutional</b>	Women are often not incorporated on an institutional level, which leads to a reduction in resilience, since their perspectives are not incorporated	Robustness of system could be impacted if women and general community is not knowledgeable about procedures	Negative impact on rapidity of response if women are not educated on the plans and procedures	No redundancies created if institutions don't invest in women shouldering the responsibility during a hazard	
<b>Infrastructure</b>	Through social network, women might have access to different places of living, electricity, material for cooking etc., in their household usually only their resources available	Infrastructure robustness not determined by incorporation of women	Rapidity to save infrastructure, if even possible for women, only possible with higher incorporation in preparedness activities	Usually redundancies for women only given over social network: if this fails, infrastructure redundancies on the household level fail	
<b>Community Competence</b>	Women have many abilities and are principally resourceful, but a lack of education reduces their ability to make correct decisions during a hazard. Additionally patriarchal structures often prevent them from entering decision-	Abuse and violence diminish system robustness in the sense that women's opportunities are limited, as well as their involvement in DRM. Psychological issues after hazards which	Workload of women might prohibit them from taking quick action, also due to lack of education in the area.	Women are in this case often the ones creating redundancies which the community relies on during none-crisis times, but are then not properly included	



	making spaces, which reduces their resilience as well as community resilience	are not addressed broaden the problem		during a hazard	
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It is evident here, that women are especially strong in the social sphere, where they create structures that are necessary in other dimensions, e.g. community competence or redundancy of resources. Nevertheless, in many of the other parts, they are often left out, and their treatment leads to an overall lower community disaster resilience.

Women can access multiple resources, which has been discussed above and shows here again, such as natural, financial, social, and human capital. Furthermore, they have skills and capabilities in several fields. Where the issue lies here on the 4R dimension is, that the treatment and exclusion of women leads to lower robustness of the system, due to issues such as violence, abuse, or simply stereotypical gender roles and negotiated agreements via men. A low education on DRM matters reduces the ability of women to act quickly during a hazard, furthermore, the low trust put in women leads to a low creation of redundancies, which puts the responsibility during a hazard solely on the shoulders of institutions. The issue is that those cannot be in every community at once, therefore, women need to be incorporated into the DRM cycle more strongly, to create a higher disaster resilience.

How this now translates into women's influence on community disaster resilience will be explored in the next chapter, where the previously discussed results are cumulated.

## 5.4 Women's contribution to community disaster resilience

After both the resilience assessment and the discussion of women's roles in DRM in Trinidad, it is clear that women have a strong role and influence on resilience in some parts of the DRM cycle, and a rather small or non-existent one in others. This role can be seen in Table 12, where, similar to chapter 5.2.2, all tasks based on Schramm and Newman (1986) are listed, and the areas where women are involved and working are marked:

*Table 12: Women's involvement across the DRM cycle*

Phase	Sector	Task	Women Involvement
<b>Response</b>	Search and Rescue	Search and Rescue	Women might influence S&R by pointing out missing people
	Shelter	Shelter	Women work especially hard in shelters, organizing life here and creating community cohesion



	Evaluation	Needs	Women communicate community needs to authorities
		Damages	
	Analysis	Requirement Analysis	
		Resource Analysis	
		Procurement	
	Logistics	Warehousing	
		Transport	
		Distribution	Sometimes done by women in schools
<b>Recovery</b>	Rehabilitation and Reconstruction	Housing	Single women / women without male households heads are potentially involved in rebuilding their home
		Water	
		Agriculture	Women working as farmers/ who have a piece of land might be involved in rebuilding their agricultural property
		Infrastructure	
		Commercial	Women who are business owners are potentially involved in rebuilding their own business
		Development Opportunities	
<b>Mitigation and Prevention</b>	Disaster History	Written	
		Memory	
	Scientific Analysis	Meteorologic	
		Geologic	
		Hydrologic	
		Agirculture	
		Environmental	
		Epidemiologic	
	Vulnerability Analysis	Community Experience	
		Technical Evaluation	
		Engineering	
	Long-term improvement	Land Use Regulations	
		Construction Norms	
		Crop Cycle Adjustment	
		Organization	
<b>Preparedness</b>	Community Planning	Procedures	



		Stockpiling	
		Awareness	
		Resources Inventory	
		Communications Planning	
		Logistics Planning	
	Prediction and Warning	Technology	
		Interpretation	
		Tracking and Warning	
		Communication	
		Public Response	
		Evacuation	

This table focuses especially on the role local women, who don't work in DRM, have across the DRM cycle. It was established that there is a growing number of women working in the field, but since this is not the focus of this research, these roles are not explicitly mentioned here. This distribution of tasks can be translated directly into the following graphic, where all the responsibilities across the DRM cycle are accounted for:



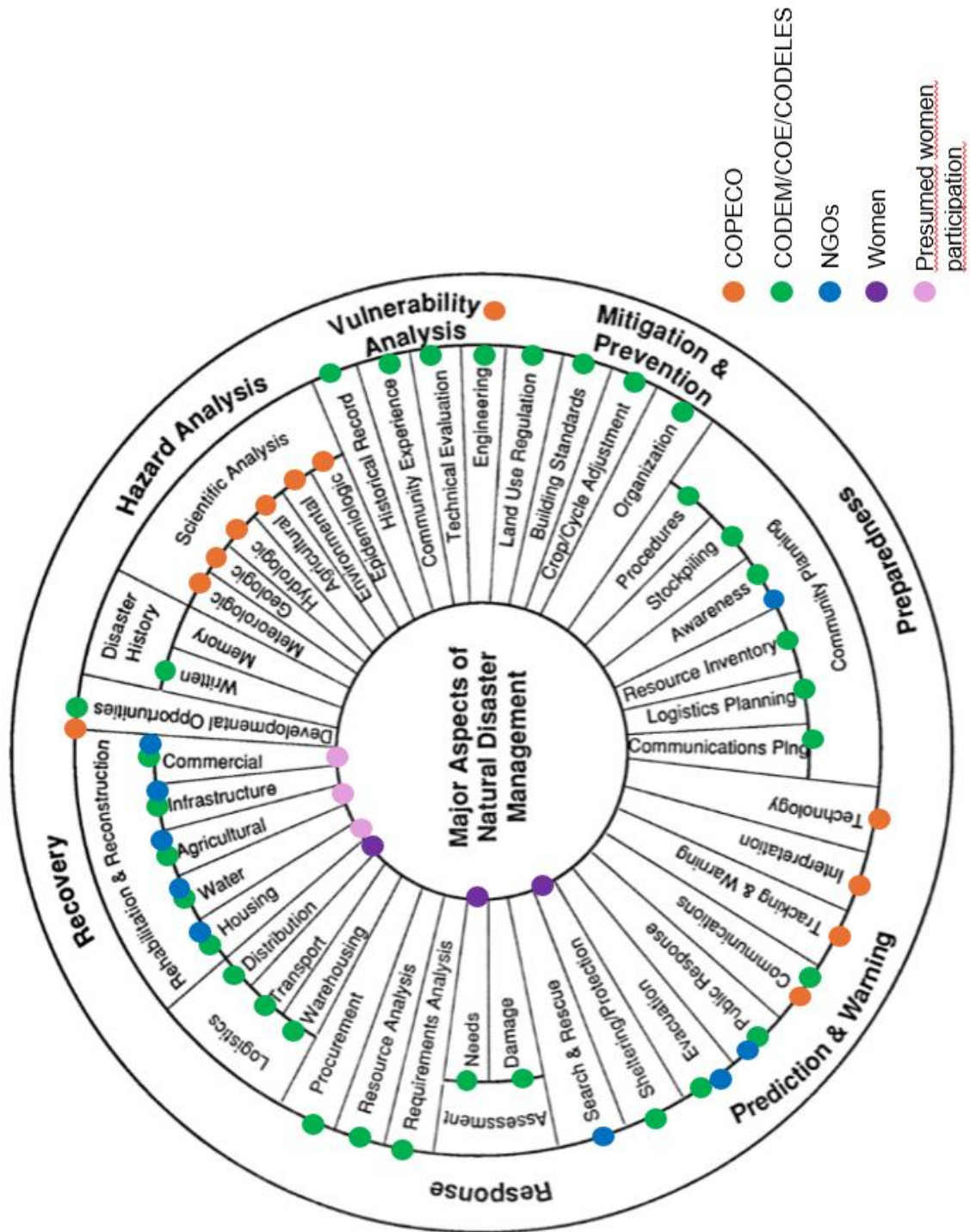


Figure 14: Distribution of responsibilities by actors across the DRM cycle

Here, it is evident that women are only in a few areas active, with the light pink markers meaning, that it is highly likely that at least some women are involved in these tasks, but it cannot be confirmed by the material available. On the other hand, based on the expert-



driven approach used here, CODEM and other institutions are very active across the DRM cycle.

Women's contribution to community resilience is especially strong, when their capabilities and traditional roles are utilized in a DRM context. It was established that women's roles are usually still very traditional and influenced by societal pressure and the prevalence of machismo. Women are caretakers around the house, they look out and care for relatives and conduct household chores. Furthermore, they have a strong social network: they have a circle of friends and family around them and are often active in organized groups, such as the church or women's groups. When these roles and strengths are translated into a DRM context, women have a big influence on community resilience. This shows especially in the preparation and response phase, where women work in and around the shelters, keeping up a social life for the community, organizing, creating safe spaces for recovery, cooking and cleaning. Here, community cohesion is mainly created by women, since it is on the one hand seen as their "natural" role to be caretakers, but on the other hand women embrace this work. They can gain a sense of empowerment from these tasks, being able to control resources, create something in a community, and are able to make independent decisions which then lead to change in their environment, for example when it comes to scheduling or creating a safe environment. Furthermore, women are good in communicating needs in the community and to the authorities. This has been noted during non-crisis times already and is amplified during life in shelters. Here, women actively work on resilience, since they allow the community to recover in a timely manner and restore basic functions (IPCC, 2012). In the community disaster resilience assessment, many of the areas that are both somehow related to a social sphere, e.g. community competence or the social dimension of the assessment, are related to either the work women do or the limitations women experience. While first focusing on the positive aspects here, during this assessment it has become clear that women conduct important work towards disaster resilience. They create social redundancies by being active in different social networks, and when incorporated, contribute resourcefulness with their experiences, abilities and knowledge.

In other areas, it was noted that women are not particularly involved, but due to the tasks being delegated to professionals. Here, local women do not work directly on creating disaster resilience, but women in general do. There has been a noted increase in women working professionally in DRM in Honduras, taking up more responsibilities in the last years and proving that they can conduct the tasks given to them. From this side, especially in the phase of mitigation, women are actively working on creating an environment which can absorb and accommodate shocks or recover from them while maintaining structures and



functions of society (IPCC, 2012). Here it was discussed that, this low involvement of women is not necessarily critical: it can be seen as a step towards professionalizing the DRM sector in Trinidad when tasks are done by externals, especially when the community does not have the necessary capacities. What is important in this context is, that this is a strict professionalization: this means, that while women from Trinidad are not involved in, for example, analysing meteorological data from a hazard in Trinidad, men from the municipality who do not work in the field are not involved either. If they were, this work distribution would move from a professionalization topic back to an exclusion based on gender. Right now, women are not involved since they lack the professional education and knowledge as well as the capacity and capabilities, it is evident that there are institutions who can do this job better than locals. If suddenly, local men were involved, it would create the question of why they are seen as able to participate in these tasks while women are not. There is no reason to believe that this is a process which is happening right now, therefore the low or non-participation of women in most of the fields which are unproblematic, because there are better equipped people to do these tasks and women don't have to take on even more work. This is therefore in the sense of building disaster resilience and can, additionally, be seen as part of the process of women gaining the ability to make choices which they have been denied to make for a long time (Kabeer, 1999) through deconstructing societal stereotypes that women are so different that they cannot possibly contribute in this field (Rhode, 1991). How the situation for women in the workplace might be another issue which could be discussed, since oftentimes, no accommodations are made for women because suddenly the presumption changes from seeing many differences to seeing no differences between the genders, but this is an issue which surpasses the limitations of this research (Rhode, 1991).

Where women do not contribute to disaster resilience are for the majority tasks, where societal structures and norms prevent them from entering decision-making spaces and processes or where they are denied the sufficient education to carry out certain tasks (Dhungel & Ojha, 2012; Rhode, 1991). In the resilience assessment and the chapter regarding the role of women in Trinidad it has been noted that women are often subject to violence, both physically and mentally as well as on household level and on a larger, societal scale. This means, that women, from an empowerment perspective, are not able to make independent decisions, follow their own agency and can live a life in peace, in the absence of violence (Sen & Mukherjee, 2014). This also often means a lack of *power within*, which is needed to confidently make decisions. Additionally, women's role is still seen in a very conservative and traditional, even patriarchal way in Trinidad. Women are the ones caring for the house and the children while the man is seen as the provider, even though often this



is not the reality, and women take on a much higher workload than their partners in many cases, not only in everyday life but often also during hazards (Delaney & Shrader, 2000). This traditional view bars women from entering decision-making spaces, which are still very much male dominated. This furthermore leads to women not receiving enough education in the field of hazards and DRM, which then increases their vulnerability and misses chances in creating higher community resilience, e.g. by establishing redundancies in responsibility, accessing their resourcefulness and creating a rapidity in system response during a hazard. The traditional structures are not a smart way of labour division, they are hurtful to women's empowerment and their ability to lead a self-determined life, as well as undermining the community's disaster resilience. It disregards that women are keepers of local knowledge and unique perspectives, that their organizing skills are often what keeps a community together and that they are capable members of society.

Especially in the phase of recovery, the keeping of disaster memories, the vulnerability analysis, the long-term improvement as well as community planification and communication and sensibilization women's skills are either underutilized or completely disregarded due to them either being not included in decision-making spaces and procedures, or because they lack necessary information and education. This is hurting the community on several levels:

Women's traditional roles shouldn't be seen as something inherently limiting: their lifestyle often gives them skills, knowledge and resources which other community members, especially men, do not have. First and foremost women reported, being able to rely on their friends and family post-disaster (Reyes & Lu, 2016). Furthermore, women experience disasters differently compared to men (Samuels, 2016) and they are keepers of critical and local knowledge (Saavedra et al., 2019). If these skills are not utilized, the community is missing opportunities for building disaster resilience. How this can look is, for example, excluding women from vulnerability analysis or the process in restructuring land-use planning. Women have different perspectives than men, and they additionally have different needs, e.g. considering safety, how they move through the city or their health. Not including women in these processes is not resourceful and can create more severe impacts in the future, since needs of community members might not be met on a large scale. In recovery, women's absence limits the community's capacity to rebuild equitably and sustainably (Amaratunga et al., 2020). When women are not included in economic recovery planning, communities miss opportunities to leverage their roles in sustaining household economies and rebuilding livelihoods. Empowering women in DRM tasks enhances resilience by diversifying income sources and creating inclusive recovery plans (Roy & Mukherjee, 2024). Without their active involvement, economic recovery is slower, as women often represent a significant portion of informal labour and caregiving roles critical to household and



community stability. Furthermore, women are often more affected by losing their source of income post-hazard (The World Bank, 2021). Including them in economic preparation and planning or recovery might increase their ability to keep their jobs afterwards, which increases overall community resilience, as it has been seen in the resilience assessment that especially economic considerations are right now not ideal in Trinidad.

It is established now that, while women have strong influences on community disaster resilience, their skills are often underutilized or underdeveloped, stemming from a traditional view on gender roles. These patriarchal narratives are not only hurting women in their ability to live a self-determined life, but also the community's disaster resilience, since both the needs of many members of society are not met, and furthermore, knowledge and skills of this group are not utilized. A lot of pressure is placed on institutional solutions, where in a technocratic sense, only experts work on finding pathways to decrease resilience, leaving the local community, and especially women, out of the equation. While it could not be assessed if this has a detrimental influence on the community in case of a hazard, it can be said that overall resilience could be improved by including women more strongly into DRM tasks and procedures. In the following discussion, pathways for a potential stronger contribution of women in DRM in Trinidad will be presented.



## 6 Discussion

The following chapter will investigate areas of potential further contributions and an expanded role of women in the DRM cycle as well as consider underlying issues that are causes for the current situation and aim at opening pathways on how the overall situation for women, women empowerment and community disaster resilience might be improved. To finalize this research, the relationship between women empowerment and DRM will be explored further, viewing both concepts from different starting points and how they influence each other.

### 6.1 Potential further contributions and expanded role

When asking if more tasks in the DRM cycle should be covered by women, it is necessary to take a step back and ask, if women have the capacities to do so.

In chapter 5.1.2. it was established already, that women have a high workload, stretched between paid labour, domestic work and care work. Especially single mothers reported that they feel exhausted and have a feeling of burnout. The question is then: would it empower women to take on more work? In interviews, experts usually said, that women should be more involved and that it would benefit them and women empowerment, because they would have a seat at the table and are involved in decision-making during critical times. If now both sentiments are considered to be true, a differentiation between women has to be made: there were to ones with time on their hand, who had free time to do as they please, and those who reported a heavy workload and a general sentiment of exhaustion and no time for themselves. The latter type of women, often single mothers, don't seem to have the capacities to involve themselves in more DRM work. Here, the discussion should be about lightening their load in whatever way: while this extends the frame of this work, some form of capital usually seems to help here, let that be child support payments, a piece of land to substitute income and food, or a stronger social network which can help with the children, a stronger healthcare system to combat physical and mental illnesses. These are all far reaching suggestions and could be considered in further research. Clear is, that many women do not have the time or mental capacities to take part in educational workshops, since they have more urgent problems, such as how they will feed their children or keep a roof above their heads. Even though these women often had more *power* after Rowlands (1997), asking these women to do even more labour cannot be the pathway forward: in their situation with their amount of work, they do not have the capacities to lead a life where they are able to make choices simply for themselves, even if they live without a man who is seen as someone they need to obey, even though they have access to resources, are able to



bring about changes in their lives and trust themselves with crucial decisions. Here, the issue is that for creating a pathway to empowerment, the women need to have more space for themselves. Realizing what they want and need, but also adjusting this to the responsibilities they have needs to be done before considering them for further contributions. Additionally, the juxtaposition between men and women and their workloads can be opened up here: women are the ones responsible for children, the household and other relatives, next to pursuing paid labour, either inside or outside of the home, while men “only” work, but have little responsibilities around the house. Still, we talk here about including women more, while the logical response stemming from this assessment could rather be that men should be involved more, to lighten the load women are carrying already. The unfortunate reality here is, that if women are not pushing for inclusion in these spaces, they will likely never be included. This stems from the already discussed societal climate which perpetuates strong traditional gender roles and distinguishes men and women heavily, attributing different tasks and wants to the genders. If we were to advocate for more male participation in DRM, it is likely that women’s issues would be neglected for the foreseeable future as well. Additionally, women empowerment through DRM would stop: while authors have already discussed that participation in this field can fuel empowerment (Aryal, 2014), advocating for male participation would, at best, change nothing to the current situation, and at worst, increase the state of conflict women live in, since resource access is given more to men than it already is. Therefore, as unfair as it may be, if women want access to these spaces, that will likely mean that there will be an increased amount of work for them. Here, the focus needs to be on negotiating a new share of labour in the community: especially when considering household tasks, a more equitable share should be considered. Furthermore, state support would be beneficial to especially single mothers, even though this is certainly a topic which relates next to traditional role models, such as the nuclear family with the man as the provider in policies, to state finances as well, which limit interventionist measures in Honduras. It is unwise to assign all tasks to women solely for empowerment, as they already bear significant burdens in post-disaster contexts. However, many women express a desire for greater participation, citing exclusion as a major barrier. The question of whether assuming traditionally male roles fosters empowerment or poses risks in rural areas remains unresolved but warrants further exploration.

Turning back to the workload of women, the most that can be expected of those who are already incredibly overworked, is to receive the education on how to behave during a hazard. In the neoliberal sense of “if everyone looks after themselves, everyone is looked after”, this could alleviate stress during a hazard situation, since these women are



evacuating their family independently. For this accomplishment, women need support nevertheless: it cannot be expected that women who are stretched thin by their daily workload already are expected to care about the correct behaviour during a hazard, especially, when in their perception, this is not something which affects them anyways. Here, the need for support and lowering the burden women have, is crucial. As mentioned above, it is still open how to achieve this, especially since societal structures and overarching financial constraints in Honduras are at least part of the reason for the situation many single mothers are in. This might be evaluated further in research.

Looking at the issue with a more community-centric view, it is evident that rather women who still have capacities for a stronger involvement should be addressed. These women could be incorporated stronger into areas of DRM, which are underrepresented right now, playing on capabilities of women to strengthen resilience. Looking at it the other way around, this could also help to further women empowerment in the community: it has been reported by studies, that after participating in DRM measures in the community, women were more empowered and home dynamics often changed, leading to less domestic violence (Aryal, 2014). Here again: women are not responsible for experiencing violence or abuse, their abusers are responsible. Therefore, the recipient of these messages should be them. Realistically, many societies and communities still have a long way to go in terms of reducing violence against women. If there are measures which can be taken on a community level, they should not be discredited right away, just because from an idealistic viewpoint, the strategy should start the other way around.

Another issue which needs to be addressed in this context is the internal and external oppression of women. It has been established above that many women, if not all, given the general climate and opinions about women in Honduras, live in a constant state of conflict (Webel & Galtung, 2007), where they cannot express themselves freely, follow their own agenda and make independent choices for themselves. This external oppression limits women's ability to participate in DRM tasks, simply because they are not free to choose this for themselves, especially when there is a husband or head of household involved which is male. On the other hand, this constant state of conflict obviously influences women's internal oppression or power within, as stated by (Rowlands, 1997). Women who constantly live in this state of danger lack the internal agency and conviction, that they are capable and have abilities which can have a positive impact on their community. While some women, such as single mothers, might be too exhausted to even consider involving themselves in these issues, women who are mainly at home and don't involve themselves much in exterior issues need to be empowered that they are valuable members of their community and that they are able to make decisions and share their opinion. If women never learn to make



independent decisions, because at home, someone else has the responsibility to do so, they cannot be expected to be self-reliant in a disaster situation. On both these issues, internal and external oppression, work needs to be done for women to be able to take up a more prominent role in DRM work.

It is apparent that, for a stronger integration into DRM tasks, women need support: it must be established that women want to do these tasks, that they can do them, and that they are taught how to do them. Therefore, two examples will be given here on how this could work, based on the previously discussed tasks that women execute, as well as their influence on community disaster resilience and the theory discussed above.

### 6.1.1 Disaster Memory

Often, women are keepers of disaster knowledge (Saavedra et al., 2019) and it was shown, that women recall disasters differently than men, based on the experiences and rules which shape their own lives (Samuels, 2016). While this is in many cases a vulnerability to women, as discussed already, recalling disasters based on their own perception can aid in incorporating different views into DRM practices.

In the context of Trinidad, it has been noted that women are often not carriers of disaster memories. When asked about the latest hazard or disaster, women often came up with nothing. Being able to recall disaster memory could be an empowering experience for women: when shared in a group setting, the notion of *power with* can be felt, furthermore, they are strengthened in the belief that their experience is valuable, which translates to *power from within*.

How to go about this issue is a difficult task, since memories is not the same as knowledge and cannot be given to someone in a lesson. While correct behaviour is something that could be taught, memories are not. The key here could be raising sensitivity to these topics: it is obviously not every day that people are confronted with natural hazards, therefore, the topic might slip their minds. Talking more about these topics might raise sensitivity and create more awareness, so that women can start being carriers of this task. Therefore, here are different steps that could be taken for women to be more involved in carrying disaster memories:

- Support women by lightening their workload: examples could be childcare, educational funds for children, financial support such as child support etc. These ideas aim especially at single mothers, who reported burnout feelings and have no time to participate in DRM tasks.



- Support exchange over disasters in community groups, such as women's groups, church groups etc: some women will have experiences during a disaster, since there is evidence that there has been destruction caused by hurricanes in recent years
- Involve older women: they gave reports of Hurricane Mitch from 1998, which had severe impacts on Honduras. Listening to their experiences might connect issues which were prominent in recent years and which are also connected to natural hazards
- Involve experts: after talking about personal opinions, it could be useful to hear out experts on correct behaviour during hazard situations
- Increase availability of psychological counselling: it has been discussed already that women struggle with depression and anxiety after hazards. Their reluctance or avoidance of the topic of disaster memories could be a coping mechanism established after a hazard
- Involve schools: if awareness and sensitivity for hazards is raised in children already, the next generation of disaster memory carriers can join this task in the future.

These can be considered starting points to assess what women in the community need and how they can be supported in receiving education and exchanging knowledge and memories connected to past hazards. It is hard to derive a process of increasing disaster memory in women from literature, since the keeping of disaster memory is often noted as something women do intrinsically motivated without intervention. It is never the case that women need to be animated to do so. The case of Trinidad therefore seems to be a special situation, compared to other environments. What is needed for women to access and conduct this task is therefore a process of trial and error. The above-mentioned tasks might give a first idea at what could be a starting point.

In terms of community disaster resilience, being able to have a recollection of past disasters and hazards is valuable in the sense of creating redundancies in knowledge and experiences, which then can lead to increased rapidity in preparation and response. This might then lead to a lower impact of the hazard, circling back to the DRM cycle which should, ideally, form a spiral with a decreasing hazard impact (Bosher et al., 2021).

Another point, which seems to jump out from the proposed ideas, is the fact, that organization is necessary for women. This does not only apply for the creation of disaster memory, but also to other areas across the DRM cycle and beyond. In Trinidad, many women are already involved in organized groups, such as the women's group, which unfortunately could not be assessed in this research, the church, NGO groups or groups



related to the schools. A viable pathway here could be to reach women over these groups:  
e.g.:

- Ask in the schools whose parents would want to participate in an evacuation training
- Go over the women's groups to see how is the need of psychological aid after a hazard
- Invite experts for DRM to a women's church group meeting to talk about past experiences, how to behave correctly during a hazard or exchange about other related topics

This would provide a low-level entry point to reach many women, especially when, in a social network analysis, some women who are extremely connected in several social circles could be found, who then translate these ideas and topics into different circles. Reaching everyone will be a challenge in the community due to a sometimes-inaccessible rural environment, but an effort should be made, utilizing the current social network to increase resilience and involve women more in this work.

### 6.1.2 Reconstruction and long-term improvement

It has been discussed above already that women are often not particularly involved in rebuilding efforts. This can have negative impacts for the women that are affected by destruction of property and resources after a natural hazard. Furthermore, looking at the issue with a broader view, women's perspectives are not included during rebuilding on a larger scale: After disasters, there is a window of opportunity, where infrastructure can be rebuilt in a more resilient or inclusive way (Kendra & Wachtendorf, 2003). Since women have different life experiences to men, their opinions are necessary to determine, whether rebuilding in a certain way is actually beneficial for the whole community (Samuels, 2016). While women can do this to a certain degree in a professional environment, local women need to be incorporated as well. As discussed in the chapter above, women carry local knowledge, furthermore, they are more keenly aware about needs in the community. It has been shown that women work especially hard in organizing community life after a hazard, which is also the case in Trinidad. Still, a strong involvement in reconstruction and improving the community afterwards can have a tremendous impact on women and society in terms of self-esteem, confidence, respect and the following of their own agenda. This goes both ways: while women might earn respect from the community by rebuilding, inserting their opinion and going into a productive process on how to improve the community, they also earn *power from within* by doing so, realizing their own agency and capabilities. Additionally, them being in charge and making decisions is an indicator of possessing *power over* and *power to*, where the control resources and influence future outcomes. Furthermore, the



community infrastructure could be improved long-term, not only providing basic needs, but going beyond that, providing community cohesion, security, and additional functions which were not there prior (Amaratunga et al., 2020; Thurairajah et al., 2008)

Steps that could be implemented to reach higher women engagement in the reconstruction and mitigation phase could therefore be the following:

- Provide empowerment workshops for women to increase their power within as well as their confidence in making their voices heard and addressing their needs in the community.
- Advocate for women to be included in reconstruction projects led by NGOs or other external actors, since they are often reduced to their roles as mothers and housewives by agencies working in the field (Kaya et al., 2024).
- Provide training for women on how to conduct certain rebuilding tasks themselves
- Offer education on construction processes and provide training in essential soft skills, including project and financial management, communication, and negotiation, through workshops or seminars facilitated by educational institutions and NGOs focused on women's development (Amaratunga et al., 2020).
- Create structures which systemically consult the community during rebuilding efforts to address needs equally and support women in attending these meetings
- Create a fund for financial support for female-led households which allows for faster reconstruction
- Work on addressing gender stereotypes in both men and women by showcasing women working in reconstruction and their achievements

While many more pathways to increasing women's participation in reconstruction are available, these give a first idea on starting points. In terms of community disaster resilience, incorporating women more can increase the resourcefulness of the system. Women's perspectives are incorporated into reconstruction, which allows for a more creative approach, which serves the community in a more holistic way.

### 6.1.3 Outlook: Areas of increased participation for women

The above-mentioned pathways, concerns and possibilities finally lead to the following Figure 15: Potential areas for stronger women inclusion across the DRM cycle, which highlights areas, where women could take up more space, be that in actually taking action or moving into decision-making spheres.



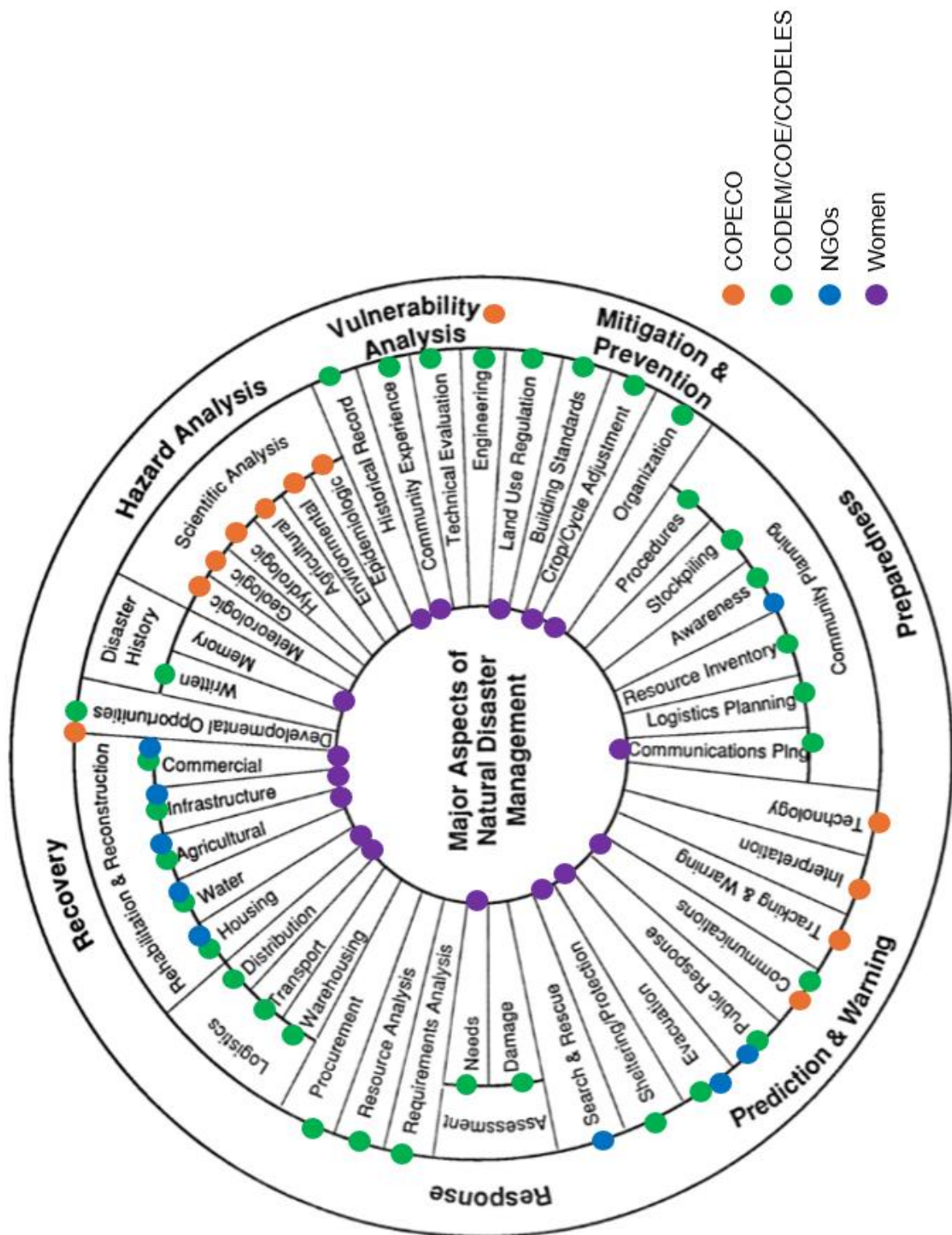


Figure 15: Potential areas for stronger women inclusion across the DRM cycle



It was established that women already work in shelters and needs communication, as well as potentially in reconstruction. This study argued, that especially in the areas of disaster memory, which here includes historical record as well, reconstruction in the recovery phase, and the process of long-term improvement, with adjusting regulations and uses, women should and need to be more incorporated. This would benefit not only women, since they are able to access decision-making spaces and experience power in several forms, but it would also benefit the community disaster resilience, since more diverse perspectives are utilized and specific capacities, which are left out as of now, are then applied.

## 6.2 Relationship between DRM and Women Empowerment

The relation between DRM and women empowerment can be seen in two ways: for one, it could be argued that women who work more in DRM gain more empowerment, since they are able to make decisions in a community context, their voices are heard and understood better, which could consequently lead to a higher degree of empowerment, since women might not be seen as inferior if they contribute in this way. It was shown in literature, that women who partake in workshops or courses which increase women's leadership in the community and increase their decision-making power on a community level, show a higher degree of empowerment. They are often taken more seriously and are seen as capable. This translates into a non-DRM context, where women have then increased agency in their lives, unrelated to natural hazards and their management (Alam & Rahman, 2017; Aryal, 2014). Here, it should be emphasized again that women deserve respect, a life free from violence and the ability to pursue their own agency without having to prove themselves as worthy or capable. This is consequently the line of argument which has been pursued in this research: encouraging and empowering women to take up more tasks across the DRM cycle, which leads to them experiencing new forms of *power* and consequently expecting something like a trickle-down effect of empowerment into everyday life, where women then have the ability to make choices for themselves.

The other way around, if women gained more empowerment by other means, it could prompt them to take up more tasks voluntarily in the DRM spheres. As has been shown during this research, women are often burdened by gender stereotypes, oppression, heavy workloads and a societal climate which expects certain behaviours of women. Meanwhile, women still work in DRM and are key actors during certain disaster phases. This means, they are not principally uninterested in these tasks. More so, it could be argued, that they are regularly weighed down by expectations, rules and norms, which only apply to them. By challenging these concepts which hinder empowerment, women would gain more freedom



of choice regarding their own lives. With the assumption, that women are equally interested in DRM work as men, it could then be the case, that with an increased status of empowerment, women would choose to participate stronger in community DRM tasks and measures. This would then be another free choice that women can make, which furthers their agency: while DRM is obviously important community work, forcing women to participate more is not the right way. Through this, women would be stripped of their agency even more. Forcing them to take up tasks that they have no capacity for or interest in is the same as limiting their agency in other areas. Their ability to make decisions for their own lives is heavily disregarded by doing so. With more freedom of choice, some women might want to take up DRM work. Others might choose to contribute to other fields, such as healthcare, engineering, politics, education, mobility or agriculture. All these areas are necessary for a community, and a more diverse field of participants will benefit the municipality. Furthermore, it must be acknowledged that women are already crucial contributors to the community: unpaid labour, such as caring for children and elderly, as well as having a job, is an enormous economic contribution. Women who are stay-at-home parents allow for the other partner to pursue a career more fully: without the invisible labour women conduct, the society would have to adapt to other methods, such as part-time work or paying external providers for these services. Therefore, this discussion is not meant to say that women are not contributing, rather, it is meant in a way that, when empowered, women are free to choose in which way they contribute to the community. This can be by staying at home and performing labour in terms of caring for others, but it can also be pursuing a degree in engineering and working on creating resilient infrastructure for climate change resilience. The point here is: if women are empowered, they are free to choose, which should be the goal here. Then, on an equal playing field, issues like DRM work can be negotiated at eye level. What seems useful still is investing in empowerment workshops and group organization where women can exchange experiences and learn to challenge societal ideals which limit them.

No matter which way DRM and empowerment are looked at, coming from the prior discussion, there are several things most, if not all women would benefit from. First, empowerment workshops would likely benefit many of the women in regaining a sense of agency and gathering the courage to make their voices heard, especially in a society which often marginalizes and endangers women. Depending on the perspective, these workshops could either increase women's empowerment so that they are able to pursue tasks that they want to do, or it will help women when specifically doing tasks in the DRM sphere.

Another point that would likely benefit all women is investment into education: women would benefit from being more knowledgeable about natural hazards and following procedures.



Then, they could make informed decisions during hazard events, which would increase their empowerment, since it gives them a level of authority. Additionally, here, issues like general education and supporting women who pursue a career seem more important. It was discussed in Chapter 4 that issues like teen pregnancies, relatively high costs for education and the necessity to help support the family are limiting factors to furthering especially women's education in Honduras and Trinidad. By addressing these issues, women and girls would have more opportunities and resources in the future, furthermore they are educated and can create their own agenda, which are important factors when considering the road to empowerment (Kabeer, 1999). Combined with education, a broader availability of psychological counselling would be a benefit to many women, especially when they experienced hazards but due to psychological coping mechanisms are unable to truly recall these events, which could lead to higher vulnerability in the future.

To show concrete pathways for this different perspective on the interplay between women empowerment and DRM surpasses the scope of this research at this point. It is, nevertheless, safe to say, that women would benefit from certain interventions no matter the perspective. Increasing women's agency and ability to make decisions is a process which does not have a single set of necessary interventions, but multiple potential pathways.



## 7 Conclusion

This research aimed at answering what the role of women is in the community of Trinidad, Honduras, and how their role influences the community's disaster resilience. This was achieved by first looking into the social role of women in the community, before assessing the community's disaster resilience, based on responsibilities of actors during a hazard and using a matrix of two separate resilience assessment models. Ultimately, the influence of women based on their responsibilities and social role on community disaster resilience was assessed, by looking into the tasks that are expected of them, those they perform and analysing the gap between the ideal role and the reality in Trinidad. Based on these results, pathways forward for increased community disaster resilience and women empowerment were debated, before ultimately discussing the relationship between empowerment and DRM and how these concepts mutually influence each other.

The research was conducted based on a mixed methods approach and a constructivist worldview, using different types of interviews, which were carried out during a six-week field research period in June and July 2024, as well as using desk research for additional information, which could not be attained during the time in the field.

The results showed that the role of women in Trinidad is often still very traditional, dominated by patriarchal structures and societal norms imposed on women. They possess multiple capacities, such as a strong social network, human capital through the paid labour they perform and are, in most cases, collaborative or independent decision makers in their household. Additionally, many women reported having access to different kinds of capital such as natural, physical or financial.

In terms of vulnerabilities, different factors have been identified which were found to severely limit women's agency and their ability to make independent choices. Here, the picture is different based on lifestyle: while single mothers are used to making decisions on their own, follow their own agency and arguably lead a more empowered life on paper, they are often overburdened by work and household chores, next to raising their children. This severely limits their ability to follow their own agency, due to being heavily burdened with work and other necessary tasks. Women in relationships with men, on the other hand, have often somewhat more time for themselves, but don't necessarily are able to follow their own agency. The man is traditionally seen as the head of the household, limiting the decision-making power of women. Both issues translate to a lack of power after Rowlands (1997), whether it be *power over* resources, *power to* make changes, *power with* a group or *power from within*, necessary to channel to own will to pursue goals and trust oneself. Additional



to these factors, women experience a lack of opportunities, a societal climate centred around male supremacy and, often physical or psychological violence, which translates into a state of conflict for women, where self-expression is limited due to feared repercussions, both in the household as well as in society (Webel & Galtung, 2007). Some women react to this with negating the inequalities, which hints at a coping mechanism. This could be imposed by society, an internalized belief that the role women play is what they intrinsically want (Rhode, 1991). While advancements have been made in recent years in Honduran society, women in Trinidad are often still confined to traditional roles with only little room for self-expression and sidelined in decision-making processes.

In terms of community disaster resilience, different actors were identified: COPECO, CODEM, COE, the CODELES and local NGOs. Across the disaster risk management cycle, all tasks are somewhat accounted for by these actors, hinting at a progressing professionalization of the field. How well this works during a hazard is not assessable in this work, but it hints at a positive disaster resilience of the community, that many tasks are already accounted for. The community disaster resilience seems to be quite strong across several fields which include the community, such as social, community competence and institutional. Nevertheless, especially the system robustness is low. Furthermore, more redundancies, resourcefulness and rapidity could be created through several means: women are often left out of crucial processes, leaving out knowledge and creativity. Additionally, a lack of education creates vulnerabilities in the community, which can counteract a well-planned institutional framework.

When it comes to the role women execute in DRM and their influence on community disaster resilience it was seen that women perform especially strong when their traditional roles are translated into a DRM context. Especially working in and around the shelters are tasks mainly executed by women, where they excel and receive respect due to them conducting this work. Even though they might not take up this work due to intrinsic motivation but societal expectation, they experience different kinds of *power* in this role and prove that women are able to confidently and competently do these tasks.

In other areas, it was seen that women are not included in DRM tasks due to a progressing professionalization of the field, where experts, mainly from COPECO, NGOs and disaster relief organizations perform this work. This is mainly the case in topics related to scientific assessments and long-term planning. It was evaluated that here it seems uncritical to not include local women, since there are other, better equipped institutions who can contribute to these topics and consequently lift a burden the community is not equipped to handle



currently. Here, the focus should be on encouraging women to start a career in this field to increase diversity and incorporate different viewpoints long term.

Still, there are many areas across the DRM cycle, where women are excluded not due to professionalization, but due to gender stereotypes, such as exclusion of women from decision-making spaces or the presumption, that women are not able or not interested in certain fields. These assumptions, seen across the DRM cycle as well as reported during expert interviews, severely limits the community disaster resilience. It underutilizes resources in the sense that women's experiences, opinions and knowledge are not used effectively, no redundancies in responsibility are created by not educating women properly and decreasing the rapidity of response in case of a hazard, which then influences the overall system robustness. This is due to societal patterns, machismo, violence against women and the triple role women must fulfil, burdening them with high workloads, as discussed already.

This lead to the assessment, that women do positively influence the community resilience, since they contribute their strengths, such as a strong social network, to the community, during times of a crisis and apart from this. Still, even though this is the case, community disaster resilience could be strengthened in several aspects, where both the resilience of the community, as well as the women's resilience was found lacking. Based on this, mutually beneficial pathways were discussed, how community disaster resilience could be increased while working on strengthening women's empowerment.

Pathways for more inclusion were discussed, such as investing into education for DRM and hazards, which could help create redundancies in the DRM sector, increasing rapidity in a hazard. Furthermore, spaces where women can share experiences of past hazards were discussed, especially when considering the fields of reconstruction and disaster memory. It must be acknowledged, that many women are not used to being an independent decision-maker due to men being perceived as the head of household. Additionally, many women experience mental health issues after natural hazards; without psychological help, their coping mechanism of denying any disaster from happening prohibits them from increasing their individual as well as the community resilience towards disasters. Furthermore, it was thoroughly discussed that some women simply do not have sufficient capacities to invest time and mental space into educating themselves further. They have other, more urgent problems, especially coming from the perspective that they are not affected by hazards. Here, a reduction of their workload is necessary for them to even be able to increase their individual resilience, not even touching upon contributing to community disaster resilience. Another issue was the necessity of having an organized structure, through which these



measures can be pursued is necessary. On the one hand, women benefit from presenting themselves in a more cohesive, unified form, such as a women's group. On the other hand, it would be easier to reach the women in the community through an organized setting, instead of trying to reach them individually.

Furthermore, supporting women in the workplace and in pursuing an education and a career is a crucial step to not only empower local women, but also increase women's participation in the workforce and their contribution to overall disaster resilience there. This is an especially important perspective when considering the relationship between women empowerment and DRM. While education in DRM and measures specifically targeted at increasing women's participation here can increase empowerment overall, the other way around is also possible. Investing in empowering women can have the long-term effect that women will take up DRM tasks voluntarily, without external actors dictating that this is what they want to do, which would again limit their agency. Here, especially furthering the education of women and girls, changing access to resources and challenging societal norms and institutions which uphold a disbalance of power is important. While this perspective has not been discussed as thoroughly in the research, it is another way of looking at the intersection of women empowerment and disaster risk management.

Limitations of this research are a low number of interview participants, which does not allow for a generalization of the results, furthermore the sampling method by convenience and chain sampling creates a bias, which might shift the results. Furthermore, this research was heavily focused on women, which means, that concerns or issues which are now attributed to being a gendered issue might stem from other sources that are not accounted for right now, due to the focus set here. In future research, both men and women could be interviewed to confirm, if exclusion of women in DRM spaces and a lack of education in many areas is actually based on gender inequalities or has another root, which might diminish community disaster resilience. Here, a gendered bias was created by only interviewing women and focusing on them so much, that it was not possible to see if issues, such as a lack of disaster memory, is an issue women have or if it is a community issue. Different pathways forward in certain topics might be possible, whether it is based on women's exclusion or, for example, a lack in community capacity overall. Additionally, future research could take a bigger sample and replicate the aim of this research but create a possible generalization by looking into whether the results presented here are reliable on a larger scale. Another possibility could be looking into the differences between rural and urban spaces in terms of women empowerment and women's participation in DRM, since this is a topic reported often, that there are quite large differences in how gender is seen considering the environment. While the lacking qualities of the approach by Schramm and



Newman (1986) was discussed already and how it views DRM as a technocratic issue, future research could apply a more community-centric approach to assess community disaster resilience, where the focus is more on the tasks done by the local community and not external experts.

Ultimately, this research revealed that women do have a large influence on community disaster resilience in certain parts, while other areas across the DRM cycle need further inclusion, which would not only benefit the community overall, but possibly the women as well, increasing their empowerment by being more incorporated into decision-making structures in the community.



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## 9 Annex

### 9.1 List of Expert Interviews

<b>Expert Interviews Gender</b>	<b>Abbreviation</b>	<b>Date of Interview</b>	
<b>Merary Paz, Oficina de la Mujer</b>	Expert G1	20.06.2024	Box 1, Box 3 – Q1,
<b>Ana Natalia Anariba Fajardo, Educate</b>	Expert G2	14.06.2024	Box 3 – Q2
<b>Nelson Martinez, CASM</b>	Expert G3	07.06.2024	Box 5
<b>Oscar Rapallo, Journalist</b>	Expert G4	11.06.2024	
<b>Dunia Enamorado</b>	Expert G5	05.06.2024	

<b>Expert Interviews DRM</b>	<b>Abbreviation</b>	<b>Date of Interview</b>
<b>Fernando Gutierrez, UAM Trinidad</b>	Expert DRM1	11.06.2024

With all experts on Gender, issues of DRM and women involvement have been discussed as well. They are listed here as experts on gender since this was the main focus of the interviews, while the main interview focus with Expert DRM1 was on Trinidad's disaster risk management infrastructure.

### 9.2 List of Semi-structured interviews

Due to safety and confidentiality reasons, the interviews have been anonymized.

<b>Synonym</b>	<b>Date of Interview</b>	<b>Quote Number</b>
<b>Woman 1</b>	24.06.2024	
<b>Woman 2</b>	19.06.2024	
<b>Woman 3</b>	21.06.2024	
<b>Woman 4</b>	18.06.2024	Box 4
<b>Woman 5</b>	22.06.2024	
<b>Woman 6</b>	22.06.2024	
<b>Woman 7</b>	17.06.2024	
<b>Woman 8</b>	25.06.2024	Box 2
<b>Woman 9</b>	19.06.2024	
<b>Woman 10</b>	20.06.2024	



## 9.3 Interview Guideline semi-structured interviews

Rules for conducting the interviews:

- Questions will be asked in the same order in every interview.
- If participants don't understand the questions, elaborations will be given in terms that are easy to understand
- The participant will choose the interview situation: there is not always a place at home where people can talk undisturbed without children or a spouse in attendance, and the participant can choose where to meet: e.g. at home, at work, in a café etc. The interviewer can offer ideas on where to meet and where to conduct the interview
- The interviewer keeps in mind that sensitive topics will be asked during the interviews and advises for a more private setting if considered necessary
- Local customs regarding appropriate clothing will be adhered to
- The interviewer will explain the goal of the interview and the research to the participants, so that they understand why the interview is being conducted and what the aim is
- The interviewer will ask for permission to record the interview and explain that the recording as well as the answers are confidential and anonymous
- No scientific material such as graphics or preliminary results will be shown to the participants: not all participants might be able to read, and a presumed difference in knowledge and abilities or the participant not understanding what is shown to them might prevent them from sharing their experiences

Interview Guideline:

### **Tareas domesticas:**

- Háblame de un día normal: ¿qué actividades sueles hacer y cuánto tiempo necesitan?
  - ¿Cómo es el día de tu pareja/marido, qué actividades realiza y cuánto tiempo necesitan aproximadamente?
- ¿Quién cuida de tus hijos?
  - ¿Qué horas dedica diariamente al cuidado de sus hijos u otros familiares?
  - ¿Otros miembros de su hogar, por ejemplo el marido, dedican tiempo a ello? En caso afirmativo, ¿cuántas horas?
  - ¿Tiene ayuda externa para realizar sus tareas? Por ejemplo, una asistente, familiares, amigos, etc.
- ¿Tiene familiares mayores o discapacitados?
  - ¿Cuida de ellos o les ayuda de alguna manera?
- ¿Dispone de tiempo libre para hacer cosas que le gustan?
- ¿Quién tiene la última palabra en las decisiones que afectan a su familia, por ejemplo sus hijos?

**Trabaja**



- ¿En qué trabaja? o ¿Cuál es su profesión?
  - ¿A qué horas trabaja?
  - ¿Se siente alguna vez abrumado por su carga de trabajo?

### **Finanzas**

- ¿Quién proporciona la principal fuente de ingresos en tu casa?
  - ¿Cómo se toman las decisiones financieras en tu hogar? ¿Quién tiene la última palabra? *(Por ejemplo, quien decide comprar algo caro?)*
- ¿Posee su hogar tierras u otros recursos naturales? (Zugang wichtiger als Besitz)
  - ¿Quién trabaja allí?
  - ¿Cómo se toman las decisiones?

### **Política**

- ¿Vota en las elecciones locales?
- ¿Cree que puede influir en la política local?
  - *En caso afirmativo, ¿cómo?*
  - *En caso negativo, ¿por qué?*

### **Preguntas relacionadas con experiencias y opiniones personales: igualdad, etc:**

***Algunas de estas preguntas son muy personales. Si no te sientes cómodo contestándolas, puedes decírmelo y seguimos adelan. No tienes que entrar en detalles y un sí o un no será suficiente para estas preguntas, pero puedes contarme más si quieres***

- ¿Piensas que el machismo es un problema en Honduras?
- ¿Y en Trinidad?
- ¿Se siente respetada por los hombres de su entorno?
- ¿Estás contenta/satisfecha con cómo se toman las decisiones en tu hogar?
- ¿Siente que hombres y mujeres tienen las mismas oportunidades?
  - ¿Siente que esto también se aplica a Trinidad?
- ¿Ha tenido experiencias negativas con hombres cercanos a usted?
  - Amenazas?
  - Violencia?

### **Capital social**

- ¿Tiene amigos o familiares en Trinidad con los que se reúna regularmente?
  - ¿Qué hacen cuando se reúnen?
  - ¿Os ayudáis mutuamente con las tareas?
  - ¿Intercambian información sobre lo que ocurre en el pueblo?

### **Preguntas relacionadas con la GRD (gestión del riesgo de desastres):**

- ¿Recuerdas alguna catástrofe que haya ocurrido aquí? ¿Puede contarme de ello? (¿Cuándo, qué ocurrió, etc.?)
- ¿Qué tareas realizó durante ese tiempo?
- ¿Sabes qué hacer en caso de emergencia? ¿Cuál es tu papel/rol en este escenario?
- ¿Participa en algún grupo comunitario?
  - En caso afirmativo, ¿en cuál?
  - En caso negativo, por que no?



- He traído un cuadro con diferentes tareas relacionadas con la gestión de catástrofes. ¿Podría echarle un vistazo y decirme en qué tareas participa?

## 9.4 Interview Guideline Experts DRM

Preguntas:

- ¿Cuál fue la última catástrofe que experiencia aquí en Trinidad?
- - ¿Quién trabaja en la GRD en el pueblo?
- - ¿Cómo está organizada la gestión?
- - ¿Hay grupos organizados en Trinidad?
- - ¿Hay partes externas implicadas, por ejemplo ONG, gobierno, etc.?

A continuación, el ciclo GRD se utiliza para consultar diversas áreas de tareas. En cada caso, el sistema pregunta quién es responsable de qué tarea.

Tras debatir el ciclo, siguen las preguntas sobre el papel de las mujeres en la GRD

- ¿Qué papel desempeñan actualmente las mujeres en el sistema de GRD de Trinidad?
- ¿Qué papel desempeñan durante y después de la catástrofe?
- ¿Tienen algún papel en la fase previa a la catástrofe? En caso afirmativo, ¿cuáles son esas funciones?
- ¿Cómo cree que puede mejorarse?
- ¿Qué impacto tendría en la comunidad una mayor participación de las mujeres en las actividades de GRD?
- ¿Cuáles cree que son los mayores obstáculos o retos en este proceso?
- ¿Qué capacidades/conocimientos/habilidades tienen las mujeres que serían beneficiosas en un contexto de GRD?
- ¿Qué medidas cree que deberían tomarse para que las mujeres participen más en las actividades de GRD?
- ¿Qué beneficios obtendrían las mujeres de una mayor participación?
- ¿Cree que las mujeres estarían interesadas en aumentar su participación en este ámbito?

## 9.5 Interview Guideline Expert Women Empowerment

- ¿Cuáles son los principales retos a los que se enfrentan las mujeres en Honduras? ¿Puede dar un breve resumen?
- ¿Cómo ve la situación en Trinidad?
- ¿Cuál es el papel de las mujeres en Trinidad? Por ejemplo, ¿realizan trabajos remunerados, de qué actividades domésticas suelen ser responsables?
- ¿Cuáles cree que son los principales retos para lograr la emancipación de la mujer? Por ejemplo, la violencia de género, la falta de educación, la pobreza, las normas sociales, etc.
- ¿Cómo afectan factores como la pobreza, la violencia contra las mujeres, la discriminación y las normas culturales a los esfuerzos de capacitación de las mujeres en el país?
- ¿Cuál es la dinámica entre hombres y mujeres en el hogar?



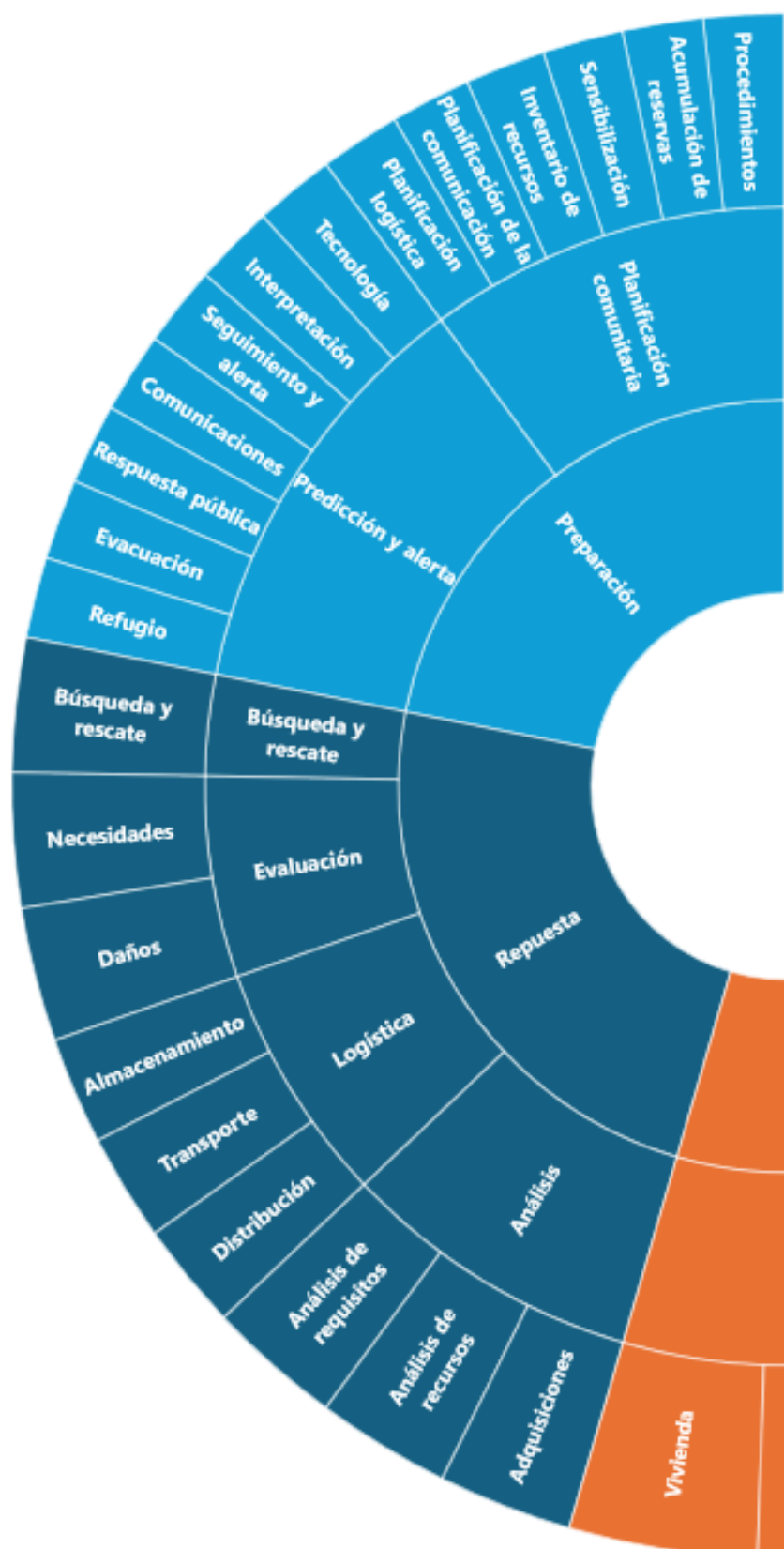
- Toma de decisiones, control de los recursos, etc.
- ¿Quién suele encargarse del cuidado de los niños, los ancianos, etc.?
- ¿Hay cuestiones jurídicas o políticas que habría que abordar para aumentar la autonomía de la mujer?



## 9.6 Spanish Recreation of DRM Cycle based on Schramm & Newman (1986)













## 9.7 Coding Tree

Codes	654
Disaster Memories	16
Infos	0
Infrastructure	5
Education	1
Population	4
Religion	1
Arbeit	6
Geografisch	3
Vulnerability	4
Risk	9
Historisch	1
Women Empowerment	0
Soziodemografische Faktoren	0
Abschluss	9
Wohnsituation	14
Alter	10
Beziehung	10
Kinder	13
Discrimination and Harassment	94
Capital Forms	0
Physical Capital	4
Financial Capital	11
Natural Capital	6
Social	0
Community	14
Friends	18
Family	6
Politics	20
Decision Making	31
Time Schedules	31
Tasks	3
Other	7
Child Rearing / Care Work	23
Paid Labour	28
Domestic	12
Actors in DRM	3
Community Groups	9
Municipality	35
NGOs	13
State	18
Women	11
Capabilities	22
Capacities	12
Vulnerabilities	20
DRM	8
Recovery	0
Time/Timeline	3
Tasks	9
Response	0
Time/Timeline	12
Tasks	28
Mitigation	0
Tasks	7
Time/Timeline	0
Preparedness	0
Time/Timeline	6
Tasks	24
Sets	0



## 9.8 Transcription Rules

- The interviews are transcribed in the language they are conducted in, which is Spanish
- Speaking contributions will always be transcribed as individual paragraphs
- Each paragraph will have timestamps. Incomprehensible statements in longer paragraphs have time stamps as well.
- When the interviewer says “yes” or “exactly” while the interviewee is speaking, this will be transcribed in an individual paragraph as well, but only if it interjects what the participant is saying
- When there are interjections such as “Mhm” by the interviewer or participant, it will be indicated if it is a positive or negative interjection: “Mhm (positivo)” or “Mhm (negativo)”
- The paragraphs are marked with abbreviations to indicate who is speaking, e.g. Interviewer (I) and Participant (P). In case of several participants, numbers will be given, e.g. P1, P2 etc.
- Half sentences are transcribed by using a /
- Longer pauses are transcribed as well. The sign used for them is (...)
- Stuttering or filling sounds are only transcribed when they are relevant to the content
- Interjections from the outside, such as a phone ringing, someone entering etc. will be annotated in double brackets: ((niño entra en la sala))
- Direct speech is written in quotation marks: y entonces dijo “no iré”
- Sections that are not understandable are marked with (inc) for incomprehensible. If it is unclear what was said, but there is an assumption of what was said, the words will be in brackets with a question mark: (el campo?)

## 9.9 Example of Transcription and Use of Codes

The transcript and coding of an expert interview was chosen to protect the anonymity of the women who were interviewed about their personal lives.



	1	Audio file
	2	<a href="#">Interview Merary Paz.m4a</a>
	3	<a href="#">Transcript</a>
	4	<a href="#">00:00:00</a>
	5	I: Okay al principio puedes introducir a su trabajo aquí un poco?
	6	<a href="#">00:00:06</a>
	7	P: Claro bueno eh tu nombre?
	8	<a href="#">00:00:08</a>
	9	I: Meret
	10	<a href="#">00:00:10</a>
..Vulnerabilities	11	P: Ah bueno, mucho gusto. Mi nombre es Merary Paz, soy la coordinadora de ODM (Oficina de la Mujer) Tengo 2 años de estar con lo que es la oficina de la mujer. ¿Y bueno, qué te puedo decir? El trabajo de la oficina de la mujer municipal es muy amplio porque nosotros nos dirigimos por cejes de parte de la Secretaría de la mujer, de ser mujer con esas 6 ejes nosotros trabajamos, es tenemos el eje de violencia, el eje de economía, el eje de ambiente que no textual dirigida tenemos el eje de educación, el eje de salud, el eje de participación social y política. Dirigimos y trabajamos, pero es muy amplio. El tema de mujer es amplio, te voy a decir que hay ejes que son más fuertes que otros, por ejemplo ha sido para nosotros una lucha aquí en el municipio y lo que es la violencia, entonces el eje de violencia es con el que más hemos trabajado y el que más casos hemos llevado porque en nuestro país y en nuestro municipio del patriarcado es algo con lo que las mujeres tenemos que luchar día tras día.
	12	<a href="#">00:01:25</a>
	13	I: ¿Ajá okay, cuáles son los principales retos a los que se enfrentan las mujeres? Es la violencia o?
	14	<a href="#">00:01:34</a>
..Violence and Threats	15	P: Es la violencia y la violencia doméstica, la violencia verbal y el sometimiento por parte de su esposo y muchas mujeres estamos sometidas por lo que es con una persona que nota violencia doméstica. Por el simple hecho que no tenemos nuestra propia economía, pues somos mujeres que desde que nacemos nos han enseñado que estamos sometidos en el país, pues son mujeres que no trabajan, que dependen económicamente de su esposo, entonces ahí es donde entra la violencia verbal doméstica, donde el hombre se cree con la Facultad de hacer con su esposa o su pareja lo que cree.
..Vulnerabilities	16	<a href="#">00:02:16</a>
	17	I: ¿Okay y es igual en Trinidad con la violencia o hay diferencias entre Trinidad y otras partes de Honduras?
	18	<a href="#">00:02:24</a>
..Violence and Threats	19	P: Bueno, nosotros siempre tenemos encuentros regionales como MM. Y hablando con mis otras compañeras, el tema es el mismo violencia doméstica y violencia verbal y de género. Muchas veces los
..Opportunities		



..Opportunities		trabajos también las mujeres enfrentan que con nuestros mismos compañeros que por el hecho de zumo de ser mujeres. Estamos abajo de ellos porque somos mujeres. No podemos hacer ciertas cosas. Bueno, yo soy coordinadora de la mujer y yo aquí me manejo cosas que me dicen, pero eso es de hombre, porque quizás yo manejo el bono tecnológico, me gusta, o sea con mis mujeres no tenemos que tener limites y estamos trabajando bastante eso, la equidad de género, decirle a las mujeres que "sí, podemos", el limites, no tenemos.
	20	00:03:16
	21	I: Okay. Y generalmente, cuál es el rol de las mujeres en Trinidad? ¿En es en el hogar, es un rol domestico o puedes explicarlo un poco?
	22	00:03:29
..Paid Labour	23	P: Sí en Trinidad, como todos municipios hay varios tipos de mujer, somos multifacéticas que somos amas de casa, pero aquí sí se da bastante el emprendimiento en las mujeres. ¿O sea que lo gusta porque son las mujeres a tener una economía, ser un poco independiente económica, eh? Ya ellas como que les cambia la mentalidad y no con mujeres que ya no van a permitir estar sometidas, entonces hemos trabajado bastante aquí en la oficina de la mujer con lo que es el emprendimiento.
..Paid Labour		
	24	00:03:59
	25	I: Ah OK.
	26	00:04:01
..Domestic	27	P: Y hay bastantes mujeres que también son amas de casa, doméstica, que tienen sus emprendimientos en sus casas, que también tenemos un tipo de mujeres que sus esposos les da la oportunidad de trabaja. Hay muchas mujeres que son muy profesionales. Es que han salido fuera de Trinidad, que están estudiando también aquí trabajamos bastante con los jóvenes, tenemos nuestro grupo de jóvenes municipal y todos estos jóvenes porque están en las universidades y queremos cambiar un poco.
..Opportunities		
..Paid Labour		
..Opportunities		
..Other		
	28	00:04:32
..Tasks	29	I: Okay, es una una variedad de roles diferentes, entiendo.
	30	00:04:34
	31	P: Exactamente
	32	00:04:37 Speaker 1
	33	I: Y pues en el hogar. ¿Cuál es la dinámica entre las mujeres y los hombres?
	34	00:04:45 Speaker 2
	35	P: Perdón?
	36	00:04:47
		I: ¿Generalmente la en los hogares, que es la dinámica entre la mujer y los hombres en el hogar?
		00:04:52 Speaker 2



	37	<u>P: ¿La rutina?</u>
		<u>00:04:55</u>
		<u>I: Si.</u>
	38	<u>00:05:00</u>
..Domestic	39	<u>P: Bueno, la rutina ya que es lo que familias o mujeres que son amas de casa es lo mismo. En la mañana las mujeres hacen el desayuno para su esposo, la merienda para sus hijos que van para los colegios, despachan a su esposo, a sus hijos, ya lo que es en el mediodía es tener listo el almuerzo en el transcurso de la mañana los que hacen el lugar, como dicen acá del hogar, el aseo el aseo de la ropa en la tarde, esperando sus hijos para ir a prepararse para lo que es la cena. Si fuesen ya las esposas tienen a secas.</u>
..Child Rearing / Care Work	40	<u>00:05:28</u>
	41	<u>I: Okay, y por ejemplo, cocinar y tareas domésticos y los hijos son normalmente la responsabilidad de las mujeres?</u>
..Child Rearing / Care Work	42	<u>00:05:39</u>
..Tasks	43	<u>P: Sí, normalmente las responsabilidades de las mamás, generalmente por el patriarcado que tenemos en en Honduras y en nuestro municipio el papá es el que trae el dinero.</u>
	44	<u>00:05:43</u>
	45	<u>I: OK, entiendo y cómo funciona toma decisiones en el hogar, ¿es en equipo o el hombre tiene la última palabra?</u>
	46	<u>00:06:03</u>
..No Decision Maker	47	<u>P: Bueno, conocemos aquí aquí porque también llevamos casos nosotros como oficina de la mujer podemos recibir denuncias pero solo se nos permite llegar a una conciliación. Bueno por violencia doméstica no llevamos los nos pasamos al juzgado porque por violencia doméstica no hay conciliación así, temas de diferencia, lo que nos da bastante es por el tema de decisiones. Que siempre el esposo es el que quiere tomar las decisiones del hogar y la mujer, pues por lo mismo, porque depende económicamente, se siente sometida. Hacer lo que les cursó, dice, cuando no lo hacen, empieza los problemas que según el esposo, que son faltas de respeto porque no le hace caso.</u>
..Respect towards women	48	<u>00:06:50</u>
	49	<u>I: ¿Y hay temas jurídicos o políticas que habría que abordar para aumentar o cambiar la situación de las mujeres?</u>
	50	<u>00:07:00</u>
	51	<u>P: Sí la Secretaría de la mujer, pero es una lucha, es un proceso, ha estado luchando para que en el Congreso puedan aprobar la ley que proteja a la mujer. Tenemos una ley, pero es una ley que no nos protege, que bueno lo que podemos ver es que para que puedan ya en un juzgado o Ministerio Público. Ponerle penalizaciones a un individuo que maltrato a su esposa tiene que haber 3 denuncias y tiene esas 3 denuncias a la segunda, ella ya la mata o un golpe recibe otra agresión más fuerte. Entonces es una ley que no nos protege. La secretaria está luchando por cambiar esa ley y crear una ley, quien verdad la proteja porque o sea que digan que nos van a recibir una denuncia ya para entrar a un proceso legal. 3 denuncias creo que es ilógico.</u>



..Municipality		<a href="#">no o sea nosotros hacemos todo lo que es, llenamos los edanes, hacemos los reportes, pero al final no tenemos una respuesta.</a>
	76	<a href="#">00:10:38</a>
	77	<a href="#">I: OK tengo una un poco como una mapa tal vez. Aquí. Y hay cuatro fases diferentes, preparación y aquí está el desastre, un huracán por ejemplo, en la respuesta la recuperación es para rehabilitar y reconstruir y la mitigación. ¿Y qué piensa? ¿En qué fase trabajan las mujeres? Creo que mucha gente dicen que esa preparación y la respuesta, por ejemplo en las albergues.</a>
	78	<a href="#">00:11:21</a>
..Tasks	79	<a href="#">P: Sí en la en la preparación y en los albergues.</a>
	80	<a href="#">00:11:26 Speaker 1</a>
	81	<a href="#">I: En la repuesta aquí tambien ¿OK para ayudar, otras para cocinar y cuidar a los niños, no?</a>
..Tasks	82	<a href="#">00:11:31 Speaker 2</a>
	83	<a href="#">P: Exactamente, pero aquí directamente lo hacemos nosotros como oficina de la mujer y la se suman las compañeras también que son mujeres de la municipalidad. Es lo que nosotros hacemos como gobierno municipal porque ya lo vivimos el año pasado de antepasado. Control dolor, Paco sacar personas y con libros en un albergue ajá. Entonces preparar dónde van a estar y darles respuesta si nos apoyaban a la red de mujeres porque tenemos red de mujeres, pero ya se sumaban a hacer comida, al aseo, a mover camas, eso fue lo que nosotros hicimos.</a>
..Municipality		
	84	<a href="#">00:12:10</a>
	85	<a href="#">I: Y tiene un rol en los 2 fases también o como.</a>
	86	<a href="#">00:12:15</a>
	87	<a href="#">P: Sí, ahí es donde nosotros sentimos la lo que es como que el sistema no nos da una respuesta en lo que es recuperación, porque estas personas las sacamos de lugares que están en zonas de riesgo, sus viviendas están en zonas de riesgo. Pero cuando ya pasó la lluvia, entonces nosotros como que nos bloqueamos porque tenemos que devolverla porque nuestro presupuesto no nos basta para decir que las podemos tener y no tenemos tampoco hacerlo, les vamos a construir una vivienda, no tenemos los terrenos para hacer los, vamos a dar una vivienda y nos toca regresarlas a las viviendas, entonces por eso le digo ahí donde nosotros estemos que el sistema no nos da una solución, nosotros hacemos todo el proceso, aquí trabajamos con llenado de (inc.) Entonces estamos toda la información, pero cuando ya pasa la emergencia sentimos ese bloqueo que nos o sea nos duele tener que saber que nos tenemos que regresar sus viviendas que están en zona de riesgo para que el otro año tenga un huracán o algo volver a lo bien</a>
..Tasks		
	88	<a href="#">00:13:22</a>
	89	<a href="#">I: Okay okay entiendo. Y creo que este fase es un poco más científico y normalmente pues, a veces no funciona en las comunidades porque se necesita, por ejemplo, COPECO o Cruz Roja y pues</a>
	90	<a href="#">00:13:41</a>



	52	<a href="#">00:08:00</a>
	53	<a href="#">I: Sí no muy importante 3 denuncias es mucho, no?</a>
	54	<a href="#">00:08:02</a>
	55	<a href="#">P: Sí, sí.</a>
	56	<a href="#">00:08:06</a>
	57	<a href="#">I: ¿Y has notado un desarrollo positivo o negativo en el tema de empoderamiento en los años pasados?</a>
	58	<a href="#">00:08:17</a>
..Independent Decision Maker	59	<a href="#">P: Positivo porque la mujer ya se siente que es autosuficiente y que no depende económicamente de su esposo y eso le da de tomar decisiones, de estar sometida y de no aguantar por decirlo así como decimos nosotros un golpe o una mala frase, qué es lo que más se da, la violencia Y la domestica, vamos y creo que en todo Honduras tenemos que luchar.</a>
	60	<a href="#">00:08:47</a>
	61	<a href="#">I: Ah okay mejorar un poco</a>
	62	<a href="#">00:08:49</a>
..Respect towards women	63	<a href="#">P: Sí ha mejorado un poco, el empoderamiento de la mujer, este tema que NO muchos de los hombres les gusta escuchar, pero si sentimos que que ha mejorado bastante la sociedad en las mujeres.</a>
	64	<a href="#">00:09:04</a>
	65	<a href="#">I: OK entiendo y el machismo es un problema grande también?</a>
	66	<a href="#">00:09:09</a>
..Machismo	67	<a href="#">P: Es generativo y es de generación, o sea, más que todo se dejan familias conservadoras, imagenes los pueblos en la ciudad sí se tiende a ver que los hombres un poco más de abierta, valoran más a la mujer, no miran a la mujer como un objeto de estar en la casa haciéndole las comidas. Pero aquí en estos pueblos sí está más arraigado el patriarcado.</a>
	68	<a href="#">00:09:33</a>
..Respect towards women	69	<a href="#">I: ¿Ah OK hay una diferencia entre los areas urbanas y qué?</a>
	70	<a href="#">00:09:38</a>
	71	<a href="#">P: Zonas rurales sí, una gran, un aviso, una gran diferencia.</a>
	72	<a href="#">00:09:42</a>
	73	<a href="#">I: Ajá Ah okay. Okay, ahora tengo algunas preguntas sobre la gestión de riesgos y quie rol desempeñan las mujeres, en la gestión de desastres en Trinidad.</a>
	74	<a href="#">00:09:57</a>
..Municipality	75	<a href="#">P: Bueno, nosotros como coordinadora de la oficina de la mujer, cuando hemos tenido este tipo de desastres. Prácticamente nosotros somos los que nos movemos por esas mujeres, nos colocamos en un albergue, tratamos de que estén bien más que todo. Cuando ella está hay hay bastantes niñas de proteger a las niñas, a la salud niños y a las mujeres, pero es bien difícil. Porque como tenemos un sistema cuando hay este tipo de desastres de por el ambiente que</a>



## 9.10 Role of Women Analysis Table

Phase	Sector	Task	Integration of Women in Trinidad		Ideal role of women in DRM	Gap in Trinidad	Future Options
			Given Role	Executed Role			
<b>Response</b>	Search and Rescue	Search and Rescue	Women are responsible for everything home-related, and therefore are responsible for evacuating those under their care when at home	Women do not particularly work in evacuation and rescue: mainly task of the Red Cross, where occasionally women work as well, either as a volunteering position or as their fulltime job. Women still care for others, also in a psychological form, which is also a form of rescue	Women who stay at home evacuate those under their care: elderly, children etc. , furthermore, they are seen as crucial in community organization by managing and leading groups. Their social network might help them in assessing who is missing and where people should look for them	Women did not report evacuating to a shelter during the interviews, future education about when and how to evacuate safely to minimize need of Search and Rescue	Seeing caring for others who are rescued and psychologically supporting them as rescue as well
	Shelter	Shelter	Women are seen as those who are in charge of home life: if this home life is shifted to a shelter, they are in charge of this task, with the aid of external actors who provide things like food, water, necessities etc.	Women organize community life in shelters, providing safety both psychologically and physiologically, cook food, determine logistics and create community cohesion. NGOs and external actors provide needs	Women are in charge of life in shelters due to their specific needs, such as safety from sexual abuse. Men work together with women to assure safety for everyone in the shelters and	Sexual abuse still happens from time to time in shelters	Women are fully supported by authorities in applying safety measures in shelters. Their work is valued as highly as rebuilding tasks executed by men, since it is essential for



				such as food, water etc.	support with necessary tasks.		community cohesion
	Evaluation	Needs	Women are seen as those who can assess needs of the community more comprehensively, they are tasked with caring for others	Women report the needs of the community, both from shelters as well as in villages, to the authorities or entities which are able to help (Church, NGOs etc). Furthermore, they care for the emotional state of the people in the shelters, e.g. people who lost their livelihoods, family members etc.	Women report needs and communicate on a community level what is needed right now, they care for the mental wellbeing of people close to them and whom they encounter		
		Damages	Women are not the ones charged with damage assessment	Women might report damages in a social sense or if their infrastructure is destroyed	Women are aware of damages and associated risks and can report them, they are able to mobilize resources to address said risk	Women are not as present in assessing hazard related damages and risks due to gender-based issues	Continuing hazard education



	Analysis	Requirement Analysis	Women are not expected to participate in the analysis, since this is conducted from a professional side	Analysis is done by COE EDAN, women are involved if they work in COE EDAN.	Coordination of basic needs provision often done by women	If the professionalization is working, there should be no need to enforce a stronger female involvement, since this is not a gendered issue, but a professionalization issue	Support of women to pursue an education and career, so that women naturally take up a higher share in the field
		Resource Analysis					
		Procurement					
	Logistics	Warehousing	Women are not expected to participate in the logistics, since this is conducted from a professional side	Conducted by COE and CASM	Women are mobilizing resources and organizing the logistics, coordinate basic needs provision	Same perspective as Analysis: women are not involved due to professionalization, not necessarily due to gender bias.	
		Transport					
		Distribution	Distribution is usually done in social centers, mostly schools and shelters, where women are often in charge or which is seen as a women's area, therefore they might be expected to participate in distribution	Women help during distribution in schools or shelters, otherwise Logistics is conducted by COE and CASM			



<b>Recovery</b>	Rehabilitation and Reconstruction	Housing	<p>Women do not work in this phase since it is either considered too hard work (physical reconstruction) or external actors are needed. Furthermore, women might be responsible for tasks surrounding the house, but not necessarily infrastructure reconstruction</p>	<p>Women are not involved in recovery efforts, except if they are working in the field or there is no one else taking this task from them, e.g. they are single mothers and no one else is taking this task from them.</p>	<p>Women are involved in rebuilding as key actors, equally to men. They take initiative in rebuilding and collaborate with external actors for rebuilding the community in a more safe and inclusive way. Their opinion is valued equally to other stakeholders.</p>	<p>Women are not present in this phase, which seems like a gender issue: their perspective is not considered in rebuilding, furthermore reconstruction seems to be seen as a mostly physical task. Women might not have the same physical strength as men, but they are capable to perform tasks such as planning, organizing, communicating etc.</p>	<p>Work on women empowerment strategies for them to be able to take up space and participate in rebuilding efforts, educate stakeholders on importance on women participation</p>
		Water					
		Agriculture					
		Infrastructure					
		Commercial					
		Development Opportunities					
<b>Mitigation and Prevention</b>	Disaster History	Written	<p>Women are not expected to create a written history of disasters</p>	<p>Disaster history is perceived to be a task done by the municipality by creating a DRM plan</p>		<p>If the DRM plan is considered to be the written disaster memory, women need to be included into the making of this plan, if this is</p>	<p>Involve women in the production of the DRM plan, if not happening already</p>



						done right now is unclear	
		Memory	It was not specifically said or communicated that women are expected to be keepers of disaster memory	Women often do not keep disaster memories, especially when they perceive themselves to be unaffected by the issue or aim at reducing the emotional impact hazards have on them and therefore resort to evasion tactics	Women are key keepers of disaster memory, since they usually have a strong network and can keep the memory alive by carrying it among their peers and people who are in their care. Furthermore, women perceive disasters differently than men: keeping this memory alive can help in rebuilding in a more inclusive and safe way	Even if this is not a gendered issue and men remember as little as women concerning disaster memory, the community resilience would benefit from remembering events, issues, and strategies applied in the past. Therefore, not keeping disaster memory is certainly a gap in the DRM of Trinidad	Create spaces and support for women to share their hazard experiences and encourage to keep this memory alive. This needs to be accompanied by psychological support to evade traumatization.
	Scientific Analysis	Meteorologic	Women are not expected to work in this part since the	Analysis done in a professional setting by COPECO/NGOs and	Task is conducted by educated professionals	Professionalization, not gendered issue: no reason	
		Geologic					



		Hydrologic	community does not have the capacities and capabilities to conduct a scientific analysis	the municipality. Women participate if this is their job, but not as part of community-based DRM		to change if it is working	
		Agriculture					
		Environmental					
		Epidemiologic					
	Vulnerability Analysis	Community Experience	Women are not expected to participate in the vulnerability analysis since it is conducted by external experts together with the municipality	Women are not involved in the vulnerability analysis, since it is done by COPECO and the municipality. Women working in a professional setting with these topics are involved.	Women are able to report their experiences with regard to how their experiences and needs differ from men and are taken into account for future adaptations and strategies	Women are not participating in a vulnerability analysis from the side of reporting their experiences as women to external actors, which could then be used to improve the situation long-term	Facilitate spaces for women to share their experiences, preferably without men, so that the experiences women have can be shared freely; Empowering women to share their experiences and feel that they are valuable
		Technical Evaluation			Women have equal opportunities to men to pursue a	Share of women working in the field?	



		Engineering			career in technical fields and are able to participate equally in evaluations		
	Long-term improvement	Land Use Regulations	Women are not expected to participate in this field, since the task is done by the municipality in accordance with external actors	Women are not involved in this part apart from their professional jobs, since it is done by the municipality and external actors	Women are involved in creating better land use patterns (agriculture, housing, infrastructure) since they have a different perspective compared to men	Women are not involved in creating a long-term improvement of land-use, even though they are impacted by it	Include women in land-use planning
		Construction Norms			Construction norms are decided upon by an independent institution. Norms are adopted locally and buildings are improved whenever possible		
		Crop Cycle Adaptation			Women who are involved in farming are involved in adapting crops to better suit the risk faced in the community	Women are not on an institutional level involved in creating better farming strategies	Include women in discussions and knowledge-spreading on adapting farming tactics for risk reduction and



							climate adaptation
		Organization			Women are involved in creating better organizational structures, especially since their tasks in the DRM cycle often include community organization	Women are not included in creating better organizational structures	Include women in creating better organizational structures
<b>Preparation</b>	Community Planning	Procedures	Women are not expected to participate in these tasks, they are conducted by the municipality/CODEM and additional actors, such as NGOs, COPECO etc.	Women are not participating in this task since it is conducted by CODEM or other actors	Women know about necessary procedures that need to be kept in order to ensure safety. They give input regarding what measures might be necessary	Women often do not know about established procedures due to unawareness of risk.	Education in community-based DRM, increase input of women into establishing procedures



		Stockpiling			Households have reserves of food, water, medication to be able to sustain themselves during a crisis	Due to unawareness of risk, households might not have sufficient resources to sustain themselves during a hazard. Lack of financial means is another issue which might prevent households from establishing sufficient resources	Education in community-based DRM
		Awareness			Women are knowledgeable about hazards and how to behave during one.	Women often not sensibilized to a sufficient degree about hazards	Education in community-based DRM
		Resources Inventory			Women have a general knowledge about available resources, communication chain and logistics in order to be able to access help in case of a crisis	Due to unawareness of risk, women might not know about available resources	Education in community-based DRM
		Communication Planning					
		Logistics Planning					



	Prediction and Warning	Technology	Women are not expected to participate in this task, since it is done by COPECO	Women do not participate in his task, COPECO provides technology and interprets results, and issues an alert	Task is conducted by educated professionals	/	
		Interpretation					
		Tracking and Warning			Women are able to follow the guidelines given out with each alert, they trust in the issued alert.	Possible gap in communication: understanding and believing the alerts and issued guidelines	Education in community-based DRM
		Communication	Women are thought to have a stronger social network and it is expected that they spread awareness through their social network	Differentiation between professionally issued chain of communication and community-level: women who are aware of the risk spread awareness through their network, others who are not aware lack the knowledge to partake in this task or might offer misleading information	Women communicate effectively through their social network and raise awareness of the hazard in others. They can communicate what needs to be done and are therefore able to lower the risk for others. Furthermore, they receive information from others and can evaluate the credibility, increasing resilience overall	Women often not educated enough about natural disasters, so that their communication is not as effective or even detrimental, if they provide false information to others. Women who are knowledgeable provide crucial information to others and are able to process information accordingly	Education in community-based DRM



		Evacuation	Women are expected to take care of those under their care in case of a necessary evacuation	Women who are aware of the hazard and deem that they are in an unsafe condition evacuate themselves and those close to them in their home. Women who are not aware of the risk or misjudge the situation due to lack of education are not able to evacuate themselves and others. Evacuation is furthermore done by external actors, such as the Red Cross	Women have the knowledge and abilities of when to evacuate and are able to evacuate themselves and people under their care. Other family members, who are not at home, are evacuated by the institution they attend, e.g. a school, to reduce women trying to reach their children instead of a shelter.	No school evacuation plan, women often do not know when to evacuate and might lack strength to evacuate elderly relatives.	Investing in education for safe evacuation, creating evacuation plans for public institutions, e.g. workplaces, school, clinic etc.
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## Declaration in lieu of oath

By

**"Meret Jana Coenen"**

This is to confirm my master thesis was independently composed/authored by myself, using solely the referred sources and support.

I additionally assert that this thesis has not been part of another examination process.

Köln, 13.12.2024

Meret Coenen

Place and Date

Signature