

Gendered approach toward Disaster Risk Reduction: Case study of Chobe District, Botswana

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DECLARATION

I, Vincent Junior Ngosi, hereby declare that this is my own original work and that the findings were obtained through an in-depth empirical study in Chobe District, Botswana. The Government of Botswana through the Office of the President and Cabinet (OPC) in the Disaster Management Office approved and authorised a research permit to conduct this study. Therefore, the content and findings of this study is not plagiarised, it is the product of my diligence, endurance, hard work, and most importantly, discipline.

Signature: _____

Date: _____

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Psalm 32:8 “I will instruct and teach you in the way which you should go;
I will counsel you with my loving eye upon you”.

LIST OF ACRONYMS AND ABBREVIATIONS

ACDS	African Centre for Disaster Studies
BNDRR	Botswana National Disaster Risk Reduction
DMO	Disaster management office
DFID	Department for International Development
EAGER	Engaging African Girls in Gender Enriched Disaster Risk Reduction
FAO	Food and Agriculture Organization
HFA	Hyogo Framework of Action
ICSU	International Council for Science
IASC	Inter-Agency Standing Committee and the European Commission
ISDR	International Strategy for Disaster Reduction
IFRC	International Federation of Red Cross
IDNDR	International Decade for Natural Disaster Reduction
IISD	International Institute for Sustainable Development
NDRRS	National Disaster Risk Reduction Strategy
ODC	Office of District Commission
UNEP	United Nations Environmental Programme
UNDP	United Nations Development Programme
UNISDR	United Nations International Strategy of Disaster Reduction
UN	United Nations
UNWCDRR	United Nations World Conference on Disaster Risk Reduction
WBG	World Bank Group
WHO	World Health Organization
WMO	World Meteorological Organization

ABSTRACT

Available research shows an increase in the frequency and intensity of weather and climate-related hazards across the globe. This trend is leading to an increase in the occurrence of disasters and heightened disaster risk, threatening the lives and well-being of individuals, organisations and communities. Previous studies have indicated that the impact of disasters in terms of human and economic losses differs between men and women. Several studies have shown that women suffer disproportionately after disasters. Reasons include existing gender inequalities, socio-economic conditions, cultural beliefs and traditional practices that limit the influence and control women and girls have over decisions governing their lives, as well as their access to resources.

The dissertation explores a gendered approach toward disaster risk reduction by embarking on a case study of Chobe district in Botswana. As such, the study examines factors that contribute to gendered vulnerability in Chobe district. In addition, theoretically, the study explores a global perspective of gender integration in disaster risk reduction in policy and in practice. Although the term gender includes the categories of men, women, and boys and girls and all the other genders (LGTBI), for the purpose of this dissertation, the focus is on the basic categories of men and women.

The study followed a qualitative research design to conduct empirical investigation in the Chobe district of Botswana. There were a total number of 54 participants that were involved in the study, where 48% represented females and 52% were males. Using focus groups and semi-structured interviews the design allowed the researcher to collect data in Chobe district in a natural setting where people are experiencing the phenomenon under investigation. The data collected from the Chobe district were analysed and compared with literature to reach findings using flexible model. The model is a mixture of the iterative and fixed models of qualitative data analysis. When a disaster occurs, everyone caught in the disaster zone is affected without exception of gender. However, in line with findings from other studies, this study findings suggests that the majority of women suffer more than do the men, as a result of disasters. Based on the study findings, there are gaps that still exist in Chobe district in terms of men and women involvement in DRR. Culture, social, economic, environmental and political factors followed by lack of gender sensitive policies results in women being disproportionately affected by the impact of hazards. Chobe district employs a holistic approach when it comes to DRR mitigation and management, however there is need to include a gender sensitive approach in their DRR policy implementation. It is crucial to include both men and women in development and implementation of DRR strategies, policy and practice.

The study offers recommendations on how gender can be foregrounded in legislation, policy and practice to ensure that men and women have equal and equitable platforms in managing and mitigating the impact of disasters before and in the aftermath of disasters.

Keywords: disasters, disaster risk reduction, gender, vulnerability, gender integration, disaster policy framework, resilience, Chobe district

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CHAPTER ONE

INTRODUCTION AND ORIENTATION

1.1 INTRODUCTION

Climate change is very devastating and has brought about severe and uncertain weather events. In many instances women and men are not exposed in the same ways or with the same effects (Enarson, 2012:49). The consequences of disasters in terms of human and economic losses have changed as our societies become more vulnerable (United Nations, 1994:2). The International Council for Science (ICSU, 2005:5) expounded that the occurrence of recorded catastrophes has risen tremendously over the last 100 years from about 100 per decade up to 1940 to nearly 2800 per decade during the 1990s. According to ICSU, “three-quarters of these disasters are triggered by weather-related events, thus natural hazards and disasters are becoming more and more prominent” (ICSU, 2005:5).

The Sendai Framework for Disaster Risk Reduction (from here onwards, Sendai Framework) 2015–2030 asserts that there should be a broader and a more people-centred preventive approach to disaster risks. Disaster risk reduction requires empowerment and inclusive, accessible and non-discriminatory participation (UNISDR, 2015

:10). Most importantly, women involvement in DRR issues could make a significant contribution to managing disaster risk and designing resources and implementing gender-sensitive disaster risk reduction policies, plans and programmes. According to UNISDR (2010:10) DRR is defined as “systematic concept and practice that seeks to analyse and manage the causal factors of disasters through reducing people and property susceptibility to hazards, reduction of vulnerability, the wise management of land and environment and finally improvement of preparedness for adverse events.” Failure to consider both men and women’s concerns in the design and implementation of DRR programmes exacerbates the true cost of disasters and therefore makes DRR investment ineffective (UNISDR, 2015:1).

Disasters does not affect people the same, “the effects and impacts of disasters, the individual and institutional response, differ for men and women” (Ariyabandu, 2009:1). Vulnerability theory asserts that community vulnerability to disasters are not equally distributed among the regions or nations of the world (Zakour & Gillespie, 2013:11). This theory corresponds with the argument that even though a disaster might affect everyone

in a given setting, the risk and effects are not equally distributed among those who are already disadvantaged (Enarson & Chakrabarti, 2009:62).

According to Ariyabandu (2009:1), “gender aspects within the social and community organisation lead to substantial differences in how men and women of all age groups experience and deal with disasters before, during and with the aftermath”. However, the UNISDR issued a brief on Mobilising Women’s Leadership in Disaster Risk Reduction (2015:1) which posits that a gender perspective to DRR can help in focusing attention on the distinct gender-specific capacities and vulnerabilities to prevent, prepare, confront, and recover from disasters.

Gender inequalities mainly constrain the influence and control of women and girls over decisions governing their lives and their access to resources such as finance, education, health, agricultural inputs, employment, secure housing and land and property, among others (UNISDR, 2015:1). According to the UNDP (2013:3), women and girls suffer higher rates of mortality, morbidity and economic damage to their livelihoods because of their exposure to climate-related disaster risk. There is a great need to consider adequate capacity building measures to empower women with preparedness and to improve their capacity to secure other means of livelihood in post-disaster situations (UNISDR, 2015:23).

Although disaster scholars and practitioners often misunderstand ‘gender’ as referring only to women, it should be noted that gender as a concept encompasses dynamic social processes beyond interpersonal or individual perspectives (Enarson, 2012:23). According to Carver (cited in Runyan & Peterson, 2014:2) “gender is not synonymous with women”. Gender is a social elaboration of biological sex and sex is a biological categorisation based on reproductive potential (Eckert & Ginet, 2013:2). Mishra agrees that the term ‘gender’ has become so synonymous with women that issues relating to men are neglected in the disaster risk reduction process (Enarson & Chakrabarti, 2009:2).

Gender refers to socially learned behaviours, repeated performances and idealised expectations that are associated with and distinguish between the proscribed gender roles of masculinity and femininity (Peterson & Runyan, 2014:2). The World Health Organization (WHO) refers to gender as socially constructed roles, behaviours, activities and attributes that a given society considers appropriate for men and women (WHO, 2016b).

Based on the given definition, one can certainly argue that gender is not something that one is born with, it is rather learned behaviours acquired from our social systems and society. Consequently, gender aspects within our social and community organisation

leads to considerable differences in how men and women of all age groups experience and deal with disasters before, during and after they occur (Ariyabandu, 2009:1).

This research was conducted as a case study that considers a gendered approach to disaster risk reduction in the Chobe district of Botswana. The study assesses and expounds the global perspective of gender mainstreaming in disaster risk reduction policy and practice (DRR). Since disasters do not affect men and women in the same ways and with the same effects, various factors that contribute to the vulnerabilities of both men and women in Chobe district, are explored and discussed.

The empirical investigation probes the mechanisms available to integrate gender into DRR policy and legislative frameworks. Finally, using the empirical findings, the study explores and discusses the significance of implementing a gendered approach in DRR. The aim of the study is to provide relevant recommendations that ensure that both men and women have equal and equitable platforms that allow them to work together on DRR policy and practice at all levels effectively and efficiently.

1.2 DEMARCATION OF STUDY AREA: CHOBE DISTRICT, BOTSWANA

Botswana is a landlocked, arid to semi-arid country located in the southern part of Africa. It covers an area of 582 000 square kilometres, sharing borders with South Africa, Namibia, Zambia and Zimbabwe (Omari, 2010:3). As a semi-arid country with a subtropical climate, Botswana is characterised by recurrence of droughts and low rainfall (Mutize, 2015:3; UNDP, 2015:13). The arid and semi-arid climate is due to the country's proximity to the subtropical high-pressure belt of the southern hemisphere (Statistics Botswana, 2015). As such, the country is vulnerable to a number of recurring hazards and disaster risks.

According to United Nations Development Programme, (UNDP, 2009:2–3) the most frequent disasters in Botswana include floods, drought, wild land fires, structural fires, animal diseases, accidents, pest infestation, and human and animal epidemics. In addition, drought-induced water deficiency in Botswana affects numerous economic activities like production, sales and numerous businesses (Ding et al., 2010:4). Previous studies have shown that drought is a recurring phenomenon in Botswana. The country experienced drought in the years between 1981 and 1987, 1990 and 1995, 1998 and 1999, 2002 and 2006 and 2011 and 2013 (Manthe-Tsuaneng, 2014:2). Drought in Botswana occurs due to the deficiency of both atmospheric and ground water supply (Juana et al., 2014:43).

According to Mookodi (2000:148), household surveys conducted in Botswana show that the country has more female-headed households. In concurrence, Omari (2010:3) mentions that Botswana has 41% female-headed households, whereas the number of male-headed households is estimated to be 34%. Consequently, a large percentage of the female-headed households in Botswana falls in the lowest income categories (Mookodi, 2000:148). In many societies, women are among the most neglected groups, which makes them more vulnerable to the effects of climate change (Omari, 2010:3; 4).

The Chobe district located in the north-west of Botswana is a vast district with different towns and villages. Kasane and Kachikau were selected as the two areas for the research. Kasane is a gateway into the Chobe national park. Although the location of Kasane makes it pivotal to the tourism industry, the community is highly susceptible to a number of disaster risks (Botswana Tourism Organisation, 2013). According to Statistics Botswana (2015:14), Kasane had an estimated population of 9 004 people in 2015. Its main economic activities include tourism, construction and commercial farming and fishing by local residents.

Kasane is at risk of roaming game from Chobe National Park because there are no boundary fences between the park and the community. The Chobe national park is well known for its high numbers of elephants. It is estimated that the national park has a population of about 100 000 elephants, which is the largest number of elephants in one place in the world (Campbell, 2003). As such, various wildlife species, like elephants, warthogs and baboons among others wander freely in the district, putting the community in the area at risks of human-wildlife conflict (Burke, 2015:21; Siyabona Africa, 1998).

Kasane is also a tourist hotspot and every year hundreds, if not thousands, of tourists come to see the wild animals of the district. Kasane has therefore experienced moderate development and it is known for the luxury lodges settled all along the river front. Kasane has a fairly a small population of about 9 004 people living in the area, and their main economic activities include tourism, construction, commercial farming and fishing.

In contrast to Kasane, Kachikau is a village located to the west of Kasane. It is close to the Ngoma border post to Namibia. Kachikau village is on the way to other national parks in Botswana, namely Linyanti and Savuti, both popular tourist destinations. Kasane and Kachikau's contexts differ greatly. Kachikau has a population of just less than 2 000 people and it does not really have main economic activities, people depend on subsistence farming to sustain themselves.

Furthermore, the Kasane community is located at the junction of the borders of Botswana, Namibia, Zambia and Zimbabwe (Siyabona Africa, 1998). Its location makes it highly

susceptible to various hazards, such as human and animal epidemics, motor accidents, exposure to hazardous materials, and potential animal diseases due to the close proximity with the neighbouring countries. Kachikau on the other hand, is located in a more remote area of the district.

Kasane and Kachikau were selected as the two areas for this research for the sake of comparison between the two areas. Kasane is a town, while Kachikau is located in the remote area; the two have different political, economic, social and environmental circumstances because of their location. The core objective of this study is to explore mechanisms and provide valid recommendations on how gender can be included in DRR policy and practice in the Chobe district and Botswana at large.

Figure 1.1 below shows a map of Botswana that indicates major towns and cities, including Kasane and Kachikau.



Figure 1.1: *Map of Botswana showing major towns and cities*

(Source: [National Online, OneWorld Botswana Map](#))

1.3 PROBLEM STATEMENT

Climate change is linked to global increase in the frequency and intensity of weather and climate-related hazards such as floods, storms, droughts and heat waves (Thomas &

López, 2015:1).). This trend has led to an increase in disasters and an escalation of disaster risk in communities, with devastating consequences (Hay, 2009:3), even though the international community and various stakeholders have made considerable efforts to mitigate the devastating effects of disasters (Ruth & Ibararán, 2009:50; 51). Disasters continue to undermine efforts to achieve sustainable development so that the well-being and safety of people, communities and countries are affected (UNISDR, 2015b:9).

When disaster strikes, men and women have different capabilities and means of responding, such that the impact of the events are different (ISDR, 2009:4). This statement correlates with the argument by Ariyabandu (2009:1) that “the effects and impacts of disasters, the individual and institutional response, differ for men and women”. Previous research observations have indicated that women are often more vulnerable than their male counterparts of the same social classes, races, ethnic and age groups during all phases of a disaster (ISDR, 2009:4).

According to United Nations Issue Brief on Mobilizing Women’s Leadership in Disaster Risk Reduction (2009:1), disasters often affect women disproportionately due to the existing socio-economic conditions, cultural beliefs and traditional practices within our social systems (ISDR, 2009:1). Ariyabandu (2009:1) is of the opinion that, “gender aspects within the social and community organisation lead to substantial differences in how men and women of all age groups experience and deal with disasters.

The UN secretariat Sálvano Briceño explains that due to our poor understanding of gendered vulnerabilities and risks to disasters, gender issues have been overlooked and has received very little attention (ISDR, 2007a). This remains the case even though the Hyogo Framework for Action 2005–2015 made a clear commitment to guide policy makers in engaging in a systematic way to minimise disaster risk (Valdés, 2009:18). Numerous studies indicate that women are affected much more when disasters strike. However, they receive fewer benefits in recovery (Valdés 2009:18).

Gender remains a marginalised issue in disaster risk reduction policy and practice. As such, there is a great need to not only mainstream gender in DRR, but also to incorporate gender in designing disaster risk reduction frameworks. A gendered approach in DRR can help to focus the attention on distinct gender-specific capacities and vulnerabilities to prevent, prepare, confront and recover from disasters (UNISDR, 2015a:1). This study therefore explores a gendered approach to disaster risk reduction using the Chobe district of Botswana as a case study. The research focuses on male and female perceptions of risk, assesses the roles of women in DRR and examines roles that contribute to the gendered vulnerabilities of men and women in the district.

The aim of this study is to give recommendations to relevant stakeholders and policy makers in disaster risk management (government, organisation and DRR practitioners) to ensure that both men and women have equitable and equal platforms in disaster risk reduction policy and practice.

1.4 RESEARCH QUESTIONS

The research questions underpinning the study are as follows:

- What is the global perspective on gender integration in disaster risk reduction policy and practice?
- What factors contribute to vulnerabilities in the Chobe district of Botswana?
- How can gender issues be foregrounded in disaster risk reduction policy and legislative frameworks?
- What is the significance of a gendered approach to disaster risk reduction policy and practice in the Chobe district of Botswana?

1.5 RESEARCH OBJECTIVES

The following research objectives flows from the research questions:

- to explore the global perspective on gender integration in disaster risk reduction policy and practice;
- to examine the factors that contribute to vulnerabilities in the Chobe district, Botswana;
- to establish how gender issues can be foregrounded in disaster risk reduction policy and legislative frameworks; and
- to assess the significance of a gendered approach to disaster risk reduction policy and practice in the Chobe district of Botswana.

1.6 CENTRAL THEORETICAL STATEMENT

This study is grounded in the following central theoretical statements:

- The Yokohama Strategy and Plan of Action for a Safer World 1994 emphasises the role of human actions in reducing the vulnerabilities of society to natural hazards and disasters. The strategy marked the beginning of an essential shift so that DRR is considered in a political and analytical context (UNISDR, 2010–2011:13). The Yokohama strategy formed the basis for the Hyogo Framework of Action 2005–2015. The core aim of the framework is to ensure the substantial

reduction of loss of life and social, economic and environmental assets during disasters.

- There is a need for a broader and a more people-centred preventive approach to disaster risk (UNISDR, 2015b:10). The Sendai Framework for Disaster Risk Reduction asserts that disaster risk reduction requires empowerment and inclusive, accessible and non-discriminatory participation, paying special attention to people disproportionately affected by disasters (UNISDR, 2015b:13).
- Disaster risk reduction (DRR) is a fundamental pillar of sustainable development and requires an “all of society inclusive approach” because disasters affect men and women, and boys and girls, differently (UNISDR, 2015a:1). The Hyogo mid-term review asserts that gender is a main element in disaster risk and in the implementation of disaster risk reduction because it is the central organising principle in all societies (UNISDR, 2007:5). Ariyabandu (2009:4) argues that “gender aspects within a social and community organisation leads to substantial differences in how men and women of all age groups experience and deal with disasters.” Indeed when disasters strike, men and women are not affected the same (UNISDR, 2015a:1).
- Due to the existing socio-economic conditions, cultural beliefs and traditional practices, gender inequalities restrain the influence and control of women and girls over decisions governing their lives and their access to resources (UNISDR, 2015:1). Women are often placed at a disadvantage in both developing and developed countries. As such, the promotion of gender equality implies explicit attention to women’s empowerment (UNDP, 2010:1). However, inasmuch as women are often disproportionately affected by disasters, there is a great need to strike a balance in disaster risk reduction policy and practice, because ‘gender’ does not only refer to women (UNISDR, 2015a:1). In the words of Mishra in Enarson (2009:2), ‘gender’ has become synonymous with ‘women’, so issues relating to men in disaster risk reduction tend to be overlooked in the process.
- While there are efforts to involve women in addressing disasters, engaging men as agents of change rather than viewing them as barriers to change will help push gender-based boundaries in disaster risk management (Enarson, 2009). Gender shapes the capacities and resources of individuals to minimise harm, adapt to hazards and respond to disasters (UNISDR, 2007:5). Therefore, it is essential to mainstream gender in DRR to ensure that risk reduction strategies are correctly targeted at the most vulnerable groups and are effectively implemented through the roles of both women and men (UNISDR, 2007:5).

1.7 RESEARCH METHODOLOGY

This section gives an overview of the research methodology and the research design applied in this study (see detailed research methodology in chapter 3). Research methodology is the science of how research should be carried out. It is a systematic way to solve a problem by means of procedures that guide researchers in their work of describing, explaining and predicting phenomena (Rajasekar et al., 2013:5). According to Strauss and Corbin (1990:1) research methodology is a way of thinking about studying a social reality, so it is a system of methods and procedures followed to acquire data and information pertinent to the study. The following sections discuss the research methods used in this study.

1.8 LITERATURE REVIEW

Hart (1998:13) asserts that the literature review forms an essential chapter in research. Its purpose is to provide background and justification for the research. The literature review “shares with the reader the results of other studies that are closely related to the one being undertaken” (Creswell, 2014:27–28). On the other hand, Fouché and Delpont (2005:133) are of the opinion that depending on whether a researcher conducts a quantitative or qualitative research project, the literature review has a different purpose and strategies. However, certain aspects are common to both.

Besides serving as a driving force and starting point of one's research investigation, the literature review can be used to identify a problem to research and illustrate the gaps that appear in previous research or in the field of study (Ridley, 2012:3–4). Literature review creates a foundation based on existence of related knowledge; the main aim is to contribute to a clear understanding of the nature and meaning of the identified problem (Grinnell & Unrau, 2005:46). The review of literature is an in-depth scrutiny of various relevant sources of information (Fouché & Delpont, 2011:137). Nevertheless, it should be noted that the literature review is not just a mere compilation of summaries from individual studies of previous research. The literature review should prove that these studies relate to one another and should indicate how the proposed research ties in with them (Welman, et al., 2005:40–41). The next section has outlined various sources for literature used in the study.

1.8.1 Literature sources consulted

In an effort to ensure the validity of the study, the following sources of literature and information were utilised in this study:

- Academic books
- Electronic books
- Electronic news and journal articles
- International and national disaster frameworks, policies and reports
- Published academic full dissertation and thesis
- Government reports and gazettes

1.9 EMPIRICAL STUDY

An empirical study is one that is designed to use collected data based on a fresh set of data collection methods and not information from existing secondary sources (Yin, 2016:53). Empirical study therefore involves the collection of relevant data, analysing the data, interpreting the results, and drawing conclusions based on empirical findings.

In simple terms, an empirical study is an investigation of a phenomenon based on experimentation (experiences) and systematic observation rather than theoretical formulation from secondary sources. In this study, the empirical research as expounded in the previous section was conducted in the Chobe district of Botswana. The study employed focus groups and face-to-face interviews to collect data to address the research problem and answer the research questions of the study.

1.10 RESEARCH DESIGN

Nieuwenhuis (2010:70) defines research design as “a plan or strategy which moves from the underlying philosophical assumptions to specifying the selection of respondents, the data gathering techniques to be used and the data analysis to be done”. Similarly to Nieuwenhuis’ definition, Sarantakos (2013:120) asserts that research design is a plan for the research drawn up at the beginning or before the start of the research project.

A research design is a plan where research participants are identified to collect information to answer the research questions of a study (Welman et al., 2005:52). This study utilised a qualitative research design because it has an inherent openness and flexibility that allows one to modify the design during the research to pursue new discoveries and relationships (Maxwell, 2013:30). During research design, the researcher decides how information will be gathered from respondents and how they will be selected. Furthermore, the researcher decides on how the collected information will be analysed and how the findings will be communicated (Kumar, 2011:96).

Every researcher should have a research design in a scientific research project to indicate the approach that will be used in solving the research problem, because the research design creates a foundation of the entire research project (Rajasekar et al., 2013:22). Therefore, in order to answer the research questions most effectively, this study was done using a qualitative research design.

1.10.1 Qualitative Research Design

According to Creswell (2013:44–48), “qualitative research starts with the assumptions and the use of theoretical frameworks that inform the study of research problems addressing the meaning individuals or groups ascribe to a social or human problem”. Qualitative research design usually utilises an emerging qualitative approach to inquiry, collection of data in natural setting sensitive to the people under the study (Creswell, 2013:44–48). However, it is essential to note that in qualitative design there might be a need to modify any component of a design during the study in response to new developments or changes in some other components (Maxwell, 2013:2).

The design is essential for this study because it enabled the researcher to conduct the research in a natural setting, collecting data in the field at the site where participants experience the issues under investigation (Creswell, 2013:45). Conceptual studies, historical research, action research, case study, ethnography and the grounded theory are the six types of research designs that are often discussed in research literature (Nieuwenhuis, 2010:70). This study employed a case study research approach.

A case study is defined as “systematic inquiry into an event or a set of related events which aims to describe and explain the phenomenon of interest” (Bromley, 1990:302). Sarantakos (2013:2) is of the opinion that a case study “investigates a contemporary phenomenon in its real-world context, especially when the boundaries between the phenomenon and the context may not be clearly evident”. A case study approach is suitable for this research because it enabled the researcher to understand the unique and complex social phenomenon that was under investigation. A case study approach allows the researcher to focus on a case and retain a holistic and real-world perspective when studying for instance individual life cycles, small group behaviour, and neighbourhood changes, among others (Yin, 2014:4).

1.11 SAMPLING

Kumar (2005:144) defines sampling as the process of selecting a few cases from a larger population to become the basis for estimating or predicting the prevalence of an unknown piece of information, situation or outcome regarding the bigger group. Samples are

designed to be a representative of a particular population and they are chosen carefully to ensure representativeness and generalisation without compromise (Sarantakos, 2013:7–8). Sampling allows investigators to study a relatively small part of the target population to acquire or obtain data representing the entire population (Sarantakos, 2013:7). The whole idea behind sampling theory is that a small set identified for observation can give an idea of what can be expected in the total population of the intended study (Royse 2004:189; 190).

Sarantakos (2013:181) is of the opinion that qualitative research does not possess strict agreed-upon rules for sampling employed by all researchers. In qualitative research, sampling occurs subsequent to establishing the circumstances of the study clearly and directly, meaning that sampling is done after the commencement of the actual investigation (De Vos et al., 2011:391). Random and non-probability sampling are the two main categories of sampling (Strydom & Delpont, 2013). Kuzel (1992) asserts that qualitative studies usually employ non-probability sampling, namely purposive, snowball, and theoretical sampling methods among others.

In this study, two forms of non-probability qualitative sampling, namely purposive and snowball sampling were adopted. The purpose of implementing a relevant sampling method in qualitative research is to collect the richest data, which means a wide and diverse range of information collected over a long period of time (De Vos et al., 2011:391–392). The two types of sampling procedures mentioned above were chosen because they are relevant to this study. Strydom and Delpont (2013:392) mention that in purposive sampling, participants and sites are selected to purposely inform and comprehend the research problem of the study. Purposive sampling is used in qualitative research because the participants and sites selected help to address the problem under investigation (Creswell, 2007:125).

On the other hand, snowball sampling according to Sedgwick (2013:1) is a type of non-probability sampling method, in this method the number of samples increases with time likened to a snow ball accumulating snow as it rolls down a hill. In the study, this method was utilised to select 20 participants in one-on-one semi structured interviews. Snowball sampling assisted the study to reach particular individuals who were hard to find, through this method the participants were informed and directed the researcher to other relevant participants in Chobe district. It is the obligation of the researcher to critically think about the parameters of the population and then choose the sample accordingly (Delpont, 2013:392). In this study, four (4) focus groups of about 6 to 10 men and women were conducted in the Chobe district. Four focus group interviews were conducted in Kasane

and Kachikau, two in Kasane and two in Kachikau. The focus groups had a total number of 34 participants, where 59% represented women and 41% were men. This study involved a total of 54 participants from Kasane and Kachikau communities in Chobe district.

1.12 INSTRUMENTATION AND DATA COLLECTION

Annum (2015:1) asserts that “the validity and reliability of any research project depends to a large extent on the appropriateness of the instruments. Whatever procedure one uses to collect data, it must be critically examined to check the extent to which it is likely to give one the intended results”. Therefore a researcher must ensure that the tools that are used for data collection are valid and reliable because the research project’s validity and reliability is dependent on the correctness of the tools or instruments used.

For this study an electronic voice recorder was used to record focus groups and in one-on-one semi-structured interviews. The study employed face-to-face semi-structured interviews where a total of 20 individuals were interviewed. 1 senior disaster official from the disaster management office, 2 traditional leaders, 1 representative from Chobe district’s disaster management committee, 8 local and permanent residents, 2 social workers 1 from Kasane and 1 from Kachikau and finally, 6 Chobe district disaster risk management practitioners (see chapter 3 for more details). Data collection is defined as “the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate outcomes” (University of Northern Illinois, 2004). Trochim (2006) argues that qualitative data can be exceedingly diverse in nature because it consists of non-numerical data.

Kumar (2005:119) on the other hand states that observations, interviews, focus groups and questionnaires, among others, form the primary sources of data. In this study focus groups and one-on-one semi-structured interviews were used to collect relevant data to answer the research questions and address the research problem under investigation.

1.13 DATA ANALYSIS

Schwandt (2007:6) defines data analysis as the process of bringing order, structure and meaning to the mass of collected data. Based on the nature of the problem under investigation, this study used qualitative data analysis. De Vos et al. (2011:399) are of the opinion that qualitative data analysis is a process of inductive reasoning, thinking, and theorising that is far removed from structured, mechanical and technical procedures. The

aim is to derive findings on social life from empirical data. In addition to that, “qualitative data analysis is based on an interpretative philosophy which aims at examining meaningful and symbolic content of qualitative data” (Nieuwenhuis, 2010:99). The goal in qualitative data analysis is to summarise what has been observed, seen or heard in terms of common words, phrases, themes or patterns that assist in one’s understanding and interpretation of the surfacing information (Nieuwenhuis, 2010:100).

According to Gibbs et al. (2007), qualitative data analysis refers to range of processes and methods used to move from the collected qualitative data to some form of explanation, understanding or interpretation of the people or situation under investigation. While there are a number of varieties of qualitative analysis, this study used iterative and fixed analytic procedures to analyse the data.

The iterative and fixed models are both flexible models used to perform analysis during and after data collection (Sarantakos, 2013:369). In order to transform the data into findings, the researcher employed coding techniques, coding is the categorisation of data segments under a short name (code) that simultaneously summarises and accounts for each piece of data (Boije, 2010:94-95). The researcher utilised this method as a tool to create order and make sense of the bulky and diverse data that was collected in the study.

1.14 LIMITATIONS AND DELIMITATIONS

It is inevitable that every study possesses its limitations, even the most carefully planned research study (Fouché et al., 2011:111). Mentioning the limitations of the study beforehand helps the reader to understand how the researcher arrived at his or her conclusions (Nieuwenhuis, 2010:115). Even though problems can not entirely be eliminated in any study, it is essential that the various limitations should be listed to address and minimise the problems (Fouché et al., 2011).

The people of Botswana as a nation have strong pre-defined cultural norms in terms of male and female roles. Given the cultural context of the Chobe district, the nature of this study was sensitive to the local residents and even the authorities in the district because of the set gender roles and culture in the area. Cultural and traditional beliefs in Botswana and most African countries have established roles and rules for men and women. This study was conducted to explore and question various roles, responsibilities and positions of men and women in the area. For some, this was an attack on their culture and predefined position of authority. However, to prevent any sort of misunderstanding, the

researcher addressed each participant to assure him or her that the research was being conducted for academic purpose. After briefing the respondents, the interviews were carried out smoothly without problems.

Language barriers also emerged as one of the challenges during the study. Subia and Setswana are the two languages spoken in the district. Therefore, communication was certainly a barrier between the researcher and the respondents. However, to address the language barrier, the researcher had a field assistant who helped by translating and interpreting the interviews and focus group discussions.

In contrast to limitations, delimitation is also another factor that was taken into consideration during the study. Simon (2011:2) argues that delimitations are factors that limit the scope and define the boundaries of one's study. It encompasses the choice of research objective, the research questions, the population chosen for investigation, the paradigm and methodology employed, the choice of participants, among other things. In simple terms, delimitation defines the boundaries of the investigation and addresses how the study would be conducted given its scope. This study was confined to Kasane and Kachikau communities in the Chobe district. The researcher was able to utilise the EAGER project in the two areas to build rapport and to network with the respondents. EAGER was a risk reduction project implemented by the African Centre for Disaster Studies, at the North-West University in South Africa, aiming to build risk reduction capacity with the youth of Chobe district in the Kasane, Kachikau areas. By confining the study in Kasane and Kachikau, the researcher was able to collect relevant data from the community in a designated area.

1.15 ETHICS CONSIDERATIONS

The fundamental ethics rule of social research asserts that the research must not bring any sort of physical or emotional harm to participants (Babbie, 2007:27). The researcher has the obligation to ensure that participants are protected from any kind of discomfort that may emerge from the research project (Babbie, 2007:27). Strydom (2011:113) is of the opinion that research should be based on mutual trust, acceptance, cooperation, promises and well-accepted conventions and expectations between all parties involved in a research project. In social sciences, ethics issues are complex and pervasive. Data should not be obtained at the expense of human beings. However, the fact that human beings are the objects of the study offers unique ethical problems (Strydom, 2011:113–115).

In this study, the researcher followed all the relevant professional and social science codes of conduct. The study was conducted after receiving ethics clearance from the North-West University, Potchefstroom campus' research ethics committee. In addition, permission and ethics clearance was granted by National Disaster Management Office of Botswana in the Office of the President. As such, the researcher conducted this research in accordance and consideration of proper research ethics.

1.16 SIGNIFICANCE OF THE STUDY

According to various international and national disaster reports and academic literature, disasters have had devastating effects on people. Research evidence has shown that women and girls and other disadvantaged groups like the old, disabled and children are often disproportionately affected when disaster strikes. Gender is a social construct in our social systems, and for many years it has been overlooked and neglected in disaster risk reduction policy and practice. However, gender aspects can lead to substantial differences in how men and women are affected by disasters. Women are often neglected and not involved in key decision making regarding DRR policies and practice.

This study aims to help address the factors that marginalise women, resulting in gendered vulnerabilities in the Chobe district. The objective of the study is to provide relevant recommendations to authorities in Botswana on gender foregrounding in DRR. The study is significant because it provides relevant recommendations on the different mechanisms that can be employed to integrate gender into DRR policy and practice in the Chobe district. Finally, this study expounds the significance of a gendered approach to DRR.

1.17 CHAPTER LAYOUT

The study comprises of five successive chapters, summarised as follows:

Chapter 1: Overview of the study

This chapter expounded the background and overview of the study. The discussion briefly explained the objective and the research problem under investigation. Furthermore, the chapter stated the problem, research questions and objectives and outlined central theoretical statements that validate the significance and relevance of the study. Finally, the chapter outlined various research methods and the design of the study.

Chapter 2: Theoretical perspectives on gender in a disaster risk reduction context

Chapter 2 explores and discusses the relevant literature on the topic under investigation. Using primary and secondary sources, the chapter provides a detailed discussion of

international, national, and various organisational perspectives on gender integration in disaster risk reduction. In addition, different factors that contribute to the vulnerability of both men and women are expounded.

Chapter 3: Research methodology

As outlined in Chapter 1, this chapter offers a detailed discussion of the research methodology and design that was employed in the study. In a nutshell, Chapter 3 explains the different types of research methods that were employed, the steps that were used and the reasons why the methods were suitable and relevant to the study. In addition, this chapter elaborates and explains instrumentation, data collection methods and the method used to analyse the raw data.

Chapter 4: Data analysis and interpretation

Chapter 4 presents the results of the data analysis. The researcher employed iterative and fixed analysis methods. The bulky data were first coded and reduced, then the researcher organised the data into various themes. The themes form the basis of interpretation presented in this chapter.

Chapter 5: Conclusion and recommendations

Based on the results obtained from the empirical findings, this chapter provides a concluding summary of the research project. The summary carefully links the research findings of study to the available literature. Finally, the chapter makes various recommendations to the Office of the President's Disaster Management Office in an effort to incorporate a gendered approach in disaster risk reduction policy and plans to help eradicate gendered vulnerabilities and risk.

CHAPTER TWO

THEORETICAL PERSPECTIVES ON GENDER IN A DISASTER RISK REDUCTION CONTEXT

2.1 INTRODUCTION

Chapter 1 of this study outlined the problem under investigation and the objectives of the study. In outlining the research problem, section 1.3 highlighted that men and women experiences the impact of disasters differently. Most importantly it has been argued that gender remains a marginalised issue in disaster risk reduction policy and practice, and therefore chapter 1 emphasises the need to mainstream gender into DRR. The purpose of this chapter is to explore and establish a theoretical perspective of gender as a concept in context of DRR, this chapter specifically addresses the 1st objective of the study:

- to explore the global perspective on gender integration in disaster risk reduction policy and practice;

This chapter begins with discussions of the concepts of gender and disaster risk reduction to establish what these entail. Thereafter, another section of the dissertation discusses an overview of the most recent global policy and framework and national DRR strategies. The discussion has helped to specifically explore and establish the extent at which gender has been mainstreamed in DRR policies to address disaster risk and impact of disasters.

Thereafter, a gender retrospective section assesses, scrutinises and expounds how gender was addressed in DRR in the recent policies, frameworks and national strategies. The section expounds on the progress and challenges encountered in mainstreaming gender into DRR policies and strategies. Finally, through a rigorous review of literature, the chapter will conclude with a discussion on the concept of vulnerability and various factors that influence and contribute to vulnerabilities of men and women. It is inevitable that disasters occur when hazard and vulnerability meet. Therefore, exploring and assessing the factors that influence and contribute to vulnerabilities of men and women will assist to effectively address gendered disaster risk.

2.1.1 CONCEPTUALIZATION OF GENDER

The World Health Organisation (WHO) defines gender as “socially constructed characteristics of women and men-such as norms, roles, and relationships of and between groups of women and men” (WHO, 2016). While gender is confused as simply meaning women, gender as a concept designates women and men (Khosla et al, 2004:11). According to Khosla et al, (2004:11) gender refers to the roles and responsibilities of women and men and the relationship that exist between them. Gender

is one important aspect that shapes every person's daily life, it determines what is expected, allowed and valued in a woman or a man in different context (UNDP, 2010 & USAID, 2011). It is vital to understand that gender is not determined biologically as a result of sexual characteristics of either women or men, but rather socially (FAO, 1997:7). The social construction of gender can be seen in the fact that societies, groups or individuals attach specific traits, statuses or values to individuals because of sex (Blackstone, 2003:335). Human beings are responsible for creation of the concept of gender through daily interactions and assigning of different roles and responsibilities to a particular gender (Blackstone, 2003:335).

Holmes, (2008:3) argues that gender are attributes that are acquired over time, various social institutions like families, schools, work place and the media teach girls to behave certain ways that is entirely different from boys. Gender is not natural but rather it is a social construction that is developed in our various social institutions that shape individuals to behave particular kind of way represented as women or men (Holmes, 2008:2).

It is very significant to comprehend that gender as a paradigm does not imply women neither does it imply sex, gender is "a complex and dynamic social processes based on differences and inequality with respect to biology, the gender identities to which we are socialised and the dominant gender relations of the societies we inhabit" (Enarson, 2009:23).

Furthermore, "gender is multidimensional, gaining meaning through emotion, action, appearance, music, clothing, use of space, body language, and other ways in which various individuals express themselves as real men or women (Enarson, 2009:23). Gender is also described as a marker of difference, a source of identity, a force for constraint or liberation and the basis for the division of labour in the household, community and labour force among many others (Enarson, 2009:25). In Africa, gender inequality impinge on the rights of women, a number of features in African societies are identified as determining influences on women's lives (Stoeltje, 2017). For instance, in matrilineal societies men dominate and exercise more authority over women, due to such social constraints women are often more vulnerable (Stoeltje, 2017). It is with this background that the study focuses on gendered approach in DRR to systematically explore how the roles of women and men contributes to vulnerability.

2.1.2 THE CONCEPTUALIZATION OF DRR

As indicated in Chapter 1 of the dissertation DRR is defined as "systematic concept and practice that seeks to analyse and manage the causal factors of disasters through

reducing people and property susceptibility to hazards, reduction of vulnerability, the wise management of land and environment and finally improvement of preparedness for adverse events .” One of the biggest threats to sustainable development and human safety today are disasters caused by natural and human made hazards (UNDP, 2015:9). Natural hazards such as droughts, earth quakes, floods, landslides, tropical storms, wildfires and volcanic eruptions has resulted in tremendous losses in terms of human lives and livelihoods, the devastation of economic and social infrastructure and also destruction of environment (Valdés, 2009:20).

According to Lewis et al., in Mercer (2010:248) disasters are as a result of intricate interaction of social, environmental, political and economic factors that are linked to development and can interact with hazards to become disasters. The UN Office of Disaster Risk Reduction attest that “disaster risk is increasing; it is changing and that the number of people and assets exposed to disasters is trending up in most regions of the world (UNISDR, 2013:1). Disasters are not only a threat to sustainable development but they are a main problem in the whole world (Twigg, 2015). The diverse impact of disasters are causing devastating destruction of property and various assets, social and economic disruption, immerse destruction of environment and loss of infrastructure also causing loss of lives, injury and diseases (Twigg, 2015:1 & USAID, 2011:4).

Disasters either anthropogenic or natural are everybody’s concern as such people need to be aware and know how to manage disasters (Robby, 2010). Legarda (2014) explained that “disasters as an enemy are becoming more enigmatic and formidable thus shift from reactive to proactive in responding to catastrophic events is apparently a must. Human beings from all walks of life have for years sort various new ways to curb the devastating effects of disasters (USAID, 2011:5).

Disaster risk reduction as a concept encompass actions that seek to make communities, society, individuals or households as a whole more resilient to disasters (Pelling & Wisner, 2009:43). The UN Secretary-General stated that disaster risk reduction is everybody’s business and it should be in everybody’s interest (Coutrix, 2015). Disasters does not affect people the same, “the effects and impacts of disasters, the individual and institutional response, differ for men and women” (Ariyabandu, 2009:1). Ariyabandu (2009:1) was of the opinion that gender aspects in social and community organisation lead to substantial differences in how men and women experience and deal with the impact of disasters. Vulnerability theory asserts that community vulnerability to disasters are not equally distributed among the regions or nations of the world (Zakour & Gillespie, 2013:11). DRR as a concept encompass the application of policies, strategies and

practices to minimise or reduce vulnerabilities and disaster risk within in society, community and the world at large. The next section expounds about the concept of vulnerability.

2.2 VULNERABILITY

A disaster occurs when hazards such as floods, cyclones, earthquakes and droughts meet with conditions of vulnerability. Very often, there is a high risk of a disaster when one or more natural hazards happens in a vulnerable situation (Wisner & Luce, 1993:127). For the purpose of this study, it is very important to understand the bearing of various factors of vulnerability including physical, social, economic, political and environmental that influences men and women. Henceforth, this section explores and expounds the background and concept of vulnerability, aspects that influence vulnerabilities and various aspects that contribute to men and women vulnerabilities.

2.2.1 Background and the concept of vulnerability

Vulnerability refers to conditions determined by physical, social, economic and environmental factors that increase community susceptibility to impact of hazards (UNISDR, 2004). In substantiating this, the UNISDR (2002:24) According (Wisner, 2016:2), the background or history of vulnerability is long and complex. Wisner (2016:1) argues that vulnerability is complex because it involves many characteristics that expose people and groups to harm and limit their ability to anticipate, cope with and recover from such harm.

According to Wisner et al., in Gaillard (2010:219), the concept of vulnerability emerged in disaster literature as early as the 1970s, the concept spread quickly later in the 1980s along with climate change and development literature. Vulnerability as a concept has been a powerful analytical tool for describing states of susceptibility to harm, powerlessness, and marginality of both physical and social systems (Adger, 2006:268). To address disaster risk, one must know the levels of exposure that influences the vulnerability of different groups of people and not only understand various hazards that affect them (Wisner et al., 2004:7). Vulnerability concept gained recognition as a central focal point to minimise the losses from disasters (Zakour & Gillespie, 2013:18). The notion that a disaster only occurs when a hazard interacts with vulnerability, implies that hazards themselves do not create disasters (Loretti & Togegegn, 1996:179; Van Niekerk, 2011:14).

According to Wisner et al. (2003:7; 8) the social, economic and political processes modify a disaster where some group of people are more vulnerable to the extreme than others. The different aspects of vulnerability originate from physical, social economic,

environmental and political factors which seriously affect ability of a community or individuals to respond to disasters (UNISDR, 2009:30). Kulatunga (2010:307) was of the view that in the mainstream literature of DRR, cultural elements are neglected when it comes to planning and implementation of DRR strategies. Consequently, failure to combat cultural aspects leads to the increased vulnerabilities of community towards disasters and development of unsuccessful strategies (Nun et al., 2007 and Hoffman, 1999).

On the other hand, Van Niekerk (2011:14) points out that identifying all factors that influence vulnerability is very important because it provides a platform to prioritise initiatives that can contribute to reduce vulnerability. The table below outlines factors that influence vulnerability.

Table 2.1: Factors influencing vulnerability

Factors Influencing Vulnerability	Description
Political factors	Numerous elements such as denial of human rights, denial of access to power structures, denial of access to quality education, denial of employment opportunities, denial of access to infrastructure and resources, and denial of basic services and information creates and maintains extreme levels of vulnerability.
Economic factors	Among many other elements, poverty is the most crucial influence of vulnerability. For instance, poverty and lack of access to land and basic services forces people to live in hazardous areas (hills prone to landslides). In addition, the lack of basic services like water and sanitation makes people vulnerable since they are placed at risk of disease and epidemics.
Physical factors	Physical vulnerability refers to exposure of people, households and communities to loss within their physical environment or surrounding. Such environment exposes people to various hazards (such as floods, diseases, landslides and fires) making them vulnerable.
Social factors	Several social factors like level of education, literacy and training, safety and security, access to basic human rights, social equity, information and awareness, good governance, strong cultural beliefs and traditional values among many others influence vulnerability. For instance, lack of awareness and access to information can results to increase of vulnerability, this is because due to lack of information or early warning people might not be aware of the disaster coming their way to take protective measures.
Environmental factors	Under environment, depletion of natural resources, resources degradation, loss of resilience of the ecological systems and loss of biodiversity and susceptibility to toxic and hazardous pollutants are some of the factors that contribute to vulnerability (UNISDR, 2002:47).

(Source: Van Niekerk, 2011:18–21)

Table 2.3 gives a good illustration that disasters are not only caused by natural events but rather they are the product of social, political, physical and economic environments factors that interacts with different types of hazards. The increase in disasters is linked to the increase of vulnerability of communities and households' mainly in developing countries due to existence of socioeconomic vulnerabilities that intensify the impact of the natural

hazards (Vatsa & Krimgold, 2000:129). The UNDP (2010:15) notes that while exposure to hazards can be the same for everyone, men and women have different levels of vulnerability. The impact of disasters on women is different from men; in general, women are often hit hard by disasters (Twigg, 2004:80).

For example, in the aftermath of 1991 cyclone that killed a total of 138, 000 people in Bangladesh, it was found that the death rate of females over ten years of age was three times higher than the death rate of males of the same age group (Twigg, 2004:81). According to Twigg, women were affected more to impact of disasters due to their designated position in society. As elaborated in Table 2.4, natural hazards in themselves does not cause disasters, a disaster is a product of hazard interacting with vulnerability. Vulnerability is very complex, this is because it has too many dimensions encompassing economic, social, demographic, political and psychological at different levels and context (Twigg, 2004:33; Birkmann, 2006:26).

In order to address impact of disasters we need to understand not only the impact but rather know various hazards that affect people including their different levels of vulnerability (Wisner et al., 2003:7). The following section has expounded different factors that contribute to men and women vulnerabilities.

2.3 CONTRIBUTORY FACTORS OF MEN AND WOMEN VULNERABILITY

The impact of disasters on human beings is not just determined by the phenomenon of the disaster, but is dependent on economic, cultural and social relations among many other factors that often influence either a group or individual vulnerabilities (Neumayer & Plumper, 2007). A disaster is a product of a hazard interacting with vulnerabilities meaning that a hazard does not cause disasters (Saidulu, 2013; WHO, 1999). A hazard only becomes a disaster when there is a greater vulnerability and less capacity to cope with it (Saidulu, 2013). Various social, economic, ethnic, cultural and physiological factors affect not only the ways that disasters impact women, men of all age groups, but also their coping strategies and participation in prevention, relief, recovery and reconstruction processes (Ferris et al., 2013:71; 72). Consequently, several factors contribute to vulnerabilities of men and women.

These factors include poverty, gender, livelihoods, inequality, weaker social groups, social exclusion and strong cultural beliefs (Cutter et al., 2003:243; Hamburg University of Technology, 2006). Noteworthy, a hazard only turns into a disaster when the vulnerability of a group of people is high (Dijkhorst & Vonhof, 2005). The impacts of disasters are often different between men and women mainly because of social inequalities that aggravates

vulnerability (Tsacoyeanes, 2017). To comprehend and address disaster risk and disasters, it is essential to understand the components and contributory factors of vulnerability for different groups of people (Dijkhorst & Vonhof, 2005). Therefore, the next section explores and discusses factors that contribute to the vulnerability of women to disasters.

2.3.1 Factors contributing to women vulnerability

Regardless of women's outstanding resilience and capacity for survival often exhibited in times of disasters, they are usually faced with a range of vulnerabilities due to unequal power relations between women and men (Ciampi et al., 2011:4). Ariyabandu (2005:3) argues that women are often victims of gendered division of labour and that they have less access to resources besides being the primary caregivers to children, elderly and the disabled. Consequently, children, elderly people and disabled all fall within female's care in that sense when disaster hits women have the burden to look after more people than themselves only.

Consequently, the gender-based prejudices and divisions in a lot of societies mainly affect girls and women such prejudices are based on perceptions that women are inferior as well as being physically and emotionally weak as compared to their male counterparts (Ariyabandu, 2009:7).

Due to this gender stereotyping behaviours, women are seen as helpless victims and their capacities, knowledge and skills in each stage of the disaster cycle are not recognised in disaster reduction practices (Enarson, 2012:47). As a result, the skills and abilities of women either as individuals or a group are undermined, which not only contributes to their vulnerability, but also subject them to social inequalities (Ariyabandu, 2009:7). For Mishra (2009:30), women's vulnerability in disasters are also mostly due to their social inequality as well as lack of access and control over political and social resources. In Aceh Indonesia and India, for example, women are not recognised as heads of households and as such, they are not allowed ownership rights to own land or properties because it is only registered to their husband or in their father's name (APWLD, 2005:4). As such, denial of human rights and unequal distribution of resources also contribute to the vulnerability of women.

Another aspect that contributes to the vulnerability of women to disasters are cultural restrictions on mobility and access to critical information (Yavinsky, 2012). A confirmation of this is that Bangladeshi women do not respond to cyclone warnings and information and move to safety as is required because cultural restriction dictates that women cannot leave without observance of purdah (Ariyabandu, 2009:12). White (1977:31) asserts that

purdah is the practice of seclusion of women from contact with the outside world especially with men outside of the immediate family.

One significant way of ensuring that disasters are addressed from a female perspective is to include women in leadership positions (Munir, 2016). Twigg (2004:84) posits that women have considerable technical knowledge and skills that can be vital for disaster mitigation. However, women are not well represented in formal emergency planning organisations because they are side-lined in decision-making positions and leadership roles (Enarson, 1998:163). Women possess valuable knowledge and experience in managing and coping with disasters their strength and capabilities are often ignored in policy decisions and in all formal arrangement relating to disasters and risk management (Ariyabandu, 2009:7). Nevertheless, the exclusion of women from critical leadership and decision-making positions is one of the contributing factors to their vulnerability.

Highlighting this issue in the aftermath of 2004 tsunami, women in Aceh, Indonesia were not involved in governance of the recovery camps and were totally excluded from any sort of negotiations or decision-making process with relief organisations and government institutions providing supplies (APWLD, 2005:8; Ariyabandu, 2009:12). This behaviour not only has implications on women's needs but rather it deprives them of opportunities to participate, learn and be in leadership positions (Ariyabandu, 2009:13). Almost without fail, that is the reason why many women around the world are disproportionately affected by disasters (Rule, 2017). In all aspects of managing disaster risk, women play an active role but these roles are invisible, rarely acknowledged and not included into formal systems (Jayawardena et al., 2014:1).

Furthermore, among the world's poor more than 60 percent are women (Ariyabandu & Foenseka, 2006). Therefore, women are likely to suffer more when a disaster occurs since they make more than 60 percent of the world's poor. If more than a half of people living in poverty are females this means that poverty and economic status of women also affect their vulnerability and increase the impact they experience in times of disaster (Dasgupta et al., 2010:3). Low economic statuses for women living in poverty influence the coping capacity for persons living in these areas and limits women's ability to withstand the impact from catastrophic events (Lacson, 2015).

According to previous research both cultural and environmental factors contributes to women vulnerability, early or child marriages results in vulnerability of women due to pregnancies. Child marriages are packaged as a cultural necessity. However, it contributes to women vulnerability to HIV/Aids and gender-based violence (IPPF, 2006:6).

Lastly, gender-based domestic violence also contributes to women's vulnerability, regardless of income, age or education, across the world women are subjected to physical, sexual, psychological and economic violence (United Nations, 2015). Enarson (1998:2) argues that women living in the midst of domestic violence are highly vulnerable when disasters transform geographies, institutions, and relationships. Even though a lot is written and researched on women in gender studies, when it comes to gender research men should not be excluded as gender does not only mean women. The next sections expound the different factors that contributes to the vulnerability of men.

2.3.2 Factors Contributing to the Vulnerability of Men

It is significant to note that disasters do not discriminate; everyone within the disaster zone is affected without exception when a disaster strikes (Aguilar, 2009). Irrespective of age, religion, gender or any other determining factors, disasters affect everyone indiscriminately but it is only the individual experiences that differs (Sadia et al., 2016:1; Austin & Boyd, 2010:877). When it comes to masculinity, gendered identities influence masculine concepts where men are expected to be in control, be able to provide economic and physical security to the family including being physically and emotionally strong (Ariyabandu, 2009:8).

This gender based social expectations contributes to men's vulnerability because it isolates men, leaving them to deal with their own loss and grief especially in the aftermath of a disaster (Ariyabandu, 2009:8). Usually men do not challenge these social expectations in the open because they do not want to be seen as not strong. Enarson (2009) argues that although gender relations typically empower men as decision makers with more control than women over key resources, in some circumstances gender identities and gender norms also increases men's vulnerability.

Enarson (2000:4) expresses concern that in some cases masculinity norms does encourage risky (heroic) actions like search and rescue period, reconstruction and debris removal. Such masculinity norms that perceive encourage men to indulge in risky actions also contribute to men vulnerabilities. Men are also vulnerable because the social and cultural expectation of men roles as protectors puts a greater responsibility on them for risk taking during and after a disaster either in their household or as volunteers (WHO, 2002).

For instance, immediate mortality caused by Hurricane Mitch in Central America was higher for men than women (Bradshaw, 2004 in Patt et al., 2009:85). Such was the reality due to the fact that men were more engaged in outdoor higher risk activities, hence after the Hurricane struck, men were exposed to the impact of the hazard (Patt et al., 2009:85).

Disasters do not discriminate but people do, the various factors that contribute to both men and women vulnerabilities are often social constructs that emerge from our social systems due gender differences and factors like social economic status, livelihoods, cultural beliefs explicated in the sections above (IFRC, 2007b:11). While there is not a lot of literature about factors that contribute to the vulnerabilities of men to disasters, various gender sensitive case studies have shown that the gender norms also exacerbate vulnerability to impact of hazards for men of all age groups (Enarson, 2009).

In most parts of the world men occupy roles as first responders and this makes them susceptible to work related injuries and the impact of hazards like hazardous material spillage and deaths of fire-fighters (Enarson, 2009; Mohney, 2016; Hall, 2013). In addition, the gender perception of men having increased tolerance of risk also contribute to men vulnerabilities, this gendered perception influences the feeling of invulnerability which prevents men from seeking assistance of which puts their life and the lives of their families in danger (Enarson, 2009). Additionally, men especially those with marginalised sexual identities are also subject to violence and isolation in times of social crisis which aggravate their vulnerabilities (Enarson, 2009). Finally, Chakrabarti and Enarson (2009:2) point out that gender is often misinterpreted as women hence issues relating to men vulnerabilities are often neglected in DRR process. There is a need to strike a balance in how men and women engage in DRR because gender is a necessity for disaster risk reduction rather than an alternative. The next section expounds on the overview of gender in DRR context.

2.4 BRIEF OVERVIEW OF GENDER IN DISASTER RISK REDUCTION

The socially constructed gender roles influence risk in society since women and men often have unique vulnerabilities to disasters (Ciampi et al., 2011:5). Ariyabandu (2009:5) share similar views and mentioned that various gender aspects in our communities and various social settings leads to substantial differences in how men and women of different age groups experience and deal with disasters.

Gender plays a vital role in disasters, research evidence indicate that disasters are not gender-neutral because the impact that it has on groups or individuals are often different based on their gender (Weru, 2015). Inevitably, disasters are windows that highlight the prevailing gender-based inequalities in societies (Ariyabandu, 2009:11). As the impact of disasters in the world is on the rise, the UNISDR (2009) pointed out that shifting the paradigm of sole emphasis on disaster response to a comprehensive disaster risk reduction can assist in decreasing the effect of disasters.

A gendered approach in disaster risk reduction is developed or built based on the understanding that even though both men and women are part of the same society, they do not have same rights, education and options in either normal times or when a disaster strikes (Valdés, 2009:18). A disaster does not discriminate whom it affects, every year a number of people are affected through loss of lives and their livelihood from the impact of disasters (Davis et al., 2010:30 & Aguirra, 2009). According to the UNISDR (2009:9), “A disaster is anything that interrupts normal functioning of a society involving losses of lives, materials, economic and environmental losses that exceed the ability of the affected community to operate or function properly using their own resources”

The UN general secretary indicates that reducing disaster risk is everybody’s business and should be in everybody’s interest mainly because disasters do not discriminate (Coutrix, 2015). However, to address the devastating impact of disasters it is essential to understand the concept of disaster risk reduction. In its entirety, disaster risk reduction is a function of human behaviour that tackles the basic elements of disasters risk encompassing vulnerability, hazards and exposure (Bodenhamer, 2011:13; DFID, 2006:1; 9). As a concept, DRR include actions that seek to make communities, society, individuals or households more resilient to disasters (Pelling & Wisner, 2009:43). However, Austin and Boyd (2010:877) believe that the degree to which a particular group, male or female, young or old, is affected depend on their vulnerability factors.

Fothergill (1998:12) argues that scholars were not aware of the significance of gender aspect in disasters in disaster research until 1998. However, several decades later the UNISDR (2009:2) outlined that across the world good practices of gender-inclusive DRR has shown through various studies that a gender-balanced approach to DRR benefits everyone including men and women, families, communities and nations at large. The following section will assess and give an overview of the recent global policies and frameworks to establish how gender has been mainstreamed in various global and national DRR policies and frameworks. The core objective is to establish the extent to which gender has been integrated into disaster risk reduction in efforts to address disaster risk and mitigate disasters for the past years.

2.5 OVERVIEW OF GLOBAL POLICIES AND FRAMEWORKS OF GENDER IN DRR CONTEXTS

Due to various social factors such as population growth urbanisation, and the drastic change of the global environment, disasters continue to have devastating impact on human population (UNISDR, 2007:1). According to UNISDR and CRED (1998-2017:3)

“between 1998 and 2017 climate-related and geophysical disasters claimed a total of 1.3 million lives and 4.4 billion were left injured, homeless, displaced or in need of emergency assistance, 91% of this disasters were caused by floods, storms, droughts, heat waves and other extreme weather events (UNISDR and CRED, 1998-2017:3)”.

Due to the worldwide increase in vulnerability of people, not only has disaster risk reduction become a global concern but it has also realised a growing importance on the international agenda (IFRC, 2007a:1; UNISDR, 2007:1).

Several global policies and frameworks, like the International Decade for Natural Disaster Reduction (IDNDR), the Yokohama Strategy and Plan of Action for a Safer World as well as the Hyogo Framework of Action (2005–2015) were developed and has since been implemented to mitigate the devastating impact of disasters (IISD, 2005:1–2). According to the International Institute for Sustainable Development (IISD, 2005:1) the devastating increase of human casualties including property damage in the 1980s gave motivation to the UN General Assembly in 1989 to declare the 1990’s as the International Decade for Natural Disaster Reduction (IDNDR) in its resolution 44/236 of 22 December 1989. The purpose of IDNDR was to address disaster prevention in the context of numerous existing hazards such as drought, floods and earthquakes (IISD, 2005:1; United Nations, 1992:4).

The IDNDR, led to the development of the Yokohama Strategic Plan for Action adopted in 1994 at the first world conference on disaster reduction. The conference held from 23 to 27 May had over 3000 representatives from 148 countries (Hannigan, 2012:67). The Yokohama Strategy possessed guidelines for action pertaining prevention, preparedness and mitigation of disaster risk (IISD, 2005:1).

One of the main concerns in the contemporary world is the increase of disaster risk because the impact and results of disasters in one region can influence the impact and risks of another region and vice versa (United Nations, 2016). Therefore, to ascertain and understand the extent at which global policies and frameworks have integrated a gender perspective to address disaster risk and reduce vulnerabilities.

The following sections explores, analyses, and expounds the recent global and national policies and frameworks encompassing the Hyogo Framework of Action (2005–2015), the Sendai Framework for Disaster Risk Reduction (2015–2030) and lastly the National Disaster Risk Reduction Strategy of Botswana (2013–2018). Reviewing these frameworks and policies from a gender perspective has assisted the study to discern a global perspective of gender mainstreaming in disaster risk reduction.

2.5.1 Hyogo Framework of Action (2005–2015)

In the previous year's several frameworks and declarations recognised the significance of promoting disaster risk reduction efforts on the international and regional levels and national and local levels (UN/ISDR, 2007b:2). Before the adoption of the Hyogo Framework for Action 2005–2015 (Here forth referred to as HFA), its predecessor, the Yokohama Strategy for a Safer World had earlier been adopted (IDNDR, 2000:4). The Yokohama Strategy affirmed that the impact of disasters in terms of economic and human losses had risen to an extent that the general public and society were vulnerable to disasters (IDNDR, 2000:4).

In 2005 the United Nations convened the Second World Conference on Disaster Risk Reduction held in Kobe, Hyogo, Japan. At this conference, a total of 168 United Nations member countries came together in one spirit and after negotiations the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters was adopted as a successor of the Yokohama Strategy (IDNDR, 2000:4; WMO, 2017).

The Hyogo Framework was adopted to equip and enhance mankind with knowledge, skill, discipline, reason and most importantly vision against brutal power of nature (UNISDR, 2013). The Hyogo Framework provided a systematic foundation to manage risk and it also established a common platform to deal with global disaster risk (UNISDR, 2013). Its priorities and goals created a common language, sense of perception and direction to deal with global disaster risk (UNISDR, 2013).

Through the HFA, a unique opportunity was granted to promote strategic and systematic methods to minimise vulnerabilities and risk to hazards (WMO, 2016; United Nations, 2005a). The expected outcome of the HFA was to build resilience of nations and communities to the impact of disasters by ensuring a substantial reduction of disaster losses, in lives and in the social, economic and environmental assets of communities and countries (UNISDR, 2007:2). Governments across the world made a commitment to act to reduce disaster risk and the HFA was not only adopted but rather was utilised as a guideline to reduce vulnerabilities to hazards (UNISDR, 2007:1). As realisation of the above the HFA had five priorities of action which were set as guiding principles and empirical means to address disaster risks and vulnerabilities as shown in table 2.1 (UNISDR, 2007:2).

Table 2.2: Hyogo Framework five priority areas of action

Priority of Action	Description
1. Ensure that disaster risk reduction is a national and local priority with a strong institutional basis for implementation.	Under this priority, the Framework suggests that countries should develop or modify policies, laws and organisational arrangements encompassing plans, programs and projects to integrate disaster risk reduction. In particular, the framework outlined that disaster risk reduction should be integrated into development policies and planning. In addition, in order to ensure that local needs are met the Framework stated that community participation should also be implemented.
2. Identify, assess and monitor disaster risks and enhance early warning	To reduce their vulnerability to natural hazards, countries and communities must know the risks that they face, and take actions based on that knowledge. Various tools like tools should be made to be made and distributed, for instance statistical information about disaster events, risk maps, disaster vulnerability and risk indicators are very important.
3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels.	Disasters can be reduced substantially if people are well informed and aware of the measures they can take to reduce vulnerability - and if they are motivated to act. For instance, Disaster risk should be included as a subject matter either in formal or informal settings.
4. Reduce the underlying risk factors	Risk exacerbate when a community is in a hazard-prone area. In addition, vulnerability to natural hazards is also due to poor infrastructure of public facilities and housing where when a disaster strikes the structures are unable to withstand the impact of the hazards. However, countries can build resilience to disasters by investing in well-known measures to reduce risk and vulnerabilities.
5. Strengthen disaster preparedness for effective response at all levels.	Being prepared, including conducting risk assessments, before investing in development at all levels of society enable people to become more resilient to natural hazards. Effective disaster preparedness activities and exercises encompassing evacuation drills, education and training are key to efficient and effective disaster response.

Source: (ISDR 2007b:5)

The five priorities of action shown in table 2.1 were mainly set out to guide organisations, states and various stakeholders at all levels in designing a disaster risk reduction approach (UNISDR, 2007). The Hyogo Framework emphasised that DRR must be addressed in the context of socio-economic development, and mainstreamed into development planning (UNDP, 2010:15). In the same vein, Twigg (2015:9) is of the

opinion that DRR must be integrated into development planning to reduce underlying socio-economic vulnerabilities. The aim was to protect interventions against hazards and to ensure that development policies and programmes do not unintentionally increase or create risks.

Inevitably, disaster risk is exacerbated when hazards interact with physical, social, economic and environmental vulnerabilities (United Nations, 2005b:1). The Hyogo Framework's fifth priority points out that while it is inevitable that natural hazards cannot be prevented, the impact of disasters can be addressed by reducing the vulnerability of people and their livelihood (United Nations, 2007:4). However, the harsh reality remains that there is still much that needs to be done because the vulnerability of the society continues to grow due to factors such as myopic policies and practices (UNISDR, 2007:1). Ariyabandu (2009:11) argues that prevailing gender-based inequalities in our societies are often manifested by the impact of disasters. Gender aspects and constructs within social settings, communities and organisations are consequently the contributing factors that leads to differences in impact of disasters between men and women.

For instance, owing to gendered factors, 80 percent of the deceased victims in parts of Indonesia, India and Sri Lanka after the 2004 tsunami were women (Ariyabandu, 2009:11). The HFA is significant because it is the first DRR policy document at an international level to include gender mainstreaming (Liang, 2012:35). The HFA recognises the need to integrate a gender perspective into all disaster risk management policies, plans and decision-making processes (United Nations, 2005).

With regard to gender, the HFA explicitly outlines that gender should be taken into general consideration. It states that, "a gender perspective should be integrated into all disaster risk management policies, plans and decision-making processes, including those related to risk assessment, early warning, information management, and education and training" (UNISDR, 2007:4; Liang, 2012:36). A report on a world conference on disaster reduction emphasises that a gender perspective should be integrated in all disaster risk management policies, plans and decision-making processes encompassing those related to risk assessment, early warning, information management and education and training (United Nations, 2005:10).

The guide for implementing the Hyogo framework: Words into Action ISDR (2007a:5), points out that gender is not only the main organising principle in all societies where men and women are differently at risk from disasters. Gender is a core factor in disaster risk and implementation of disaster risk reduction in various settings either at home, work, within our community or neighbourhood (ISDR, 2007a:5). The capacities and resources of

individuals to reduce harm, adapt to hazards and respond to disaster is often shaped by gender, thus a gendered approach can be utilised as a significant tool in DRR to systematically address disaster risk and reduce vulnerability (ISDR, 2007a:5).

The HFA was conceived to give momentum to the global work under the previous frameworks like the International Framework for Action for the International Decade for Natural Disaster Reduction (1989), and the Yokohama Strategy for a Safer World to combat the impact of disasters and reduce vulnerability (ISDR, 2015:5). As a policy blueprint, the HFA provides clear guidelines to various policy makers and the communities to engage more systematically in minimising risk to disasters (Valdés, 2009:18). Through the HFA, DRR was put into the context of sustainable development planning, programming and poverty reduction strategies where opportunity was provided for the latter issues to be addressed in emergency, preparedness and recovery programmes (Valdés, 2009:18;19).

However, Hannigan (2012:74) argues that the absence of clear donor commitment and time bound targets was the main criticism levelled by participants at the negotiation of the HFA document. Critics feel that the HFA was able to hit all the right notes in terms of general principles, but only few specifics are provided (Hannigan, 2012:74). This argument concurs with the concept of mainstreaming gender, the HFA explicitly pointed out the importance and significance mainstreaming gender. Nevertheless, gender was just highlighted, if you look at the HFA objectives and the five priorities of action, there is no emphasis of prioritising gender or making it priority area of action.

Liang (2012:38) argues that even though gender was clarified in the HFA and other subsequent policy documents, the operationalisation of gender perspective in DRR is still not clearly indicated. As a global framework, HFA achieved some progress in terms of providing guidelines and strategies to address and combat impact of disasters. However, one the weakest area of the HFA was that much progress is needed to assist communities, governments and organisations that were working to address underlying risk factors (Bodenhamer, 2011:17).

The mid-term review indicated that there was lack of systematic multi-hazard risk assessment and early warning systems emerging in social and economic vulnerabilities. In addition, HFA had minimal integration of DRR into development policies and planning at national and international levels. This implies insufficient implementation of the HFA at the local level (IISD, 2015:2). Besides the fact that the HFA provides a global platform to address disaster risk, the well-being of people, communities and countries have still been

affected as disasters have continued to exact a heavy toll on people for the past decades (UNISDR, 2015b:10).

It is inevitable that the Hyogo Framework would provide guidance to minimise disaster risk and made significant contribution towards reducing disaster risk. Consequently, a number of gaps were identified in addressing the underlying disaster risk factors and formulation of goals and priorities for action (UNISDR, 2015:11). This was an indication of the need to develop an action-oriented framework that various governments and stakeholders would incorporate in a supportive and complementary manner (UNISDR, 2015:11). The next section explores and assesses the current Sendai Framework of Disaster Risk Reduction (2015–2030), which is the successor of the HFA.

2.5.2 Sendai Framework for Disaster Risk Reduction (2015–2030)

The Sendai Framework for Disaster Risk Reduction (2015–2030) (hereafter the Sendai Framework) is the successor instrument to the HFA (2005–2015) (UNISDR, 2015:5). The Sendai Framework was adopted at the third United Nations World Conference on Disaster Risk Reduction as a new global instrument that was held in Sendai City, Miyagi Prefecture, Japan from 14 to 18 March 2015 (UNISDR, 2015:3). The Sendai Framework was developed to ensure a continuation of work done by various stakeholders and states under the previous frameworks (UNISDR, 2015:5 & IDNDR, 2000:4).

The Sendai Framework represents a distinct platform and opportunity for various countries to adopt an extensive and action-oriented post-2015 disaster risk reduction framework (UN/ISDR, 2015:9). Further, this framework provides opportunity for countries to finish review and assessment of the Hyogo Framework for Action implementation.

Wahlstrom (2015:200) elaborates that the overall aim of the Sendai Framework is to ensure protection of lives, health, livelihoods, ecosystems, cultural heritage and critical infrastructure from impact of either natural or human induced hazards for at least the next 15 years.

According to Manandhar and McEntire (2014:20), disasters are known to hinder development process of nations, as well as obstruct the physical well-being of people and interrupt their social activity. For instance, disasters have continued to exact tremendous impact affecting the well-being and safety of people, communities and countries ten years after the adoption and implementation of the HFA (2005–2015) (UNISDR, 2015:10; 11). The Sendai Framework calls for a historic shift from an emphasis of disaster management to disaster risk management, this approach is one that is people-centred and preventive,

which promotes a proactive management of disaster risk over a reactive management of disasters (Wahlstrom, 2015:201; Wahlstrom, 2017:334).

For disaster risk reduction practices to be efficient and effective, the Sendai Framework recognises the need for a broader and a more people-centred preventive approach to disaster risk (UNISDR, 2015:10). The Sendai Framework resulted in a historic shift from disaster management to addressing disaster risk with a more people centred approach. Several guiding principles guides the implementation of Sendai Framework (UNISDR, 2015:19). One of guiding principles specified that an all society engagement and partnership is required in disaster risk reduction. This includes, empowerment, inclusive, accessible and non-discriminatory participation, where special attention is given to those that are disproportionately affected by disasters (UNISDR, 2015:19).

The Framework specifically outlines that, “a gender, age disability and cultural perspective should be integrated in all policies and practices where women and youth leadership should be promoted” (UNISDR, 2015:13). The other principle asserts that the aim of managing disaster risk is to protect people and their property, health, livelihoods and productive assets, as well as cultural and environmental assets. This principle emphasises that this should be done making sure that all human rights like, right to development inter alia are protected (UNISDR, 2015:13). Principally, the expected outcome of the Sendai Framework is to ensure that there is a significant reduction in disaster risk and the losses in lives, livelihoods and health in the context of economic, physical, social, cultural and environmental assets of people, business, communities and countries (UNISDR, 2015:12).

The goal of the Sendai Framework is to prevent new risk, reduce existing risk, and strengthen societal and environmental resilience (Wahlstrom, 2015:200). Just like the other frameworks, the Sendai Framework is a policy blueprint that builds on from the achievements of its predecessor. This framework champions a people-centred and preventive approach, that promotes proactive management of disaster risk over reactive management of disasters (Wahlstrom, 2015:200). In order to combat the devastating effects of disasters in the world by reducing economic losses and the loss in lives and the number of individuals affected by disasters. The Sendai framework offers the four priorities of action outlined in the table below.

Table 2.3: Sendai Framework four priorities of action

Priorities of Action	Description
First Priority: Understanding disaster risk	This priority explicates that disaster risk management needs to be based on an understanding of disaster risk in all its dimensions of vulnerability, capacity, exposure of persons and assets, hazard characteristics, and the environment. (Local government officials need to be given adequate training.)
Second Priority: Strengthening disaster risk governance	Work is required to guide, encourage, and sensitise the public and private sectors to act and address disaster risk.
Third Priority: Investing in disaster risk reduction for resilience	Public and private investment in disaster risk reduction needs to focus on structural and non-structural measures that can also result in co benefits such as economic growth and job creation. Target areas include early warning systems, protection of productive assets, and improved safety and functionality of critical infrastructure.
Fourth Priority: Building back better and enhancing disaster preparedness for effective response	The final priority is to strengthen disaster preparedness for more effective response. Disasters have demonstrated that the recovery, rehabilitation, and reconstruction phases are opportunities to build back better in a disaster-proof way.

Source: (UNISDR, 2015b:12)

Table 22 shows the four main priority areas of action, these priorities areas of action are considered a blueprint to ensure a systematic and logical implementation of the Sendai Framework. Nevertheless, while Sendai Framework recognises and highlights the need to incorporate gender in DRR policy and practice. Gender has not been put as a priority area of action besides the fact that the impact of disasters is in our societies and communities is highly influenced by various gender aspects (see Section 1.1; 2.2). Concurrently, Racioppi (2016:5) argues that gender inequalities and sexual norms contributes highly to gendered effects from the impact of disasters.

One of the global targets set by the Sendai Framework is to ensure an increase in number of countries with national and local disaster risk reduction strategies by 2020 (UNISDR, 2015:12). Many countries and stakeholders across the world have aligned their DRR policies and strategies with Sendai Framework. Therefore, for the purpose of this study,

the following section explores and reviews the Botswana National Disaster Risk Reduction Strategy (2013–2018). The core objective is to scrutinise the extent at which gender is incorporated in their policy plans and strategies to reduce disaster risk.

2.6 NATIONAL DISASTER RISK REDUCTION STRATEGY OF BOTSWANA (2013–2018)

In Botswana, disaster risk is viewed as the possibility of a hazard affecting vulnerable population of the country resulting in disasters (UNDP, 2009:2). As such, the BNDMP overall aim is to provide a framework for a coordinated and proactive set of actions encompassing aspects of disaster risk reduction and Emergency Management (UNDP, 2009:1). Chapter 1 stated that Botswana is susceptible to several disaster risk and hazards such as drought, floods, pest infestations, and animal diseases, wild and structural fires, accidents, HIV/AIDS and influx of illegal immigrants (see Section 1.2). As a result, the livelihood of people and economic development activities of the country is affected (see Section 1.2). According to UNDP (2013:7), the frequency and magnitude of disasters have not only increased in Botswana, but they are causing enormous economic loss of resources that would otherwise be utilised for development activities (UNDP, 2013:7). Even though there are numerous factors that influence DRR, it is the obligation of a country to think carefully about new and most effective ways of reducing its disaster risks (UNDP, 2013). DRR reduces vulnerability and increases resilience to disasters, as such the government of Botswana devised National Disaster Risk Reduction Strategy 2013-2018 (UNDP, 2009:1).

The strategic vision of the Botswana National Disaster Risk Reduction Strategy (BNDRRS) states that disaster resilience should be enhanced for all people in Botswana. While its mission statements are elaborated as to strengthen resilience to disaster risk through creation of coordinated and integrated strategies and programmes for disaster risk reduction, stakeholder collaboration and innovative use of skills, technologies and resources” (UNDP, 2013:25). Apart from the vision and mission statement, the BNDRRS (2013–2018) objectives are to:

- Establish and incorporate the foundational guiding arrangements for disaster risk reduction in the country;
- Increase awareness and knowledge of disaster risk reduction methods and opportunities;
- Inform the legal and institutional basis for efficient disaster risk reduction planning and implementation;

- Contribute towards the inclusion of disaster risk reduction into development policy, programmes and projects;
- Establish a strategic platform for public-private-sector cooperation in disaster risk reduction.
- Contribute to community resilience against the threats and effects of disasters (UNDP, 2013:9).

The National Disaster Risk Reduction Strategy of Botswana is a product of consultation and inputs by various stakeholders which concur with the statement that disaster risk reduction should not be implemented in an isolated manner (UNDP, 2013:6;9). It was precisely stated that this strategy should be interpreted in conjunction with the Botswana National Disaster Management Plan (hereafter referred as BNDMP) and various related policy documents in Botswana (UNDP, 2013:9). The BNDMP is formulated as a basis to establish various policies, strategies and procedures to guide all levels of society in disaster preparedness, response and risk reduction (UNDP, 2009:1).

The National Disaster Risk Reduction Strategy and the BNDMP have well-coordinated strategies, procedures and a well-defined aim and objectives. The prioritisation of gender as an area of action is silent in the plans, objectives and strategies of the policy documents. Beside the fact that many countries have recognised the importance of gender integration in DRR, there has been little that has been done in terms of implementation (Liang, 2012:67).

2.7 GENDER MAINSTREAMING IN DISASTER RISK REDUCTION POLICY AND FRAMEWORKS

According to the UNISDR (2009:1), there is a gap in policy and practical guidance in efforts to integrate gender into disaster risk reduction. Gender mainstreaming is one concept that most find easy to agree with, but only a few consistently do well (UNISDR, 2009:1). While gender has been highlighted and recognised as an important aspect, most of the policies do not clearly employ gender in their plans for action as such there is gap in terms of mainstreaming gender in DRR practice. Nevertheless, disasters do affect different groups or individuals based on their gender (Weru, 2015). Clot et al., (2009:4) attest that the degree of vulnerability and disaster impact is determined by various social variables encompassing gender, social status, religion, and age.

This clarifies the fact that the impact of disasters is not entirely caused by the disaster itself. Kumbetoglu and User (2010:23) hold the opinion that gender is one of the factors that determine how different groups or individuals are affected by a disaster. The inability

to take into account-gendered concerns in design and implementation of DRR programmes overlooks the true cost of disasters making DRR investment ineffective. The differences in the vulnerability of men and women to disasters require differentiated responses that can effectively reduce disaster risk (Clot et al., 2009:5).

In concurrence with Clot et al., the Sendai Framework outlines that DRR practices needs to be inclusive and accessible in order to be efficient and effective, by making sure that there is a broader and a more people-centred preventive approach to disaster risk (UNISDR, 2015:10). Gender shapes the capacities and resources of men and women to reduce harm, adapt to hazards and even respond to disastrous events, as such policy makers and disaster management practitioners must be aware of gender social inequities that are prevalent in every aspect of our daily lives (Enarson, 2009:322; Zuniga, 2009:285). This can assist to address disaster risk and impact of disasters by virtue of addressing the gendered social inequalities that exacerbates the impact of disasters.

Gender is a central organising principle in all societies, where daily routines of women and men across and within our societies put men and women, girls and boys, at different levels of risk. Most of the frameworks and policies often mention gender in introductory phase and very little is done to prioritise the words into action (Enarson, 2009:321). Enarson (2009:322) expresses concern that the HFA was still blind to sex, sexuality and gender relations although gender was highlighted as a guiding principle.

According to the UNISDR special adviser Feng Min Kan, gender and DRR are concepts that most find easy to agree with but only few consistently do well in terms of applying the concepts in practice (UNISDR, 2009:vi). As a result, various stakeholders (like governments and disaster risk management practitioners) have found a gap in policy and practical guidance when these two concepts are brought together to mainstream gender into DRR (UNISDR, 2009:vi). In response to the gap, since 2006 the UNISDR has increased its efforts in supporting gender mainstreaming in DRR. The following section explores and discusses the extent to which gender has been mainstreamed in DRR.

2.7.1 Gender Mainstreaming in Disaster Risk Reduction

Gender mainstreaming is not a completely new phenomenon; it was first adopted as an intergovernmental mandate in the Beijing Declaration and Platform for Action in 1995. (Moser & Moser, 2005:11; Ginige et al., 2009:30). After the conference, gender was recognised as an overarching strategy to ensure that gender issues are included in all areas, sectors and levels to promote gender equality (Walby, 2005:545).

The 1997 report by the Economic and Social Council explicates that mainstreaming a gender perspective is a process of assessing the implications for women and men of any planned action, including legislation, policies or programs, in all areas and at all levels (United Nations, 1999:24). The report outlines that gender mainstreaming is a strategy for making the consideration of both female and male issues and experiences an important part of design, implementation, monitoring and evaluation of all policies and programs in all aspects of political, economic and societal spheres ensuring that men and women benefits equally without any inequalities (United Nations, 1999:24).

Walby (2005:253; 254) describes gender mainstreaming as a process that aims to advance gender equality by revising all mainstream policy arenas; the intention is to improve the effectiveness of focal policies by making visible the gendered nature of assumptions, processes and outcomes. Mainstreaming gender perspectives into the DRR process offers new opportunities to advance gender equality in the socio-economic development process (United Nations, 2009:1). The European Commission (2005:9) attests that gender mainstreaming does not only aim to advance gender equality but rather it involves the willingness to establish a balanced distribution of resources between women and men by considering that they are both faced with circumstances that affect their lives differently.

The UNISDR (2011:2) posits that gender mainstreaming in DRR presents successful strategy for adapting to climate change and achieving sustainable progress in gender equality and disaster resilient societies. While there are many challenges of mainstreaming gender into DRR policy and practices, gender mainstreaming in DRR has been highlighted as a significant aspect in various policy document including the HFA and Sendai Framework among others (Liang, 2012:38; UNISDR, 2007:4; UNISDR, 2015).

Gender mainstreaming in disaster risk reduction is significant, understanding of how gender shape both men and women lives is critical in disaster risk reduction. This is because both men and women have unique vulnerabilities to disasters (Ciampi et al., 2011:4; 5). By simply mainstreaming gender into DRR it is not certain that disaster risk and vulnerabilities of people will be addressed.

Besides many years of marginalisation, gender issues have become visible on global DRR agenda in intergovernmental processes (UNISDR, 2009:5). The progress has been due to consistent global advocacy, raising awareness and timely technical support from various stakeholders including the UNISDR and UNDP in cooperation with other civil society organisations and various United Nations agencies (UNISDR, 2009:4). Even though the progress in mainstreaming gender into DRR has been slow, gender issues in

DRR have achieved progress of some sort at global, national and regional level (UNISDR, 2009:4).

It is inevitable that gender mainstreaming has gained recognition worldwide; this is because most governments including various stakeholders have recognised its significance in DRR (UNISDR, 2009:3). In the same sense, the mainstreaming of gender issues into DRR has brought a significance shift of focus from women focused approach to a gender focused approach where gender relations in DRR are analysed within particular social setting and context (United Nations, 2009:2). This has helped to solve a problem of misunderstanding and confusing the term gender as a synonym of women in disaster research (Enarson, 2012:23).

Furthermore, the mainstreaming of gender perspective into the DRR process has offered fresh opportunities for advancing gender equality in the socio-economic development process (UNISDR, 2009:2). Mainstreaming gender into DRR policy guidelines, plans and strategies can help to effectively address disaster risk and mitigate the impact of disaster. This is because in all settings, be it at home, work or in the community, gender shapes the capacities and resources of individuals to minimise harm, adapt to hazard and respond to disasters (UN/ISDR, 2007b:5).

Mehta (2007:3) argues that a gendered perspective in DRR is essential because it shows the role that men and women can play to strengthen resilience in their community. Even though a number of policy documents and frameworks like the HFA and the Sendai Framework have indicated commitment to integrate gender issues into DRR. Consequently, the progress in mainstreaming gender into DRR is inevitably not enough and it is very slow (UNISDR, 2009:12).

Irrespective of the numerous initiatives taken to ensure that there is a balanced representation of gender equality in all spheres of life especially in DRR. There is still need for a gendered approach, a concept that can assist to focus different gender capacities and vulnerabilities to prevent, prepare, confront and recover from disasters (UNISDR, 2015:1). There are still challenges related to foregrounding gender into DRR policies and practices. The next section expounds some of the challenges faced in mainstreaming gender into DRR.

2.7.2 CHALLENGES OF GENDER MAINSTREAMING IN DISASTER RISK REDUCTION

There are many challenges that are there in mainstreaming gender into DRR. First and foremost, both gender and DRR are concepts that various stakeholders like government

or disaster practitioners find easy to agree with but only few consistently do well in terms of applying the concept in policy and practice (UNISDR, 2009:vi). Hence, gender is still limited from becoming a practice in disaster risk reduction and response interventions (UN, 2015:3). Gender perspectives have not yet received adequate attention at national level in the disaster risk reduction process (UNISDR, 2009:3).

Gender mainstreaming in DRR as explicated in the previous sections has been explained and acknowledged as important, however gender is still a missing aspect in most of the priority areas of action in several global and national disaster risk reduction policy and frameworks. A good example is the Botswana National Disaster Risk Reduction Strategy (2013–2018). This policy document has well set out vision, goals, strategies and outcomes as discussed in the latter section of the chapter. Nevertheless, gender has not been explicitly included or mentioned as a priority area of action in the rest of the document (see Section 2.4). Lack of understating of the concept and term of gender is another challenge of gender mainstreaming in DRR especially at policy, practitioners and even national levels is a major challenge (UNISDR 2009:12).

Gender equality in DRR does not entail addressing issues involving women only, it means to address men and women humanitarian concerns encompassing relationships between them and the root causes of imbalances. Gender is a complex and dynamic social process even though is often misunderstood as women (Enarson, 2012:23). Even though women are marginalised by gender based social, economic, religious and cultural constructs across all communities and groups, irrespective of class, caste, economic standing, status, ethnicity or age, which in turn cause them to suffer disproportionately from impact of disasters (UNISDR, 2009:4). Gender does not only mean women in DRR, the focus on women issues only overlooks the issues faced by men which creates another problem because men are left out in the process. From another angle, the lack of genuine political accountability and financial resources for global advocacy and action on gender and DRR is also another challenge of gender mainstreaming in DRR (UNISDR, 2009:13). This is because commitment of gender in DRR remains only in black and white (unclear) because there have not been significant moves to translate words into actions in terms of concrete policies, finances, programmes and accountability measures.

Further, gender and DRR events have not been linked with intergovernmental DRR processes in recent years. Therefore, due to this disconnect, recommendations produced regarding gender at these events have a limited impact because they are not being considered or implemented by national governments and UN agencies (UNISDR, 2009:19). According to (UNDP et al., 2009:18; 19), the deficit or lack of institutional as well

as individual capacity and tools to mainstream gender and DRR is another challenge that is faced in effort to mainstream gender in DRR. Only a small group of professionals and practitioners working in these two areas have the capacity and knowledge of gender and DRR. Many disaster managers and professional practitioners lack knowledge that is required to address the gender issues in DRR.

In a general survey conducted by the World Bank Group (World Bank, 2016), it was discovered that the lack of sex-disaggregated data is a problem in mainstreaming gender into DRR. This is because the lack of sex-disaggregated data presents a wrong and incomplete picture of women and men's lives and the gaps that exists between them (The World Bank Group, 2016). In correspondence with the WBG argument, the United Nations World Conference on Disaster Risk Reduction (UNWCDRR, 2014:2) expounds that the lack of sex and age disaggregated data and gender analysis regarding the effects of disasters on gender equality hinders accurate analysis and understanding of gendered characteristics in disasters.

Gender stereotyping has also hampered the inclusion of a gendered approach to DRR. Gender stereotyping is a serious challenge when foregrounding gender into DRR. For instance, women are often perceived as weak and subordinates of men whose duty is to nurture children and take care of homes (Enarson, 2012:21). Overall, the continuous focus on women vulnerabilities promotes the perception of women as victims rather than as capable and equal actors in disaster risk reduction processes (UNISDR, 2009:5). This creates a problem because while the roles of men and their contribution are recognised, women skills, capabilities, and contribution are not visible (UNISDR, 2009:5).

Even though, various non-governmental, donor organisations in UN-based offices and various international frameworks emphasised on the significance of gender-sensitive approach in reducing community vulnerability to catastrophes. Gender has not been adequately considered in DRR, there are still a greater need of greater effort to mainstream gender perspectives in DRR at all levels from local to global (Aguilar et al., 2009:18). However, in the context of differing hazards, some groups in society are more prone to the damage, loss and suffering from the impact of a hazard than others are. Variations of the impact are often characterised by several factors encompassing age, ethnicity, seniority, disability and gender among others (Blaikie et al., 1994:9). The core objective of mainstreaming gender into DRR is to address and mitigate the impact of disasters by reducing gendered vulnerability.

A disaster occurs when a hazard meets with vulnerability. Therefore, to effectively mitigate disaster risk and impact of disasters there is an alternative to address and manage

vulnerability (Ginege et al., 2008:557). Consequently, to address vulnerability, one must understand what the concept entails and the different factors and elements that contributes to it. The next section explores and expounds the concept of vulnerability.

2.8 CONCLUSION

Based on the review of literature in the preceding discussion, the increase in frequency and impact of disasters is affecting the well-being and safety of not only individuals but also communities, countries and the world at large (see Section 2.1). The impact of disasters does not only emanate from human or natural induced hazards but rather it comes about when hazard meets with vulnerability (see Section, 2.3.1; 2.6). It has been clearly established in the discussion that there is a clear link between a disaster and vulnerability (see Section, 2.3.1; 2.6).

A disaster is not only a product of social, economic, political, environmental and physical factors; it is a product of a hazard and vulnerability (see Section, 2.6.2). When a disaster occurs men and women are affected differently, this is not only because men and women have different capacities, skill and knowledge. Rather, because of the existence of various gendered and social inequalities within our societies and communities (see Section, 2.6.2).

When a disaster happens everyone within the disaster stricken zone is affected, this is likely so because disaster are not gender neutral meaning that both men and women are affected without exception (see Section, 2.7). However, women suffer disproportionately from impact of disasters not only because of gendered factors but also rather due to various social constructs within our societies that marginalise them (see Section 2.6.2; 2.7.6; 2.7.1). Gender aspects in various social settings leads to substantial differences in how men and women experience disasters.

However, gender is one of the neglected aspects in DRR despite the fact that it is one of the central organising principle in our communities and society (see Section 2.5). As a global village, the world through various international, regional, national and local governments among many other stakeholders devised DRR policies and frameworks to create platforms to address devastating impact of disasters by reducing disaster risk.

Gender has been highlighted and recognised as an important aspect in DRR however, it has not been prioritised in most of the legislative and policy frameworks (see Sections 2.3; 2.3.1; 2.3.2). The concept of gender in DRR is brought about regarding the fact that even though men and women of all age groups core-exist in the same community, they have no similar rights, access, to resources, education and social status among many others (see

Section 2.2). This difference puts a particular group of people especially women to a disadvantage by increasing their vulnerability.

Consequently, the gender concept in DRR is still work in progress because there is very little progress in terms of putting the approach into practice (see Section 2.8) Gender is a concept that a lot of stakeholders find it easy to agree with but very little is done in terms of putting the concepts in practice. From the discussion, an overview of global policies and framework, which has reviewed gender, has rightfully been highlighted and mentioned in a nutshell in most of the DRR policy and framework (see Sections 2.3). However, even though gender has not been fully prioritised in DRR policies and frameworks, for DRR to be efficient and effective, the UNISDR (2015:10) specified that it requires empowerment, inclusive, accessible and non-discriminatory participation.

Inevitably, disasters do not discriminate, but people do. The existence of various social conditions such as culture, gender stereotypes, and other social constructs lead to the difference in impact of disasters between men and women (see Section 2.7; 2.7.1; 2.7.2). From this discussion, it has been observed that women are often more affected either by larger or smaller disasters than men (see Section 2.7.1; 2.7.2). It is inevitable that disasters occur in gendered environments (UNDP, 2010:10). Therefore, in order to effectively and efficiently address men and women disaster risk and mitigate the impact of disasters. A gendered approach should not only be academic rhetoric, rather it should be prioritised in DRR policy and legislative frameworks.

Employing a gendered approach in DRR will help to formulate mechanism to address both men and women vulnerabilities to address disaster risk. It is significant to mainstream gender in DRR policies and legislative frameworks among other policies because this can enable both men and women to work together sharing knowledge, experiences, skills, and strategies to not only address vulnerabilities but also mitigate the impact of disasters.

CHAPTER THREE RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter gives an extensive and detailed discussion of the research methodology and methods used in this study. Chapter 1 gave a brief overview and an outline of the research design employed in this study (see Section 1.7). The main purpose of this chapter is to expand on the research methodology and research methods that were outlined in the first chapter.

This chapter begins by explicating the definition and purpose of research. Following that, this chapter discusses the research design, including the various research methods used for data collection. This includes focus groups and semi-structured face-to-face interviews. Further, the chapter offers an in-depth discussion on data analysis and interpretation procedures utilised in the study. In addition, various issues relating to limitations and the validity and reliability of this study are expounded. Finally, the chapter concludes with a description of ethics considerations involved in the study.

3.2 RESEARCH METHODOLOGY

Research is a logical and systematic search for new information to acquire knowledge or useful data about a specific subject (Kothari, 2005:1). Research is also a process of discovering solutions to scientific and social problems through the objective and systematic analysis of a situation (Rajasekar et al., 2013:2). In the opening chapter of the dissertation, research methodology was described as a science of studying how research should be carried out, it is a systematic way to solve a problem using procedures to describe, explain and predict phenomena (see Section 1.7).

Strauss and Corbin (1990:1) argue that research methodology is a way of thinking about studying a social reality, so it is a system of methods and procedures followed to acquire data and information suitable for a study. Kothari (2005:8) further asserts that research methodology is a systematic and scientific way of finding a solution to a problem. It is the science of studying how research should be carried out in terms of the methods that the researcher employed to describe, explain and predict a phenomenon under investigation (Kothari, 2005:8). Clough and Nutbrown (2012:31) are of the opinion that one of the functions of a methodology is to explicate and justify specific methods employed in a given study.

In contrast to research methodology, research methods are techniques, strategies and algorithms utilised in the research process by a researcher (Kothari, 2005:7; Rajasekar, Philominathan, & Chinnathambi, 2013:5). Research methods refer to the process of collecting samples, data and finding a solution to a problem under investigation (Rajasekar et al., 2013:1). However, for any scientific research, a research design should be prepared. The design not only creates the foundation of the whole study, it also makes the chosen tasks easier to perform in a systematic way (Rajasekar, Philominathan & Chinnathambi, 2013:22).

3.3 RESEARCH DESIGN

Research design is a process that is concerned with creating a plan or design (blueprint) of the activities to be employed to answer research questions identified in the exploration phase (Bhattacharjee, 2012:21–22). Welman et al. (2005:52) describe a research design as a plan according to which research participants are identified in order to collect information to answer the research questions of a study. See Section 1.10, for more definitions of research design.

From a different point of view, research design is described as a strategy that outlines how observations will be made and how the researcher will carry out the research project (Monette et al. 2008:9). Creswell (2014:12) points out that research designs refer to the different types of investigation within the qualitative, quantitative and mixed method approaches. Each provides specific procedures for designing the research. Through a research design, the researcher decides how data will be gathered from respondents and how they will be selected. Furthermore, the researcher decides on how the collected data will be analysed and how the findings will be communicated (Kumar, 2011:96).

Each research design, be it quantitative or qualitative, is associated with specific research methods that produce particular kinds of data that correlate with the research design (Blaikie, 2000:232). Walliman (2001:9) argues that set research designs are appropriate for specific types of studies. Usually the nature of research problem and the research aim are what determines the choice of a specific design.

This study employed a qualitative research design (see Section 1.10.1). Therefore, the next section explores and discusses the significance and suitability of a qualitative research design for this study.

3.3.1 Qualitative research design

Qualitative research uses various sets of interpretive material and practices that transform and bring the world into perspective (Creswell, 2013:43). Roller and Lavrakas (2015:4) assert that researchers conduct qualitative research because they acknowledge the existence of human circumstances they want to learn from and think differently about the research issue under investigation than what other design would present.

Denzin and Lincoln (2011:3) argue that in qualitative research a study is conducted in a natural environment with the aim to interpret or make sense of a phenomenon under investigation using the data gathered from people. Qualitative research allows a researcher to conduct research in a natural setting, collecting data in the field and actual place where people experience the phenomenon under investigation (Creswell, 2013:45). The adoption and utilisation of a qualitative research design in this study allowed the researcher to collect data through direct interaction with participants in the Chobe district of Botswana (see Section 1.5).

In this case, the chosen design enabled direct observation and interaction with the people so that the researcher was able to collect first-hand information within a given context (Creswell, 2013:45). Thus, by utilising qualitative design, the researcher was able to collect data in the Kasane and Kachikau communities through focus group discussions and face-to-face semi-structured interviews. In conducting qualitative research, the researcher is interested to comprehend issues under investigation from the participants' point of view (Struwig & Stead, 2001:12). As such, the implementation of qualitative design is central to this study. The researcher was able to acquire first-hand information to address the research problem and research questions outlined in Chapter 1 (see Sections 1.3 and 1.5).

In qualitative research, the researcher is the main instrument in the collection of data or any sort of information (Creswell, 2014:185). The researcher was able to gather all the necessary and relevant data from the target sample in the Chobe district of Botswana through direct and face-to-face interaction by asking relevant questions in accordance with the objectives of the study (see Section 1.3). In addition, qualitative research is flexible because it allows the researcher to make adjustments in the course of collecting the data (Struwig & Stead, 2001:12). In concurrence, Maxwell (2013:30) argues that a qualitative research design has an inherent openness and flexibility that allows one to modify the design during the research to pursue new discoveries and relationships.

Due to the inherent openness and flexibility of qualitative research as elucidated in the previous section, the researcher was able to explore and assess various complex social

issues influencing men and women in disaster risk and vulnerabilities in the Chobe district of Botswana. This design allowed the researcher to choose various qualitative research procedures that were suitable in the process of data collection, like focus group discussion and semi-structured interviews (see Section 1.12.2; 1.12.3). According to Nieuwenhuis (2010:70), there are basically six types of qualitative research design that are often discussed in research literature, namely conceptual studies, historical research, action research, case study, ethnography and grounded theory (Nieuwenhuis, 2010:70). This study employed a case study design in the participants' natural environment, namely the Chobe district of Botswana due to the nature of the research questions (see Section 1.2). The following section expounds more on the case study approach and its significance for this study.

3.3.2 Case study

A case study explores a current phenomenon in its real-world context, especially when there are grey areas between the phenomenon and the context (Sarantakos, 2013:2; Yin, 2014:16). According to Creswell (2013:97), a case study is a method where the researcher explores a real-life phenomenon in a case or multiple cases by collecting detailed data by different means, such as interviews, documents, reports and observations among many others. Creswell (2013:98), further states that doing case study research begins with identifying a particular case. In this study, the Chobe district of Botswana was chosen as a case to conduct a study themed, "a gendered approach toward disaster risk reduction" (see Section 1.2). The reason for choosing this district was primarily centred on the need to have a manageable research area due to the expansive geographical area of Botswana. The case was further contextualised to the Kasane and Kachikau communities since the study could not incorporate all the people from the many towns and villages within the Chobe district.

The reason why the Kasane community was selected as a case is because of its geographical location and position, as briefly discussed in the coming section. The Kasane community in Chobe district runs the risk of being susceptible to a number of various disaster risk (see Section 1.2). Apart from weather-related disaster risk (floods and drought) that is prominent in Botswana, Kasane and Kachikau communities are at risk from numerous hazards because of the close proximity to the Chobe National Park, which has no fencing.

Its close proximity to the national park makes the community susceptible to risks associated with wildlife, especially elephants, which roam freely in the community. Furthermore, Kasane is located at the point where the borders of Botswana, Namibia,

Zambia, and Zimbabwe meet. This makes the Kasane community susceptible to various disaster risks like diseases, violence, epidemics and pest infestation due to the interaction with the neighbouring countries (see Section 1.2). Figure 3.1 shows the location of Kasane in Chobe district, bordering four countries.

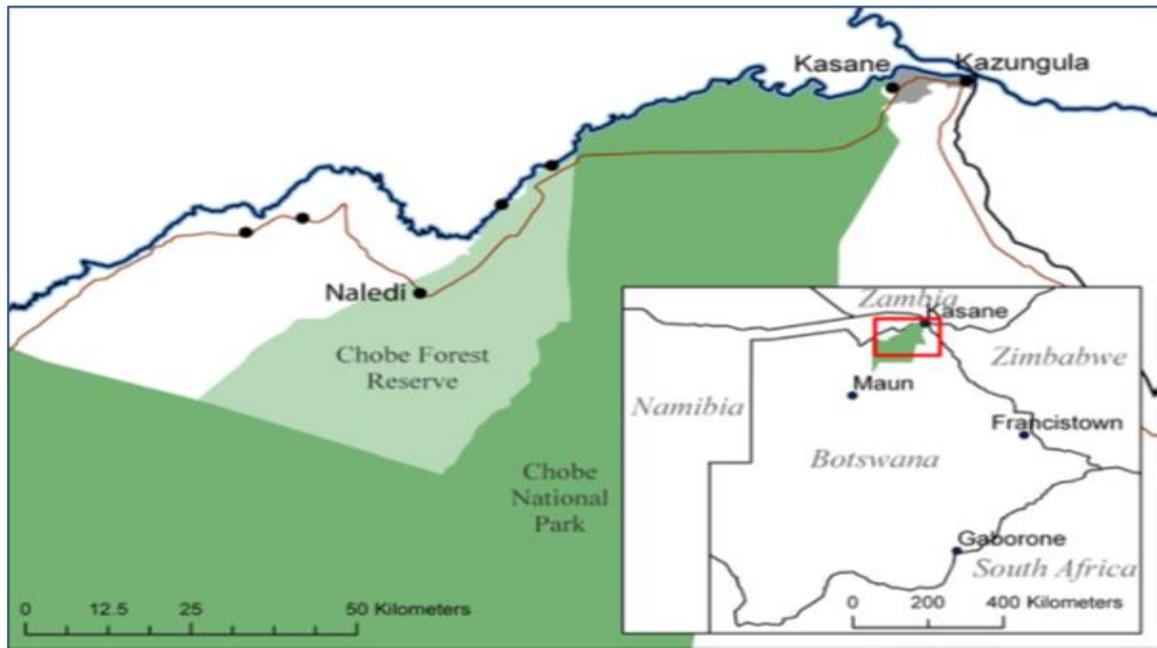


Figure 3.1: The geographical location of the Chobe district of Botswana

Source: (Gupta, 2013:239).

Conducting this study within the confines of the case study approach was essential because the approach allows the researcher to focus on a case and retain a holistic and real-world perspective when studying for instance individual life cycles, small group behaviour, and neighbourhood changes among others (Yin, 2014:4). Conducting this study in Kasane and Kachikau enabled the researcher to focus the study on the communities' complex and dynamic issues such as gender stereotyping and marginalisation, individual life style and cultural beliefs and traditional aspects that influence disaster risk and vulnerabilities.

Women and men suffer differently from disasters due to various social constructs that emerge from our social systems (see Section 1.1). Conducting this study as a case study in the Chobe district gave a holistic perspective of disaster risk and vulnerabilities of men and women, not only in the Kasane and Kachikau communities, but rather the entire district at large. One of the vital characteristics of case study research is that the study is very detailed and intensive since it is studied within a particular context (Ritchie et al., 2014: 66).

3.4 SAMPLE AND SAMPLING

Sampling is defined as a process where a representative sample is selected from a larger population to become the basis for estimating or predicting the prevalence of an unknown piece of information, situation or outcome regarding the bigger group (Kumar, 2005:144). A sample is chosen carefully in a way that demands for representativeness and generalisation are not compromised (Sarantakos, 2013:7; 8). Through sampling, a relatively small part of a target population allows investigators or researchers to obtain data that represents the entire population (Sarantakos, 2013:7). According to Royse (2004:189; 190), the main idea behind sampling theory is to ensure that a small set of observation can give an idea of the entire population of the study. The details of the sample size for this study are illustrated in Table 3.1.

Table 3.1: The sample size

Participants	Data collection method	Location	Number sampled	Gender	
				Female	Male
National disaster management official from the National Disaster Management Office (NDMO)	Interviews	Gaborone	1	0	1
Local leaders at district and village level: Chiefs		Kasane and Kachikau	2	0	2
District disaster management official: Chobe district disaster management committee secretary		Kasane	1	0	1
Local residents		Kasane	8	4	4
District and community social workers		Kasane and Kachikau	2	1	1
Chobe district disaster risk management organisation practitioners		Kasane and Kachikau	6	1	5
Focus group	Focus group discussions	Kasane and Kachikau	34	20	14
Total sample		Chobe district	54	26	28
Respondents percentage			100%	48%	52%

Source: Researchers' own illustration of the sample

Table 3.1 gives a detailed illustration of how the researcher came up with the population sample for this study. As indicated in the table above, there were face-to-face semi-structured interviews with the senior disaster officials from the disaster management office, traditional leaders, Chobe district's disaster management committee secretary, local and permanent residents in Chobe, social workers dealing with disasters and senior officials from organisations dealing with disaster risk management in the district. By conducting the interviews, the researcher was able to acquire diverse and important data regarding the study under investigation. For instance, by interviewing the Kasane and

Kachikau traditional leaders, the researcher was able to obtain data about culture and various traditional aspects in the Chobe district.

Furthermore, several senior officials from the Department of Forestry and Range Resources (DFRR), the fire department and agriculture department were interviewed. This provided the researcher with extensive data regarding the study area. Two social workers from the Chobe district council based in Kasane and Kachikau were also interviewed. Apart from face-to-face semi-structured interviews, four focus groups discussions were also conducted in the Chobe district. The focus group discussions were divided between Kasane town and Kachikau community. Table 3.2 elaborates on how the focus group interviews were conducted in both Kasane and Kachikau.

Table 3.2: Focus group discussions arrangement

Kasane	Number of Respondents	Gender		Percentage	
		Female	Male	Female	Male
Group A	8	4	4	50%	50%
Group B	8	4	4		
Kachikau	Number of Respondents	Gender		Percentage	
		Female	Male	67%	33%
Group C	10	6	4		
Group D	8	6	2		

Source: Researcher's own elaboration on the focus group discussions and their distribution

Table 3.2 shows a representation of how the researcher conducted focus group discussions in Kasane and Kachikau communities. Using purposive and snowball sampling methods, the researcher was able to get people for both interviews and focus group discussions. Purposive sampling was used to select the participants for the focus groups, while snowball sampling was used to approach participants for the face-to-face interviews. Purposive and snowball sampling have been used in study because they are non-probability sampling methods. These methods are mainly employed in qualitative research (Kuzel, 1992).

During purposive sampling the researcher has the obligation to critically think and suggest parameters of the population before choosing a sample (Delpont, 2013:392). The inclusion

criteria for the selection of the participants was their experience and their location. All participants were selected were residents of the study area. In this way they assisted in addressing the problem under investigation. Employing purposive sampling enabled the researcher to select respondents in a designated area from which extensive data relevant to the study were collected. The Kasane and Kachikau communities in Chobe district were purposely selected so that the researcher would be able to collect data to answer the research questions and address the research problem under investigation. The next section discuss the data collection methods employed in the study.

3.5 DATA COLLECTION METHODS

In any study, the data collection process is crucial when conducting research. This is because the quality of data is imperative during analysis, since the researcher is dependent on the data to make sense of the topic under investigation (Boeije, 2010:55). According to University of Northern Illinois (2004), data collection is defined as, “the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer formulated research questions, test hypotheses and evaluate outcomes”. Data are central to any empirical research because it is utilised to provide evidence or justification of the research findings, such as new ideas, relationships between subjects and interpretations (Boeije, 2010:58). Richards (2005:34) defines data as the records of what one is studying or the stuff one is working with. In short, data can be described as unprocessed information that does not give meaning yet.

In this study, primary and secondary data sources were used. Primary data refers to the data collected specifically for the problem under investigation on the other hand own secondary data encompasses existing data that are available from numerous sources (Hox and Boeije, 2005:593). Primary sources involve collecting first-hand information about the attitudes to a particular community like evaluating social programmes and assessing the healthcare needs of a community (Kumar, 2014:171). According to Kumar (2014:171), observations, interviews, focus groups discussions and questionnaires form primary sources of data. In this study, focus group discussions and face-to-face interviews with the community members and other relevant stakeholders were used as the primary sources. An electronic voice recorder and digital video camera were used to capture data in this study. In addition, the researcher made use of note taking in the process for interviews and focus group discussions. Boeije (2010:55) states that in qualitative research there are a number of ways in which information may be collected.

The secondary sources used to collect literature in this study included academic books, online journal news, journal articles, international and national policy frameworks, policies and reports, government reports and gazettes, published academic dissertation and theses. Secondary data are credible information that has already been published or produced by another person or entity (Kumar, 2014:172). However, the study's validity and reliability to produce intended results are dependent on the accuracy of the tools utilised in data collection (Annum, 2015:1). While it is imperative to have access to both primary and secondary literature, it is also important that the researcher must critically examine and check that authentic sources are used in collecting the literature. This study employed two qualitative data collection procedures focus groups discussions and semi-structured face-to-face interviews and these are discussed below.

3.5.1 Focus group discussions

Focus group discussions is a methodology that uses a wide range of people and groups in different setting. It is a method that generates complex information at low cost within the minimum amount of time (Liamputtong, 2011:2). A focus group is a loosely constructed discussion with a group of people who have been brought together for the purpose of the study (Sarantakos, 2013:206). Greeff (2011:360) asserts that focus group discussions are referred to as group interviews since they are a means of comprehending how people feel or think about an issue, product or service. Liampoutong (2011:3) points out that focus group interviews methodologically includes a group of about 6 to 8 people who not only have similar issues or concerns, but also come from same social and cultural backgrounds. However, depending on the structure and type, the purpose of focus groups discussions usually varies considerably (Sarantakos, 2013:206). A good example is that the researcher leads a focus group discussion in qualitative study while participants interact with each other within the group (Sarantakos, 2013:206).

The leader is the one who plays the main role in the focus group discussion, but she/he only facilitates the discussions and does not control it. In this study, the researcher was the one who facilitated all the focus group discussions throughout the research. Focus group discussions are essential when multiple perspectives or responses are required to explore a topic because it enables the researcher to investigate or explore a multitude of perceptions in a defined area of interest (Greeff, 2011:361). In this study, focus group discussions assisted the researcher to obtain data through contributions of different respondents living in the Chobe district. Focus group discussions often encompass a group of at least six to eight people who have similar social and cultural backgrounds or have experienced or encountered similar circumstances (Liamputtong, 2011:3)

By using focus group discussions, the researcher was able to collect data about various social issues that affect men and women in the Chobe district of Botswana. According to Stewart et al. (2007:41), focus group discussions are particularly useful for exploratory research where little is known about the study under investigation or topic of interest. Through the focus group discussions, the researcher was able to understand the perceptions of men and women about the complex and dynamic social issues in the Chobe district. It is imperative to know that focus group discussions do not aim to reach consensus. Rather it is conducted to gather multiple perspectives about a particular issue through attitudes, behaviour, opinions or perceptions of participants, which offer an in-depth understanding of the issue under investigation (Hennink, 2007:6). Contrary to Hennink's argument, the success and value of focus group discussions is entirely dependent on the leader and the group (Sarantakos, 2013:209). The leader must possess adequate skills and have the ability to facilitate the discussions. The lack of essential skills can result in incorrect findings or unsuccessful discussions since some participants may be dominant so that others withhold their honest opinions (Sarantakos, 2013:209).

Hennink (2007:6) argues that the success of a focus group discussions is solely dependent on creating a relaxed and non-threatening environment within the group. Such a setting would ensure that the participants feel comfortable to express their views and experiences without fear of being judged or ridiculed by other participants. In this study, the researcher conducted a mixed focus group discussions, this study was approved by the Office of the President through the secretary in disaster management office. Through the Chobe district disaster management committee the researcher got approval to conduct mixed focused group. Aware of the cultural barriers, the researcher was able to inform all the participants officially about the purpose of conducting a mixed focus group and every individual was able to participate freely in the process. Focus group discussions are an ideal procedure for examining stories, experiences, opinions, beliefs, needs and concerns of different people (Kitzinger, 2005:57). By conducting mixed focus groups where men and women freely engaged and participated, the researcher was able to capture in depth data. Focus groups allow the researcher to enter the participant's world and discover their experiences, attitudes and behaviours, which other methods may not be able to do (Liamputtong, 2011:5). As such, using mixed focus group discussions, the researcher was able to obtain different perspectives of ideas from respondents' in Chobe district.

3.5.2 Interviews

Interviews refer to a social relationship designed to exchange information between the participant and the researcher (Greeff, 2011:342). Greeff (2011:342) further mentions that interviews are one of the predominant methods of collecting data in qualitative research. Qualitative research is mostly centred on formulating questions and asking them. The results are usually powerful stories that do not only inspire, but is also informative (Willis, 2007:244). Interviews are used as data collection methods in most research designs regardless of the underlying research approach. They are one of the most common procedures of collecting data (Sarantakos, 2013:277; 278). By conducting interviews, researchers gather data through a direct interchange with an individual or a group that is known or expected to possess the knowledge they seek (DePoy & Gilson, 2008). There are several types of interviews, mainly falling into the categories of structured and unstructured interviews; Delphi interviews; analytical, diagnostic, biographical and ethnographic interviews; and many other forms that cannot be outlined in this discussion (Sarantakos et al., 2013:278; 279).

This study adopted and utilised semi-structured interviews as a method of data collection. Semi-structured interviews are a combination of two types of interview techniques, namely structured and unstructured interviews. In essence this type of interview lies somewhere between the structured and unstructured interviews (Struwig & Stead, 2001:98; Sarantakos, 2013:278). Structured interviews are very strict because the interviewer sticks to a set schedule. The interviews are conducted in the same manner using same style of questioning, prompts and probes among many others (Sarantakos, 2013:278). In contrast, unstructured interviews are very flexible with minimal restrictions. They contain open-ended questions of which the order and wording can be changed freely (Sarantakos, 2013:278; Greeff, 2007).

Using the face-to-face semi-structured interview approach, several interviews were conducted as shown in Table 3.1 of the dissertation. In short, interviews were conducted with different people and stakeholders dealing with disaster risk management in the Chobe district and Botswana at large. For example, interviews were conducted with the head of the fire department, practitioners from the department of forestry and range resources, and the district's social workers dealing with vulnerable population in Chobe district in Kasane and Kachikau communities. In addition, the researcher interviewed the Botswana Red Cross disaster management practitioners, Kasane Aids commission workers, local residents and finally traditional leaders, which included the Kgotla president and the Chief of Kachikau.

Unstructured interviews are usually disregarded as lacking objective data. The semi-structured face-to-face interviews were employed to ensure that there is a good balance in collecting the data (Greef, 2011:348). Semi-structured interviews allow the researcher and participants to have flexibility in the sense that the researcher can explore specific areas of interest by way of asking follow-up questions and the participants are also able to elaborate and give more details (Greef, 2011:351). Even though the researcher used semi-structured interviews that had predetermined questions, the questions were used to guide and not dictate the interview. The researcher was able to gather data about participants' perceptions, beliefs and accounts of the topic under investigation. Richards (2005:34) argues that qualitative data are unorganised records because they are complex records of interaction or observation that are not easily understood or interpreted in a particular context. Therefore, the next section offers a detailed account of data analysis procedures that were employed in the study.

3.6 DATA ANALYSIS

Schwandt (2007:6) defines data analysis as the process of bringing order, structure and meaning to the mass of collected data. Due to the nature of the study, the researcher employed a qualitative data analysis. De Vos et al. (2011:399) conceptualise qualitative data analysis as a process of inductive reasoning, thinking, and theorising, which certainly is far removed from structured, mechanical and technical procedures to make inferences from the empirical data of social life. From a different point of view, qualitative analysis is the non-numerical examination and interpretation of observations for the purpose of discovering underlying meanings and patterns of relationship (De Vos et al., 2011:399). Nieuwenhuis (2010:99) outlines that qualitative data analysis is based on an interpretative philosophy that aims to examine meaningful and symbolic content of qualitative data. The goal in qualitative data analysis is to summarise what has been observed, seen or heard in terms of common words, phrases, themes or patterns that assist in one's understanding and interpretation of the emerging information (Nieuwenhuis, 2010:100).

Patton (2002:432) argues that qualitative analysis transforms data into findings. However, it should be noted that, "findings of qualitative research always include interpretations of the empirical data". As such, it is totally wrong to consider raw data as findings, from there the need for analysis (Boeije, 2010:94). Qualitative data analysis implies a certain degree of transformation where qualitative data are collected and goes through a process (analytical procedure) to give a clear, insightful and trustworthy analysis (Gibbs, 2007 in Creswell, 2014:201).

The researcher has the responsibility to monitor and report the analytic procedures that were applied in the study (Patton, 2002:434). Qualitative data analysis refers to a range of processes and methods where we shift from the collected qualitative data to some form of explanation, understanding or interpretation of the people or situation under investigation. While there are numerous varieties of qualitative data, this study employed a flexible model that is a mixture of the iterative and fixed models to analyse data (Sarantakos, 2013:369). The iterative model entails the analysis of data during data collection and it has the following three steps: data reduction, data organisation and interpretation. Sarantakos (2013:368) is of the opinion that data is collected, organised, interrelated, critically analysed, evaluated until saturation is achieved in iterative analysis. In laymen's terms, an iterative procedure of data analysis goes through the repetition process of data analysis, reduction, organisation and finally interpretation until saturation is achieved.

In contrast to the iterative model, data analysis in a fixed model takes place after data have been collected (Sarantakos, 2013: 368). Basically, the focus of the fixed model is on written materials and records such as documents, transcripts, video and audio recordings. The methods used in the fixed model are dependent on the nature and type of study. In this study the researcher triangulated by mixing both iterative and fixed models to analyse and interpret raw data. In this study, extensive data were collected from focus group discussions and semi-structured interviews. Richards (2005:85) is of the view that in qualitative data analysis data reduction is often done to store information that describes various aspects of an interviewee such as gender, age and ethnicity.

Richards (2005:85) argues that the reduction of data either by a system of symbols or by numbers is referred to as coding. In the words of Boije (2010:94), coding refers to the categorisation of data segments with a short name that simultaneously summarises and accounts for each piece of data. It is a tool used to create order from data that might seem to be diverse and bulky (Boije, 2010:94-95).

As a first step, the collected data were coded. After creating order from the bulky qualitative data, the researcher then organised the data into various themes where selective coding was used to analyse the data. Selective coding is where a narrative is explicated based on the relationship or interconnection of the various themes or categories (Creswell, 2014:196). After coding and organising the data, the researcher was able to interpret the data by repeating the process until saturation was achieved. Using the flexible model and the above-mentioned data analysis techniques. The researcher was able to develop themes after coding the data of which has helped to present the

findings in well-structured manner. These findings are discussed in Chapter 4 of the dissertation.

3.7 LIMITATIONS AND DELIMITATION OF THE STUDY

In undertaking empirical studies, it is inevitable that there will be an equal measure of limitations even in the most carefully planned research projects (Fouché et al., 2011:111). Mentioning the limitations of the study beforehand helps the reader to understand how the researcher arrived at the conclusions or deductions (Nieuwenhuis, 2010:115). Even though problems cannot entirely be eliminated in a study, it is essential that various limitations be listed to address and minimise the impact of the problems on a specific study (Fouché et al., 2011).

Botswana has rich and strong pre-defined cultural norms in terms of the roles of men and women in society. As such it could be considered that any aspect relating to gender is a sensitive topic that was difficult to discuss. As such, the researcher could face some difficulties in terms of interviews and focus group discussions, especially where views and arguments focused on the culture and roles of men and women in society.

However, the researcher was able to inform the participants about the aim of the study with official documents from government and the university. Every participant was notified that the purpose of the study was not to challenge the culture and beliefs, but rather to understand the situation and how it relates to what is implemented in areas. The researcher confirmed before data collection started if it would be appropriate to have male and female participants in the same focus group. It was established that it will not be a problem and mixed groups arranged. In addition, the language barrier was also one of the challenges in the study. The languages spoken by the majority of participants in the Chobe district of Botswana are Setswana and Subia. The researcher had difficulty communicating directly with the respondents. The researcher made use of a local interpreter who was able to interpret and translate.

According to Simon (2011:2), delimitations are factors that limit the scope and define the boundaries of a study. It encompasses the choice of research objective, the research questions, and the population chosen for investigation, the paradigm, the methodology employed, and the choice of participants, among others. In simple terms, delimitations define the boundaries of the investigation underpinning the study. It addresses how the study will be conducted according to its scope.

The study was confined to the Chobe district of Botswana, focusing on the Kasane and Kachikau communities. This made it possible for the researcher to conduct the empirical

study in a natural setting. The researcher was able to utilise the EAGER project in Kasane and Kachikau communities to build rapport and network with the respondents. Confining the study to the Kasane and Kachikau communities enabled the researcher to gather relevant data by gauging multiple perspectives from respondents in relation to the theme of the study.

3.8 VALIDITY AND RELIABILITY OF THE STUDY

Kumar (2014:213) posits that validity is the ability of an instrument to measure what it is designed to measure. Sarantakos (2013:99) points out that an instrument should be relevant, accurate and precise. According to Smith (1991:106), validity refers to the degree to which the researcher has measured what he or she set out to measure. In concurrence, Dowling and Brown (2010:24) verify that validity is the measure of the extent to which one measures what she/he thinks is measuring. As such, the validity of this study was preserved through meticulous construction of the research methodology as elucidated in Chapters 1 and 3 of this dissertation. The researcher ensured that the procedures to collect and analyse data were relevant, accurate and, most importantly, followed precisely to ensure validity of the project.

Contrary to the definition and description of validity, Kumar (2014:215) is of the opinion that reliability refers to the extent to which a research instrument is consistent and stable in giving consistent and accurate findings. For Struwig and Stead (2001:143), reliability entails the degree to which results are consistent, accurate and stable. Reliability mainly measures the consistency of the study in the sense that the study should be able to produce consistent results, even under different researchers or occasion (Dowling & Brown, 2010:24). Qualitative validity means that the researcher checks for the accuracy of the findings by employing certain procedures, while qualitative reliability indicates that the researcher's approach is consistent across different researchers and different projects (Gibbs, 2007 in Creswell, 2014:201).

However, Kumar (2014:2016) recognises that it is impossible to do research 100 per cent accurately. Factors like the wording of questions, the physical setting, respondents' mood, the interview mood and the nature of the interaction plays a role in the reliability of the research instrument. To minimise the impediments illustrated above, the researcher stayed consistent by following the designated methodology throughout the research project.

3.9 ETHICS CONSIDERATIONS OF THE STUDY

Babbie (2007:27) states that the fundamental rule of ethics in social research is that it must not bring any sort of physical or emotional harm to participants. It is the researcher's ethical obligation to protect participants from any kind of discomfort that may emerge from the research project (Babbie, 2007:27). It is vital that the research should be based on mutual trust, acceptance, cooperation, promises and well-accepted conventions and expectations between all parties involved in a research project (Strydom, 2011:113).

Before proceeding with the research, the research proposal went to the North-West University (NWU) Potchefstroom campus ethics committee. The proposal was reviewed according to the strict guidelines and procedures of the institutions. According to Strydom (2011:127), an ethics committee plays a vital role in making sure that the public and human subjects are protected from researchers who conduct unethical projects that do not serve the purpose of science.

It is important that everyone who is involved in scientific research should be aware of general principles or agreements that are shared by researchers in terms of what is acceptable and what is not acceptable in conducting scientific inquiry (Babbie, 2014:63). Boeije (2010:45) identifies the following general ethics principles, namely informed consent, privacy, confidentiality and anonymity. Informed consent is intended to ensure that participants are placed in a situation with their full consent and knowledge of what is being researched and why they are involved (Boeije, 2010:45). In this study, relevant authorities like the disaster management office in the Office of the President and the Cabinet of Botswana were consulted. The outlined ethics guidelines to conduct the scientific inquiry in the research permit.

The researcher was able to follow all the guidelines given by the authorities. The permission to conduct this study was approved by the government of Botswana through the Disaster Management Office in the Office of the President by issuing research permit reference OP 5/59/8X (21). Therefore, throughout the study ethics principles and research codes of conduct were taken into consideration by the researcher.

3.10 CONCLUSION

This chapter expounded the research methodology, various research methods and the justification for the qualitative research design for this study. In this research, qualitative research design was adopted and implemented because it was the design that was suitable for the study.

Qualitative methods of focus group discussions and semi-structured interviews were used to collect data. Using these methods, the researcher was able to acquire various data from different respondents in the designated area of study. Data are unprocessed information that do not make sense. Various tools are required to capture the data. A voice recorder and a video camera were used to obtain the data.

With regard to the validity and credibility of the study, the study was conducted after the government of Botswana's Disaster Management Office approved the research proposal. As expounded in Section 3.9, the fact that proper procedures were followed to consult the relevant authorities to obtain ethics clearance to conduct the research gives the study validity and makes it reliable. This is because in the researcher outlined in the research proposal the reason why the research was conducted, how it was going to be conducted, what tools and methods were going to be used and where it was going to be conducted.

Validity, as mentioned in the discussion, is the degree to which the researcher measured what he has set out to be measure (see Section 3.9). This study was conducted the same way as set and illustrated in the research methodology and methods. To ensure reliability, the researcher stayed true and consistent by using the same methodology and methods in the process of collecting the data. Ethics principles and the code of conduct were taken into consideration to ensure that the research was carried out following all the designated ethics procedures and codes of conduct. The application and implementation of a qualitative research design and methodology was essential for this study because the researcher was able to access and obtain complex and dynamic data. The next chapter presents the results and interprets the various data collected throughout the study.

CHAPTER FOUR DATA ANALYSIS AND INTERPRETATION

4.1 INTRODUCTION

The objective of this study was to explore a gendered approach toward disaster risk reduction. A gendered approach is a concept that can assist to focus different gender capacities and vulnerabilities to prevent, prepare, confront and recover from disasters (see Section 2.4.2). This chapter specifically addresses research questions 2 and 3 as indicated below:

2. What are the factors that contribute to the vulnerability of men and women in the Chobe district of Botswana?
3. How can gender issues be foregrounded in disaster risk reduction policy and legislative frameworks in the Chobe district of Botswana?

The study employed fixed model in analysis of the data to come up with findings from the empirical data (See section 3.6). In addition, the literature review in Chapter 2 served to test the empirical findings of the study. This chapter gives a general overview of the hazards, vulnerability and disasters as indicated by respondents. The chapter then turns to an overview of the study area, followed by a discussion on recurrent hazards and disaster risk in the Chobe district, followed by an examination of factors that contribute to the impact of hazards and disasters in the Chobe district.

Based on findings, the chapter describes the impact of disasters on men and women in the Chobe district followed by a discussion on the factors that influence gendered vulnerabilities. In addition, the researcher offers a gendered reflection of DRR in policy and practice in the Chobe district based on the empirical findings. The chapter finally suggests gender-mainstreaming initiatives for the Chobe district and a discussion of the significance of a gendered approach in DRR in both policy and practice in the context of the Chobe district. The themes and sub-themes outlined in this chapter has formed a basis for discussing the findings for this study (see table 4.1 below).

Table 4.1: An overview of themes and sub-themes

THEMES	SUB-THEMES
4.2 Disasters, hazards and vulnerability in Botswana	4.2.1 Common hazards 4.2.2 Main Disasters Affecting Botswana 4.2.3 Vulnerabilities
4.3 Recurrent hazards and disaster risk in the Chobe district	4.3.1 Hazards and disaster risks prevalent in Kasane and Kachikau 4.3.1 Flooding 4.3.2 Human wildlife proximity 4.3.3 Droughts 4.3.4 Wild land and household fire outbreaks 4.3.5 Communicable diseases 4.3.6 Road and industrial accidents 4.3.7 Pest infestation
4.4 Factors that contribute to vulnerability to hazards in the Chobe district	4.4.1 Political 4.4.2 Social 4.4.3 Economical 4.4.4 Physical 4.4.5 Environmental
4.5 The impact of disasters on men and women in the Chobe district	
4.6 Factors influencing gendered vulnerabilities	
4.7 Gendered reflection in policy and practice in the Chobe district	4.7.1 Culture and tradition 4.7.2 Social and economic aspects 4.7.3 Gender stereotypes 4.7.4 Gender inequality
4.8 Gender mainstreaming in DRR in the Chobe district	

4.2 Disasters, hazards and vulnerability in Botswana

This section discusses the background information of Botswana based on the findings and the literature review. The discussions focuses on the common hazards and recurrent disasters, and finally how the general population in Botswana tend to be vulnerable to the effects and impact of the hazards and disasters.

4.2.1 Common hazards in Botswana

Botswana, like many other countries, is prone to several natural and human induced hazards. During the field research, the majority of respondents explained that floods, drought, road accidents, industrial accidents, veld and structural fire outbreaks, and human and animal epidemics and wildlife human conflict are the main hazards and disasters in the country. Respondents mentioned that seasonal hydro-metrological hazards influence most disasters that occur in Botswana. Literature indicates that hydro-meteorological hazards consist of floods, droughts, different types of storms or cyclones, landslides, and heat and cold waves caused by weather conditions (see Section 2.1).

The a number of respondents pointed out that flash flooding, droughts, wild and structural fires are the most common and experienced hazards in northern Botswana and these usually destroy people's livelihoods. As a consequence, people become vulnerable to the impact of the natural hazards when their livelihoods are destroyed. For example, respondents elaborated that "in 2016, Gweta an area situated in the Northern part of Botswana was flooded, people had ploughed expecting to reap and be able to sustain themselves". However, floods destroyed all the fields leaving the families without resources whereby they were left susceptible to hunger and needing external assistance.

Apart from the recurrent hazards and risk that are prevalent in Botswana, some respondents pointed out that the country is experiencing a new phenomenon of recurrent heat waves. From the data, this is a new hazard that is emerging in the country that has not yet reached a level to be classified as a disaster risk but it has a definite impact on people's livelihoods and seasonal farming preparation. Heat waves pose huge risk and challenges to people's livelihoods that according to the respondents, the BNDMO has not had the opportunity to investigate.

This shows that while there are recurring hazards, there are also new elements emerging that pose a severe risk and need to be planned for and taken into consideration. As such, the data suggested that there is a need for government to take precaution and consider plans and procedures to combat the problem before it can become a disaster. Apart from hydro-meteorological hazards and disasters, majority of respondents mentioned that Botswana is susceptible to wild land and structural fires, pest infestation, accidents (especially road accidents), aircraft accidents, industrial and mining accidents and risk of hazardous materials.

Furthermore, human epidemics and animal diseases are also some of the prominent risks in the Country. From the data in comparison with historical trends, disaster risk in Botswana is increasing. In the discussions with respondents, it was mentioned that the

Inform Risk Index of 2017 compiled by the Inter-Agency Standing Committee and the European Commission (IASC) rates countries risk based on hazards, vulnerability and coping capacity between minimum risk value of 0 and maximum of 10. Based on the Inform Risk Index of 2017, Botswana's risk was recorded to be the lowest standing at 2.9. Consequently, even though Botswana's risk was indicated as low among other countries, respondents expressed concern that the country remains vulnerable to various hazards.

4.2.2 Main Disasters Affecting Botswana

Due to climate change, the frequency and intensity of natural hazards across the world is causing severe and frequent occurrence of disasters affecting economic development of different countries and the livelihood of people. Majority of respondent elaborated that drought is one of the main disasters that affect people in Botswana. In particular respondents explained that rural areas are the most affected since people depend on farming to sustain their daily livelihoods. Drought in Botswana occurs due to the deficiency of both atmospheric and ground water supply (See section 1.2, chapter 1). In concurrence with research evidence that drought is one of the most recurring disasters in Botswana, majority of respondent in focus group mentioned drought as a problem affecting many farmers in the country. The country experienced its worst drought in the years from 1981 to 1987, 1990 to 1995, 1998 to 1999, 2002 to 2006 and 2011 to 2013. The impact of drought in Botswana affects numerous developmental sectors especially agriculture, water and health.

Respondents further discussed that apart from the diamond mining industry, Botswana is a major exporter of beef to the European Union (EU) and other surrounding countries in the region. However, drought is one of the disasters that affect various economic and development activities like production, sales and numerous businesses in the country including these industries that form a large part of the countries revenue.

Furthermore, based on the findings respondents mentioned that floods have large impact in Botswana and are seen as disasters in most cases. In most cases floods in Botswana results from storms accompanied by perennial flooding especially in the northern part of the country in areas like Kasane and Kachikau. A respondent doing social work in Kasane said "flooding causes a lot of damage to various infrastructure like roads, schools, hospitals and houses of which negatively affects the livelihood of the people and the economy of the country. Majority of respondents pointed out that flooding results in outbreaks of various communicable diseases such as diarrhoea, cholera and malaria. In the discussions, respondents pointed out that floods in Botswana contaminate various

water sources, resulting in outbreaks of diarrhoea and cholera. Outbreaks of malaria are a result of stagnant water that provides conducive breeding ground for Mosquitos.

Furthermore, evidence from discussions with respondents in the study showed that the HIV epidemic is one of the major hazard faced by Botswana. The prevalence of HIV in Botswana is a threat, especially due to its small population size. The Botswana National Policy on HIV and AIDS (Government of Botswana, 2012) outlines the challenges the pandemic poses for the government, civil society, private sectors, religious organizations and development partners. HIV is categorized as disaster risk because Botswana is rated as a country with a higher HIV/Aids prevalence rate in the world (UNDP, 2012). Statistics Botswana (2013:4) indicates that the national prevalence rate of those aged between 18 months to 64 years was estimated at 19.03 % in a 2013 survey. The prevalence was, however, found to be higher among women than men, with 19.2 % and 14.1 % for women.

Besides human epidemics, animal diseases and epidemics such as foot and mouth disease (FMD), heart water, anthrax, and human and wildlife conflict are some of the elements contributing to hazards in the country. In an interview with respondents at national level, they elaborated that the worst animal disease that has occurred in Botswana classified as a disaster was lung disease around the northwest area of the country. This is corroborated by the UNDP (2009:3), which states that in 1995 Botswana suffered the worst animal epidemic of contagious bovine pleuropneumonia (CBPP) in the northern part of the country. This outbreak resulted in the eradication of 300 000 cattle at a substantial cost to the government and major impact to people's livelihoods.

Botswana is a country with citizens who depend on both commercial and subsistence farming to sustain their daily livelihoods. Respondent from with Agricultural background expounded that pest infiltration is a factor that have a disastrous affect in Botswana. Various pests, like qualia birds, locusts, the African ball worm and the armyworm attack and destroy crops. This affects the livelihoods of people who depend on agriculture for income in the rural areas.

Respondents further mentioned that Botswana constantly faces the risk of road accidents; mainly because the country is a transit route for different goods and materials. Based on the findings from interviews with several respondents, the study found that seasonal wild lands fires and structural fires are also quite prevalent and a recurring disaster. Botswana has many national parks and forest reserves. One of the respondents expounded that during the rainy season from the month of October to April, a lot of vegetation is

accumulated in the national parks, game reserves and wild lands. Most of these national parks and game reserves are protected areas where foliage is left untouched.

Due to the accumulation of vegetation, wildfires usually occur in the dry season from the Month of April to November. Based on the literature, wild land fires are very common in national parks and forest reserves in areas like Chobe, Kgalagadi, Ghanzi, Kweneng and the central districts of Botswana (see Section 2.3). Respondents mentioned that fire outbreaks are caused by lightning and various human activities, including illegal hunting, farming mechanisms and legal and illegal campers.

On a different point of view, majority of respondents elaborated that Botswana do not have a large number of human fatalities registered from impact of disasters. "We have been lucky so far in a sense that most of the disasters that occur in Botswana like the floods, to some extent, veld fires; drought does not claim a lot lives". However, some participants argued that even though, disasters do not result in losses of lives, the livelihoods of the people in Botswana are at risk due to the increase in frequency of disasters, which affects their ability to cope with future events. In an interview with a social worker from Kasane, he argued that "there is an increase in number of people registered that are vulnerable as a result of disasters in Botswana". The next section expounds how various hazards and disasters contribute to people's vulnerability in the country.

4.2.3 Vulnerabilities

Some respondents in the study indicated that there is a growing number of people vulnerable from the impact of disasters in the country. In particular, respondents said that there is a growing number of vulnerabilities in Botswana due to issues relating to poverty levels and urbanisation. Based on the findings, although there is a rise in number of vulnerable people, the effects of disasters in Botswana is not the same among different genders. According to literature, it is argued that besides women's outstanding resilience and capacity for survival often exhibited in times of disasters; they are usually faced with a range of vulnerabilities due to unequal power relations between women and men. The empirical findings confirms that women in Chobe district (Botswana) suffer disproportionately from the impact of disasters due to various socio-economic factors culture and traditional beliefs. Some respondents explained that a lot of women are not employed and dependent on their partners to provide for their needs. As such, the lack of socio-economic empowerment is what makes women vulnerable in Botswana since they are unable to provide for their needs especially in times of catastrophes.

In addition, Botswana has more female-headed households and most of these households fall in the lowest income category (See Chapter 1, section 1.2). According to the findings, respondents explained that culture and tradition especially in rural settings dictates that women should stay home to raise children while men goes out to work. As women stay home to care for children and the entire household, they encounter the impact of disasters first hand. Based on the empirical findings, the study found that women in Botswana suffer disproportionately from impact of disasters than their male counterparts. The next section explores common hazards and disaster risk in Chobe district, the area in which the study was conducted.

4.3 RECURRENT HAZARDS AND DISASTER RISK IN THE CHOBE DISTRICT

A disaster is the product of a hazard interacting with vulnerabilities, meaning that a hazard in itself does not cause disasters (see Section 2.6). Respondents in the Chobe district indicated seasonal flooding, bush fires, malaria outbreaks, cholera, diarrhoea, animal diseases, HIV/Aids, human and wildlife conflict, house fires, strong winds (storms) and road and industrial accidents and pest infestation as the main hazards and disaster risks in the Chobe district.

Kasane and Kachikau have unique demographics with social, economic and environmental differences. With reference to the findings from the two case studies, the next section offers a discussion on the recurrent hazards and disaster risk that are prominent in the district.

4.3.1 Flooding

According to the findings, respondents explained that the main contributing factor of flooding in Chobe district is heavy rainfalls. Majority of respondents said that heavy rainfalls in Chobe district contributes to perennial flooding which results into overflow of the Chobe river and river banks in the district. In the words of some respondents, a lot of people in Chobe district depends on the river for their daily livelihood like fishing and cultivation of crops along the river banks which has fertile soil. As a consequence, majority of people have settled along the river banks which exposes them to perennial flooding.

The majority of the respondents in the focus group discussions and interviews indicated that one of the most prevalent risks in the district is water borne diseases like malaria, cholera and diarrhoea that are caused by recurrent flooding in the area. One of the respondents working in disaster management at the district level indicated that flooding causes stagnant water pools that are perfect breeding places for these diseases.

Respondents from Kasane and Kachikau concurred that the area is susceptible to malaria and diarrhoea due to floods.

A respondent working in Kachikau explained that the aftermath of floods in the village usually results in outbreaks of human and animal diseases. Some of these animal diseases result in deaths among the livestock. Animal diseases have a greater impact on people in Kachikau than in Kasane as people in Kachikau depends on livestock production for their daily livelihood.

Residents' livelihoods are also affected by flooding. Respondents explained that most of the people living in the Chobe district depend on farming and fishing. Kasane in particular is located on the banks of the "mighty Chobe River" as the local residents know it. The majority of people in the area use the river for fishing and they cultivate their crops along the riverbank as it provides access to water and fertile soil. However, this method of cultivation, called stream bank cultivation, also exposes crops to the risk of recurring floods.

Overall, the majority of respondents expressed the challenge of limited land availability for human settlement. Respondents during focus groups mentioned that many people are affected by floods because there is not enough land where they can relocate because most of the land in the district is protected by law and designated as a wildlife corridor. The Chobe river borders Kasane in the north and in the south is Chobe National Park.

This allows no room for the expansion of human settlements or the relocation of people to safer permanent places in the district. Most settlements in the district are in the flood risk zone. During the focus group discussions, respondents from Kachikau village expressed concern that most of the people in the area live in the flood risk zone because most of the land is protected by law. Respondents from the district government agreed with this by saying that the Chobe district has limited space for settlements as only 20% of the area is for human habitation and the remainder for the national park.

4.3.2 Human-wildlife conflict

Another hazard respondents mentioned is wildlife due to the district's proximity to the national park. The majority of the respondents expressed concern over human-wildlife conflict in the Chobe district. This has not always been such a big concern in the area, and the statement below captures the sentiments of most respondents in the study:

"Kasane is a dangerous place because animals wildlife share the same habitat with people, elephants presents a huge risk to the lives and livelihood of people in the district, they destroy crops and cause serious damage to infrastructure and

in some cases elephants are known of killing people. In the past there were no problems of human-wildlife conflict, animals were afraid of people because they were legally hunted for food and this helped to regulate their population” – Resident, Kasane.



Figure 4.1: *Fence damaged by elephants at the Kasane fire department. Photo credit: VJ Ngosi, 2017.*

The image above depicts the extent of damage cause by elephants as a result of human wildlife conflict in Kasane. Similarly, respondents in Kachikau expressed concern that human-wild life proximity presents a risk to the people in the village because wildlife, especially elephants, destroy crops, affecting people’s livelihoods. In an interview with majority of respondents in Kachikau, they expressed concern that unlike Kasane, wildlife in Kachikau attacks and kills their livestock. Respondents were of the opinion that after the government of Botswana passed a number of strict laws protecting the wildlife in the national park and game reserves in the area, there has been a surge in animal population as a consequence. This has increased the incidence of human-wildlife interaction. The government of Botswana protects the wildlife because the Chobe district is a tourist destination and a large source of income for the tourism industry in the district. However, the government of Botswana through the DMO should also ensure that people’s livelihoods in the area are protected.

Various respondents concurred that in the past, animals were afraid of people and they stayed very far from human settlements because people were legally hunting them. Now

that they are no longer hunted, respondents argue that the wildlife is no longer afraid of people. Elephants, warthogs, hippos and baboons wander around freely in the district searching for food and coming into contact with humans while doing so (Figure 4.3).



Figure 4.2: *Warthogs in Kasane town centre. Photo credit: EAGER project Kasane, Botswana*

Respondents indicated that with some of the wildlife species, a level of cohabitation have been reached as humans and animals like warthogs and baboons share the same space. Elephants, on the other hand, present a huge risk to the lives and livelihood of the people in the district. Respondents mentioned that elephants are dangerous because they destroy crops and cause serious damage to infrastructure. They have been known to kill people. In particular, respondents in Kachikau explained that elephants in the village destroy their crops like maize, watermelon, millet and beans, crops people depend on for sustenance or their livelihood.

In contrast to the preceding statements, some respondents explained that wildlife-human conflict in the district is a human problem and not animal problem. They argue that the conflict arises from human encroachment into the wildlife territory due to human development activities. In an interview with a local residents, some participants mentioned that there is a lot of construction in the district, particularly in Kasane. As a result, the animals have limited space to move around, which results in human and wildlife conflict. Another respondent was of the view the laws and policies about animals in Botswana is another factor that elicits human-wildlife conflict in Botswana.

The respondent mentioned that in the past there were no strict laws protecting the animals. People hunted the animals, which controlled their population. However, since the

passing of the strict laws and separating the national parks as a conservation area, the animal population has increased and they now wander around in human settlements in search of food. In addition, these animals have no fear for people, so they sometimes attack and kill human beings because they are protected by law, while in the past they did not come close to human settlements.

4.3.3 Droughts

The majority of respondents were of the view that drought is not a risk factor in the Chobe district because the area experiences high levels of rainfall, which results into floods. In contrast, in an interview with the district respondents from the Agriculture Department, explained that Kasane is also prone to droughts. A local resident who has been in Kasane for 47 years elaborated that the amount of rainfall in the area has drastically changed and Kasane does not get enough rainfall. Bouts of drought affect local farmers.

Respondents acknowledged that while the Chobe River is a good source of water, most of the land away from the river is very dry and not suitable for growing crops, which affects the livelihood of the farmers in the area. Contrary to the cited respondent's opinion, various respondents were of the view that droughts are not recurring and that it is not a risk in the area. Respondents in Kachikau did not mention anything about droughts, but during focus group discussions local residents expressed concern about water shortages for domestic use in the village.

4.3.4 Wild fires and household fires

The majority of respondents in the area mentioned wild fires or fire outbreaks as one of the major risks in the Chobe district. Respondents from the Department of Forestry and Range responsible for veld fires mentioned that the fires in the district are terrifying and they cause extensive damage in the national parks.

The majority of respondents interviewed residing in both Kachikau and Kasane expressed concern that even though bush fires are recurrent phenomena in the area, it seems like there is not much that has been done to address the situation because fires occur almost every year. These fires alter ecosystems so that animals in the parks have no food to graze. In search of food, the wildlife wanders around in human settlements where they usually destroy crops such as maize, water melon, beans, groundnuts and many others crops grown in this area.

Furthermore, these fires pose a huge risk to not only the livelihoods but also the lives of the local residents. Respondents argued that fires destroy farming equipment and crops.

The majority of residents in this district are farmers and constant fires result in the destruction of land.

A local resident in Kasane mentioned that wildfires is a big problem because there are no properly constructed fire breaks in the area. This means that with no firebreaks surrounding the park, wildfires can easily run further than the park and into surrounding towns like Kasane, putting property and people in harm's way. In Kachikau, one of the local residents explained that these fires destroy grass that people use as a raw material for creating different local products like baskets, bags, chairs and sometimes roofs for their houses. However, due to fire outbreaks, not only is their lives at risk, but also their daily livelihoods.

Respondents gave many reasons for wildfires. The majority of respondents in the focus groups explained that illegal hunters cause wildfires. Some respondents were of the view that wildfires are caused by uncontrolled fire due to domestic activities. A respondent from Kachikau was of the opinion that illegal hunters cause fire outbreaks because they hunt at night and they use fire to track down the animals.

House fires are specifically dangerous in Kachikau because houses are mostly traditionally built and flammable. There are no fire services in Kachikau as is the case in Kasane. People are at risk in their flammable homesteads and assistance is not close. A respondent in the village explained that household fires occur frequently in Kachikau due to open fires for household use like cooking, warmth and light. In the course of the empirical study, there was an incident in Kachikau where a house was damaged by fire as shown in Figure 4.4.



Figure 4.3: *A house destroyed by fire in Kachikau village. Photo credit: K. Leselwa, October 2017.*

Building materials most often are sourced from the surrounding area and can be highly flammable, posing a high fire risk. Household fires occur in the village because local residence sometime cook inside the house and respondents indicated that house fires are more common in winter.

4.3.5 Communicable Diseases

Further, the data indicated that the Chobe District has a high risk of both human and animal communicable diseases. A respondent working with HIV/Aids argued that according to them the Chobe district has the highest prevalence of HIV and AIDS in Botswana. The HIV/Aids epidemic claims the lives of citizens who would otherwise contribute to the economy of the district and the country. Other respondents from the district government explained that apart from HIV/Aids, the district is also at risk of various livestock and wildlife diseases.

Respondents explained that logically, it is expected that animals in the park stay within the boundaries of the national park. However, animals in the Chobe National Park are not limited by fences. The same animals seen in the Chobe National Park on the Botswana side cross the borders to countries like Namibia, Zambia and they go as far as Angola.

This migration of the animals presents a huge risk in the Chobe district, as those animals can contract various communicable diseases such as foot and mouth disease or anthrax in areas outside of Botswana. When animals return to Botswana, the lives and livelihood

of people in the district are often at risk because diseases can be passed on to people and other animals. Communicable diseases such as swine flu and foot and mouth diseases pose a significant health risk to the residence and the animals in the Chobe district.

4.3.6 Road and industrial accidents

The Chobe district is one of the main tourist attractions, not only in Botswana, but in the world. In particular, respondents mentioned Kasane as one of the main tourist destinations and transit routes to the surrounding countries. The area receives high volumes of traffic and therefore exposes the area to a higher risk of road accidents. A respondent from the district council stated that Kasane is also particularly susceptible to the risk of aircraft accidents because Kasane receives high volumes of flights in and out of the country due to the tourist coming in from all over the world.

A local resident mentioned that the Chobe district is the fastest growing district in Botswana and there is constant construction and industrial development in the area, which makes the area susceptible to numerous industrial accidents. An expert from the Chobe district council explained that the high influx of tourists and people from neighbouring countries puts the district at risk of communicable diseases such as HIV/Aids.

4.3.7 Pest infestation

The majority of the residents depend on farming for their livelihoods. It is mainly peasantry or subsistence farming where they can sell surplus food or produce to the local markets to raise some income. A respondent mentioned that pest infestations is one of the main disaster risks in Kasane. Interviews with government respondents from the district revealed that the district council monitors various pests like the fruit fly and the African armyworm. These pests attack and destroy the maize crops, which affects the produce and livelihoods of farmers.

This discussion outlined various recurrent hazards in the Chobe district that result in the vulnerability of different genders. The next section discusses factors that contribute to the impact of hazards resulting in vulnerability of men and women living in Chobe district.

4.4 FACTORS CONTRIBUTING TO THE VULNERABILITY TO HAZARDS IN CHOBE

The preceding section pointed out a number of prominent hazards in the Chobe district of Botswana based on the empirical findings from Kasane and Kachikau localities. As

expounded earlier in the dissertation, a hazard in itself does not result in disasters. The findings of this study revealed that most of the disasters that occur in the Chobe district are influenced by political, social, economic, physical and environmental factors. This is in line with the literature as outlined in Chapter 2, which identified the political, social, economic, physical and environmental aspects as some of the factors that contribute to the impact of hazards that results in both men and women vulnerabilities (see Section 2.5). Based on the findings, the various factors that contribute to the impact of various hazards in Chobe district are discussed in the following section.

4.4.1 Political factors contributing to vulnerability

The majority of respondents expressed concern about the shortage of land in the Chobe district as one of the main contributing factors on the impact of hazards. In particular, respondents in both Kasane and Kachikau mentioned that people in the two areas are forced to build settlements and live in flood risk zones due to the shortage of enough land for human settlements in the district. Most of the land in Chobe is protected by law, conserving the area for animals, but leaving no room for residents to relocate to safer places.

As such, respondents mentioned that people settle in higher risk zones due to lack of access to good land to settle. For instance, the majority of respondents mentioned that the floods in the Chobe district occur due to excessive rainfall. These findings are line with the literature consulted (see Section 2.5.1), which state that numerous elements such as the denial of human rights, denial of access to power structures, denial of access to quality education, denial of employment opportunities, denial of access to infrastructure and resources, and denial of basic services and information creates and maintains extreme levels of vulnerability.

Similarly respondents working as social workers at district level explained that floods affect the people in the area because they are located in flood risk zone.

“These people cannot freely choose a fertile or less risky area to settle due to the strictness of the government of Botswana in determining the location of human settlements. The government of Botswana has passed strict laws protecting the Chobe district and reserving it as animal and environmental conservation region because this area is a wildlife corridor”. – Social worker Kasane

Most of the human settlements are situated in the flood plains of local rivers. The respondent elaborated that due to the shortage of land in Kachikau, people live in areas that are prone to flooding. Few respondents mentioned that Kachikau village was not

originally situated in its present location. The village was relocated to where it is now by government because floods affected the village. The lack of access of land for human settlement and the location of local inhabitants in flood risk areas is one of the contributing factors to impact of floods in Chobe district.

Further, respondents in focus group explained that because of excess flooding, various diseases such as such as anthrax, foot and mouth disease and lung disease (contagious bovine pleuropneumonia) affect the livestock in Chobe district, especially in villages that depend on farming. In addition, people in the district are often affected because their properties and their crops are destroyed by floods. When this occurs, the government of Botswana in conjunction with other supporting partners like the Red Cross evacuates the affected people to temporary shelters.

From a different point of view, while the government has passed strict rules to conserve the environment in the district, one of the local resident in Kasane said that political factors contribute to the impact of disasters in the area as the government grants permission for all the construction work to take place. The government grants permission to different stakeholders to build luxury lodges and undertake various construction work, which destroys and encroaches on the animal habitat. While this is meant for development, it leads to wildlife-human conflict, which puts the lives of many people as well as the wildlife in danger.

During the study, the majority respondents mentioned that while there are lots of political factors such as the lack of presentation of women in key decision making platforms that are contributing to gendered vulnerability, the government of Botswana is fully engaged in promoting and supporting gender equality. Respondents mentioned that women are allowed to participate in Kgotla meetings, and these platforms are still dominated by men. While women are not necessary denied the opportunity to participate, there is a need to ensure that there is balanced of representation within the gathering. Kgotla is one of the platforms where important decisions about the community development or initiatives are made, therefore if there is not enough presentation of women it has an effect on women because their needs are easily overlooked. In particular, respondents explained that the government of Botswana advocates for equality in policy and practice, but when it comes to culture and tradition, some values play a role in marginalising their participation in key decision making spaces and they end up suffering in silence.

4.4.2 Social factors contributing to vulnerability

Based on the findings, there are a number of social factors leading to the increased disaster and risk susceptibility of the Chobe district of Botswana. Majority of respondents

from focus group discussions and the semi structured one-on-one interviews emphasised that as a main tourist destination, Kasane receives high volumes of people from all over the world. Respondents explained that some people in the area use the high volumes of tourists and people in transit as an opportunity to engage in sexual activities in exchange for other benefits like money. This has become a very specific challenge for the area as it contributes to the spread of HIV/Aids in the district. As a result of the social interaction of different genders, people in the Chobe district are left vulnerable to impact of HIV/Aids and as a consequence the Chobe district has higher prevalence of HIV/Aids.

Literature has it that a number of social factors like the level of education, literacy and training, safety and security, access to basic human rights, social equity, information and awareness, good governance, strong cultural beliefs and traditional values among many others influence vulnerability (see Section 2.5.1). Based on the findings, culture and traditional beliefs also contribute to the impact of hazards in the Chobe district. Respondents discussed that in a rural setting it is culturally expected that women should stay home and raise children, contributing to women's vulnerability to the impact of hazards. Vulnerability according to literature are conditions determined by physical, social, economic and environmental factors that increase community susceptibility to the impact of hazards (see Section 2.5.1).

In an interview with respondents from the Chobe district Council, it was narrated that women are often left at home with no support to care for the whole household. When a disaster like floods occurs, women suffer more than men do. In particular, respondents in a focus group from Kachikau mentioned that most of the men go out to work and women are left to plough and work in the fields. Therefore, when a disaster such as flooding occurs, these women have no alternatives to sustain their daily livelihood and care for their families, since their crops are destroyed by floods.

According to the findings, the indigenous farming practices are another social factor that increases exposure to hazards in the Chobe district. The study revealed that the residents choose to live and cultivate in flood plains due to the perceived fertility that the plains have as compared to some inland soils. The flooding and aftermath of decaying plant foliage and other flood deposits lead to long periods of moisture and fertilities, hence enabling locals to cultivate crops in this flood risk areas. A community-based social worker in Kasane mentioned that most of the people live and plough along the Chobe River. Although these areas have fertile soil conducive for cultivation, it is not good for people to cultivate crops in this area because they are constantly flooded.

4.4.3 Economic factors contributing to vulnerability

Based on the findings, economic factors in the Chobe district are one of the contributing factors to vulnerability. Respondents in focus groups said that Kasane used to be a village, but with the constant development initiatives, it is one of the fastest growing towns in Botswana. There is a lot of construction and development work happening in the area and while these economic development initiatives are essential, they contribute to exposure and impact of disaster risk in another way. A number of economic factors like poverty and a lack of access to land and basic services forces people to live in hazardous areas (see Section 2.5.1).

Respondents from the Chobe District Council explained that only 20% of the land is designated for human settlements, but with the constant human development initiatives, the wildlife corridor is been encroached on. As a result, these positive economic factors contribute to the risk of human and wildlife conflict, which is a very serious problem in the area.

A local resident affirmed in one of the interviews that the Chobe district is a wildlife corridor, but because of the increase in development activities, some of the wildlife areas are being encroached on due to various economic activities mentioned above. As such, due to constant economic activities, the wildlife habitat is getting smaller and this is a problem. For instance, a respondent explained that elephants for instance roam around much more and they mark their territory. However, due to the economic development that is taking place in the Chobe district, especially in Kasane, when the elephants migrate back to a place they marked as their territory and find a construction, they often destroy the infrastructure since it is an obstacle in their traditional migration trails.

The destruction of infrastructures contributes to vulnerability of the local residence because it hinders the provision of services. For example, if elephants destroy school buildings or health clinics that provide vital services to the local residents, it means those services are no longer provided.

4.4.4 Physical factors contributing to vulnerability

The physical factors encompass various elements that make individuals, households and even the community at large prone to the devastating impact of a hazard due to the physical environment. During focus group discussions and interviews, the majority of respondents admitted that physical factors contributes to vulnerability. Physical vulnerability according to literature refers to the exposure of people, households and communities to loss within their physical environment or surrounding.

Such environments expose people to various hazards (such as floods, diseases, landslides and fires) making them vulnerable (See Chapter 2, section 2.5.1). A respondent from the Chobe district council explained that de-bushing is not practiced in the area, causing a great collection of dry vegetation in the national parks and game reserves that contributes to outbreaks of wildfires.

In an interview with one of the local residents in Kasane, the fires in this area are very difficult to contain due to the high biomass accumulation of fuel loads, which is dry vegetation that is highly flammable. Therefore, since de-bushing is not practiced in the Chobe district, there is a high volume of dry vegetation that burns very quickly and easily, as a result when wild land fire occurs it becomes very difficult to contain the fire.

Furthermore, respondents discussed that the physical environment in the Chobe district contributes to the impact of fire outbreaks because law protects all of the national parks and forest reserve in Chobe district. As a result, most of the areas are left untouched, which results in the accumulation of dry vegetation leading to a good fuel source for starting veld fires. In one of the interviews, a respondent mentioned that compared to other districts in Botswana, fire outbreaks in Chobe district are recurring and difficult to contain due to the availability and accumulation of dry vegetation in the parks.

Similarly, the study ascertained that physical factors also contribute to the impact of bush fires in Kachikau. In focus group discussions, residents from Kachikau explained that in the past, guided by the Kgosi (Village Chief,) people used to remove the excess vegetation in the national park by burning and removing excess vegetation as a control measure. However, this practice stopped since the national parks are now protected by law. This argument concurs with a point made by respondent at the Chobe district council that de-bushing is not practiced in the area thus results in fire outbreaks due to availability of higher fuel loads.

Furthermore, a local resident in Kasane pointed out that the lack of well-constructed firebreaks in the Chobe district is also one of the contributing factors that exacerbates the impact of wildfires. Majority of respondents also pointed out that due to constant fire outbreaks in the area the animals have no food in the park because most of the vegetation is burnt. Therefore, these animals are forced into human settlements in search of food; causing extensive damage by destroying crops in the fields.

Some respondents in focus group indicated that due to the burnt vegetation, wild animals, especially elephants, come into the human settlement areas, destroying home-grown crops such as watermelon and beans. Furthermore, respondents in Kachikau expressed concern about wild animals such as lions attacking and killing their cattle in the area.

Human and wildlife conflict is not only caused by wildlife. A local disaster risk practitioner in the area explained that people in the community are encroaching on the wild land. For example, people in Kachikau harvest grass to use for various domestic purposes such as thatching their houses. While doing so, they encounter wildlife.

4.4.5 Environmental factors contributing to vulnerability

The majority of respondents mentioned that the Chobe district is prone to various human and animal disease outbreaks due to environmental factors. From the perspective of respondents in Kasane for instance, their proximity to neighbouring countries puts the town at risk of various communicable diseases due to practices such as the risky sexual behaviour discussed earlier. According to literature, the depletion of natural resources, resources degradation, loss of resilience of the ecological systems and loss of biodiversity and susceptibility to toxic and hazardous pollutants are some of the environmental factors that contribute to vulnerability (See Chapter 2, section 2.5.1).

Furthermore, respondents explained that another environmental factor that contribute to vulnerability is non restriction policy of wildlife.

“The same elephant or cattle seen in Kasane today, easily crosses the border and can be seen in Namibia, Zimbabwe or Zambia side in the following day. Many animal diseases, just like human diseases, are highly contagious”. – Chobe district respondent

The movement of animals and livestock contributes to the spreading of diseases. A respondent from the Chobe district council mentioned that two weeks earlier hippos were seen floating in the northern part of the area of Chobe district. Preliminary studies from the veterinarian revealed that these animals were washed downstream from Namibia into the area along the Chobe River and had died because of anthrax. This in turn kills the livestock, in an interview with the disaster management respondent at national level he elaborated that Chobe district suffered the worst animal disease outbreak in 1995, called contagious bovine pleuropneumonia (CBPP) and approximately 300 000 cattle were killed. Anthrax is a very dangerous and contagious disease.

The study revealed that there were various factors contributing the outbreaks of diseases such as malaria, diarrhoea and cholera. Respondents mentioned that the community usually experience issues of diarrhoea during the rainy season due to floods. In correlation with the findings in Kasane, respondents in Kachikau also mentioned that the outbreaks of malaria was due to flooding. Consequently, the impact of disasters on human

beings is not just determined by the phenomenon of the disaster, but is dependent of various factors that impinge and marginalise rights of men and women (see Section 2.6).

4.5 IMPACT OF DISASTERS ON MEN AND WOMEN IN THE CHOBE DISTRICT

Most of the respondents, including the local leaders, disaster risk practitioners and local residents explained that women in the district are more adversely affected by disasters than men. They further indicated that, women in the Chobe district have less access to economic opportunities. A respondent explained that this is because the majority of employees in the construction and tourist industries are men. In particular, a local resident explained that a lot of men in the area work in the national park and for construction companies, while women lack the opportunity to work as they are left with the responsibility of caring for the family at home.

In interview with respondents from fire department, it was mentioned that irrespective of women's outstanding resilience and capacity for survival often exhibited in times of disaster, women are faced with a range of vulnerabilities due to unequal power relations and distribution between women and men. Women are often victims of gendered division of labour and they have less access to resources. They are also the primary caregivers to children, the elderly and the disabled (see Section 2.6.1). Furthermore, respondents mentioned that the Chobe district is a rural area and as such, a lot of men leave to look for jobs in other areas leaving women behind with children. Most of these women stay at home and are not economically empowered, thus depend on their partners for their daily livelihoods such as food, clothing's and shelter.

Consequently, when a disaster such as floods or veld fires occur, women often fall victim without support of their partners. This correlate with the literature stating that women's vulnerability in disasters is mostly due to their social inequality and lack of access to control over political and social resources (see Section 2.6.1). An expert working in the HIV/AIDS sector in the Chobe district mentioned that women in Chobe district are affected more due to their socio-economic status. The lack of access to opportunities is one source resulting in women vulnerability in Chobe district. The majority of women in Chobe fall into lower income categories. Due to their socio-economic status women engage in sexual relationships with more than one partner in exchange for money. For this reason, women in the Chobe district have higher prevalence of HIV/Aids than men.

Furthermore, the study found that there are strong social, cultural and traditional values, especially in rural areas, that dictate that women should stay home and raise children

while men go to work to provide for the family. This strong patriarchal value creates dependency so that women are not economically empowered. Consequently, those who are socially and economically disadvantaged are the ones who suffer the most when a disaster occurs (see Section 1.2). Based on the findings, women are marginalised from all works of life, for single women living in Chobe district they have lack access to economic opportunities since majority of industries are dominated by men. Even though this women are able to make decisions on their own, they still suffer disproportionately due to lack of economic opportunities which results in poverty. On the other hand, some women who are living in male headed household are marginalised since they have no power to make decisions and have control over their movement and access to information since they usually left at home to care for the household.

On a different point of view, majority of male respondents expressed concern that their needs are neglected in times of disasters. Gender is a term that is used synonymous with women, so issues relating to men's vulnerabilities are often neglected in DRR process (see Section 1.6). When it comes to masculinity, gendered identities influence masculine concepts where men are expected to be in control, be able to provide economic and physical security to the family, including being physically and emotionally strong (see Section 2.6.2). However, it is significant to note that disasters do not discriminate; everyone within the disaster zone are affected without exception when a disaster occurs. There is a need to strike a balance in how men and women engage in DRR because gender is a necessity for disaster risk reduction rather than an alternative.

During the focus group discussions, majority of male respondents argued that it does not seem as if there is a balance in terms of assistance in the aftermath of disasters because all the effort is concentrated on women. The participant expounded that the way things are done, it is as if 70% goes to women and 30 % to men. Some participants expounded that men are expected to be providers and protectors of their families of which overlooks their needs in the process. This needs are often overlooked in times of disasters because of cultural connotations and gender stereotype that men are strong. Therefore, while women are mostly affected, the study discovered that men also have unique challenges that comes in because of these strong social and cultural beliefs.

This statement concurs with literature that when it comes to masculinity, gendered identities influences masculine concepts where men are expected to be in control, be able to provide economic and physical security to the family including being physically and emotionally strong. The gender perception of men having increased tolerance of risk and being strong contributes to men vulnerabilities (see Section 2.6.2). However, it is

important to note that disasters do not discriminate; everyone within the disaster zone is affected without exception when a disaster occurs. In the next section, the study looks at the factors that influence gendered vulnerabilities in the Kasane and Kachikau communities of the Chobe district of Botswana.

4.6 FACTORS INFLUENCING GENDERED VULNERABILITIES

Various social, economic, ethnic, cultural and physiological factors affect ways that disasters affect women and men of all age groups, but also their coping strategies and participation in prevention, relief, recovery and reconstruction processes (see Chapter 2, section 2.6). Based on the findings, the study discovered several factors that influence gendered vulnerabilities that result in differences in the impact of a disaster. Most of the respondents in the study indicated that there is a difference in the impact of disasters for women and men in Chobe district owing to various social and economic factors. In reference to literature, gender plays a vital role in disasters because disasters are not gender-neutral, the impact that it has on groups or individuals is often different based on their gender. Based on the empirical findings, the following are the factors that influences gendered vulnerabilities between men and women in the Chobe district.

4.6.1 Cultural and traditional aspects

The study found out culture and tradition beliefs are held in high esteem in the Chobe district. However, literature indicates that cultural elements are neglected when it comes to planning and the implementation of DRR strategies. Failure to combat cultural aspects leads to the increased vulnerabilities of community towards disasters and development of unsuccessful strategies (see Section 2.5.1). The majority of respondents mentioned that according to culture, women are supposed to stay at home to raise the children and take care of the home while men are supposed to be breadwinners of the family.

Such cultural connotations contribute to gender vulnerabilities in a sense that women are not given equal opportunities in terms of access to economic opportunities and vital information to keep them aware of their surroundings since they only stay at home. An example was mentioned by a respondent who pointed out that Botswana has a Kgotla system (tribal authority and leadership). In this platform, most of the decision makers are men, and as such there is a lack of female representation when decisions are made. Furthermore, cultural and traditional roles assigned to different men and women leads to gendered vulnerability. Respondents explained that women are expected to stay at home and nurture children, while men go out to work in other towns and construction companies away from home and family. Female respondents went on to say that men are often

unfaithful to their partner while away from home and can put their wives at risk of communicable diseases such as HIV and STI.

One of the respondents narrated that even though things have changed a bit, in the past women were not allowed to do some things. For instance, women were kept for marriage while men were allowed to attend school. This created a gender gap of which the effect are still experienced now because those girls who were denied access to school are now women who are not economically independent.

4.6.2 Social and economic aspects

The majority of female respondents mentioned that the tourist industry in the district employs many more men who are working in the national park and game reserves and different safari companies. In addition, many people doing construction work in the district are also men. In literature, it is described that social and economic aspects are directly linked to the impact of disasters. These aspects include poverty, lack of basic services (health care, sanitation) access to basic human rights, cultural and traditional beliefs influence vulnerability (see Section 2.5.1).

Based on the findings, women in the Chobe district have less access to these social and economic opportunities and that these positions are seen as more appropriate for males than females. This lack of equal social and economic platforms and opportunities contributes to gendered vulnerabilities where women are often victims to social and economic imbalances in the district. As alluded in the literature, women are the primary caregivers to children, elderly and the disabled however; they often fall victims of gendered division of labour with less access to resources (See section 2.6.1).

Some of males and females respondents explicated that women in the Chobe district are vulnerable because they are not economically empowered. In the discussions, male and female respondents mentioned that most women are dependent on their husbands for everything. When there is a hazard women are unable to stand on their own and make vital decisions, which exacerbates their vulnerability.

4.6.3 Gender stereotypes and inequality

The study has also found gender stereotyping as one of the contributing factors influencing gendered vulnerability in the Chobe district. In focus group discussions, some of the male respondents raised concerns about women not being strong enough to participate or partake in physical activities because it requires strength. The quotation below captures the essence of gender stereotypes:

“Women are not strong and when thieves come to steal at night men are the ones who go out to chase them away”. –Local resident

Based on the literature, the gender-based prejudices and divisions in a lot of societies mainly affect girls and women such prejudices are based on perceptions that women are inferior as well as being physically and emotionally weak as compared to their male counterparts (See Chapter 2, section 2.2).

Consequently, these gender stereotyping behaviours is what enforces the view of women as helpless victims whereby their capacities, knowledge and skills in each stage of the disaster cycle are not recognised in disaster reduction practices. As a result, the skills and abilities of women either as individuals or a group are undermined, which not only contributes to their vulnerability but rather they are subjected to social inequalities (See Chapter 2, section 2.2).

In contrast, the majority of female respondents argued that men are selfish and too controlling. One of the participant explicated that there are women, single parents, who are managing and doing everything just like men do. Unfortunately, it is this type of gender stereotype behaviour and attitudes that contributes to gendered vulnerabilities and prevents men and women from working together towards community DRR initiatives in the Chobe district.

In an interview with the district disaster risk expert, it was mentioned that in the Botswana Constitution everybody has equal rights. However, culture plays a major role in contributing to gender inequality. As asserted in Section 2.6.1, cultural restrictions on mobility and access to critical information is one of the contributing factors to women vulnerability. A respondent from the district level government explained that women are often side-lined to make decisions in Kgotla meetings.

Due to gender inequality as outlined in literature, women are often victims of gendered division of labour, hence they have less access to resources. Therefore, besides having outstanding resilience and capacity for survival exhibited in times of a disaster, women face a lot of difficulties due to unequal power distribution due to gender stereotypes (See section 2.6.1). In an interview with a female of the local resident in Kasane, he explained that the majority of women are economically challenged and lack access to economic opportunities because of stereotype that women cannot work in construction companies or in the Chobe national park or game reserves.

4.7 GENDER IN DRR POLICY AND PRACTICE IN CHOBE

Gender as a concept is recognised as an important aspect, but most policies do not clearly consider gender in their plans for action in policy and practice (See Chapter 2, section 2.4). There is a gap in policy and practical guidance in efforts to integrate gender into disaster risk reduction. Based on the review of DRR policies and frameworks, gender has been recognised and highlighted as an important aspect. Many people find it easy to agree with gender as concept. However, the challenge remains that most of the policies do not clearly employ gender in their plans for action as such there is gap in terms of mainstreaming gender in DRR practice (See section 2.4).

In this study, majority of disaster risk management personnel at the national, district and local level pointed out that while there is no discrimination in the constitution or various national or district policies and plans, gender issues are not included in most of the policies. The national DRR management official from the government at national level mentioned that Botswana is using a 1996 policy that is silent on gender issues and equality.

In concurrence, the Chobe district disaster risk management official at district level expounded that Botswana policy does not include a gendered approach; the policy incorporates what is called a holistic approach. This approach caters for all the victims the same, be it in the family or community. However, literature indicates that gender aspects leads to substantial differences on how men and women are affected by disasters (See Chapter 2, section 2.2). Quoting the respondent, gender is an issue of concern of which needs to be considered and included in DRR policy and practice.

Various social, economic, ethnic, cultural and physiological factors, affect not only the ways that disasters impact women, men of all age groups, but also their coping strategies and participation in prevention, relief, recovery and reconstruction processes. According to the literature in Section 2.6.1 of the dissertation, disasters affects men and women differently due to various gendered aspects including social and economic status. One of the female respondent asserted that when a disaster occurs there are specific needs and things that women require like sanitary towels, shelter and private space. Unfortunately, the disaster preparedness plans, which are guidelines in event of a disaster, do not cater for gendered approach rather it only employs a holistic approach. One of the male respondents mentioned that issues of this nature are only addressed based on the discretion of the district commissioner responsible for managing disasters in an area that is affected.

4.8 GENDER MAINSTREAMING IN DRR IN THE CHOBE DISTRICT

Based on the findings, the Chobe district has various documents, including the Chobe District Emergency Operation Plan 2017, but this document is silent on gender issues. The study found that the national policy in Botswana is silent on gendered impact of disasters or addressing gender issues in Chobe district and Botswana at large. Respondents, expressed concern that not only is national policy silent on gendered impact of disasters but rather the policy is very old (1996 policy). The national respondents emphasized that there is no discrimination because the constitution of Botswana provides for equal treatment of all be it a man or a woman. Previous research evidence outlines that gender mainstreaming is not a completely new phenomenon. It was first adopted as an intergovernmental mandate in the Beijing Declaration and Platform for Action in 1995. Gender mainstreaming is defined as a process that aims to advance gender equality by revising all mainstream policy arenas; the intention is to improve the effectiveness of focal policies by making visible the gendered nature of assumptions, processes and outcomes. Mainstreaming gender perspectives into the DRR process offers new opportunities to advance gender equality in the socio-economic development process (see Section 2.4.1).

The respondents working in disaster risk management on a district level explained that the government of Botswana uses what is called a “holistic approach”, this means that in an event that there is a disaster both men and women are treated equally without being gender specific. The national, district and local disaster respondents acknowledged the lack and need for a gender specific approach in their policies. Inevitably, men and women have unique and specific needs especially in times of a catastrophe.

Few respondents expressed concern that in times of flooding, clothes, food and various belongings are washed away. In this instance girls and women becomes more vulnerable, girls even drop out of school because of the specific needs they have, such as sanitary towels and clothes. Overall, cultural and traditional perceptions are some factors that pose challenges in mainstreaming of gender in DRR. One of the respondent mentioned that there is a saying in Setswana “*gadi etelelwe ke manamagadi*” translated as “women cannot lead”. Such connotations and attitudes, especially in rural areas, contribute to challenges where women are side lined when it comes to mainstreaming gender in DRR.

Culture and traditional beliefs also influence the vulnerability of men. The cultural connotation that men are strong and are expected to be providers of the family cause men to suffer in silence in times of disaster. This corroborates the literature that, social expectations contribute to men’s vulnerability because it isolates men leaving them to deal

with their own loss and grief especially in the aftermath of a disaster. Usually men do not challenge these social expectations in open because they do not want to be seen as weak (see Section 2.6.2). Male respondents were of the view that “when a disaster occurs a lot of attention is only concentrated to women as if they are the only victims”. In contrast to this argument, some respondents mentioned that women are the ones who suffer the most because they have the burden to care for the family and they are forced to stay at home. Including gendered approach in DRR is very significant because it would help to address a number of challenges in the district. The next section expounds on the significance of gender in DRR policy and practice in Chobe district.

4.9 THE SIGNIFICANCE OF GENDERED APPROACH IN DRR POLICY AND PRACTICE IN CHOBE DISTRICT

The majority of respondents mentioned that gender is an integral part of DRR. Gender mainstreaming is very important, especially in Chobe district. Based on the findings, respondents explained that gender mainstreaming is what can get women to have equal and equitable platforms and opportunities with men in the district. In the interviews, respondents mentioned that women have equal abilities as men therefore by mainstreaming gender in DRR it means women contribution cannot be overlooked rather their efforts and contribution can be recognized and utilized to bring positive change in mitigating the impact of disasters. Mainstreaming gender in DRR is what can encourage many women by giving them confidence to participate not only in DRR but in other development initiatives as well.

In interviews with local residents, majority of respondents pointed out that women are a powerful resource that are often neglected and side lined when it comes to various development activities and processes. This is depicted in one of the interviews where respondents said:

“In Kasane today, all the jobs are dominated by men. If you go to the national park and even those that are doing construction work there are no women”. – Local resident

However, based on the findings women are usually the ones who stay at home doing most of the work like house chores, farming in the fields and taking care of children at home while men goes out to work. In case of a disaster, women are the ones who are the first responders, therefore mainstreaming gender in DRR is very significant because it means women will be involved rather than be treated as passive observers waiting for help. A respondent at district level government working with disaster risk management

mentioned that gender mainstreaming in DRR in the context of Chobe district is very essential in a sense that all gender issues that were overlooked will be considered.

It is a fact that men and women have different needs and wants, therefore employing a gendered approach in policy and practice can effectively assist in DRR. If both men and women's needs are specifically catered for in both policy and practice it can help reduce gendered vulnerabilities in Chobe district.

4.10 CONCLUSION

Based on the above data analysis and interpretation, the Chobe district is prone to various human and natural hazards. However, owing to various socio-economic aspects, men and women are not exposed equally to the impact of hazards. The government of Botswana has taken a number of initiatives to combat the impact of disasters encompassing floods, fire outbreaks, human epidemics and disease outbreaks, animal diseases and even pest infestation among many other catastrophic events at all levels. However, most of the policy, strategies and plans that have been set out do not include a gendered perspective in managing disaster risk. Based on the findings, holistic approach that is used is not good enough as it is inevitable that impact of disasters is not the same between men and women.

The Chobe district has various documents that are silent on gender issues, one of which include the Chobe District Emergency Operation Plan 2017. Even though men and women are now given equal access to opportunities, there is a need to incorporate a gendered approach in DRR to bridge a gap between men and women in the context of disasters.

The government of Botswana has started a number of initiatives to bridge this gap, but there is a need to incorporate a gendered approach that is silent in most of the disaster risk reduction management policies, plans and strategies. Even though there is no discrimination in terms of how the Botswana government manages disasters, there is a need to ensure that there is fairness by making sure that there is equity between men and women ensuring that gender issues are taken into consideration in both policy and practice. Women have more needs owing to various gendered aspects that marginalize them, which causes them to suffer disproportionately than men. The next chapter of the dissertation summarizes and gives recommendations. The chapter will address and answer the research questions based on the empirical findings of the study.

CHAPTER FIVE CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

The world has recorded an increase in the frequency and intensity of disasters in the 21st century due to climate change (see Chapter 1, Section 1.1). An increase in the frequency of both natural and anthropogenic catastrophes has resulted in immense destruction of property, loss of lives and suffering among local residents in affected areas. However, a disaster does not occur on its own; it is a product of hazard and vulnerability. Based on research evidence presented in various studies, the physical, environmental, cultural, social, economic and political factors exacerbate the impact of disasters. Consequently, when a disaster occurs, men, women and other groups become caught up in the disaster zone, but they are not affected in the same way.

According to findings of this study, women are more severely affected and negatively impacted by disasters due to various factors that marginalise them. This includes lack of economic opportunities and empowerment, being side-lined from decision making processes, gender stereotypes and various cultural and tradition values and practices (see Chapter 4, Sections 4.6.1; 4.6.2 & 4.6.3). As a result, women are often more vulnerable to the consequences of disasters than men. However, the fact that women are more vulnerable does not imply that male needs and vulnerabilities should be neglected.

Gender is recognised and talked about in policy, but in practice it is one of the most neglected aspects especially in DRR. There is a great need to consider a gendered approach to ensure that both men and women have equal and equitable platforms when dealing with disasters. The empirical investigation in the Chobe district of Botswana reveal that various factors exacerbate the impacts and effects of disasters on men and women in the district.

The empirical findings of the study concur with the literature as discussed in Chapter 2 of this dissertation. The available literature suggests that the impacts and effect of disasters on individuals, institutions or a community differs. They can be different for men and women due the existing socio-economic conditions, cultural and traditional aspects, gender inequalities and stereotypes, and physical and environmental factors (see Section 2.8).

Chapter 1 of this dissertation posits that disaster risk reduction (DRR) is a fundamental pillar of sustainable development and requires an “all of society inclusive approach” (see Section 1.6). There is a need for a broader and a more people-centred preventive

approach to disaster risk. The Sendai Framework for Disasters Risk Reduction emphasises that disaster risk reduction requires empowerment and inclusive, accessible and non-discriminatory participation, paying special attention to people disproportionately affected by disasters (see Chapter 1, Section 1.6).

This study was conducted as a case study to explore and examine a gendered approach to disaster risk reduction in the Chobe district of Botswana. This chapter examines the extent to which the research objectives of the dissertation indicated in Chapter 1 have been realised. The research objectives for this study were established as seeking to:

- explore the global perspective of gender integration in disaster risk reduction policy and practice;
- examine the factors that contribute to vulnerabilities in the Chobe district of Botswana;
- establish how gender issues can be foregrounded in disaster risk reduction policies and legislative frameworks; and
- assess the significance of a gendered approach in disaster risk reduction policy and practice in the Chobe district of Botswana.

In pursuit of the preceding research objectives, the study was divided into five different chapters. The following section relates each of these chapters and links them to the objectives.

5.2 SUMMARY OF CHAPTERS

Chapter 1 is an introductory chapter that provided an overview and the background to the study. The chapter discussed the demarcation of the study area as Kasane township and Kachikau village in the Chobe district of Botswana. The Chobe district was selected as a case study because of various factors (cultural, physical, environmental, social, economic and political) that make it susceptible to a number of hazards and disaster risks. The chapter continued with the research problem under investigation, followed by research questions and objectives. The chapter also outlined the central theoretical statements and the research methodology.

Chapter 2 presented a detailed literature review of previous studies on the topic under investigation. The aim of this chapter was to address the second research objective, namely to explore the global perspectives on gender integration in disaster risk reduction policy and practice. The section expounds a brief overview of gender in disaster risk reduction and found that, according to literature, males and females generally suffer differently in the context of disaster risk. The literature is also careful to point out that the

term 'gender' should not come to refer only to 'women' (see Chapter 2, Section 2.1 & 2.2). Chapter 2 also examined a gendered perspective on global policy and frameworks by looking at the Sendai Framework, the HFA and the Botswana National Disaster Risk Reduction Strategy (2013–2018). These documents show that the most recent DRR policies internationally make brief mention of gender issues in disaster risk reduction. However, no concrete action or activity is indicated in these documents on how to include gender as a priority (see Sections 2.3; 2.3.1; 2.3.2 & 2.3.4).

Globally, various studies indicate that many challenges exist in foregrounding gender in policy and legislation. This was extrapolated further as Chapter 2 of the dissertation discussed the progress and challenges encountered in efforts to mainstream gender in DRR. In addition, Chapter 2 expounded the various factors causing and contributing to both men and women's vulnerability.

In summary, Chapter 2 explored a theoretical perspective of gender in DRR. This includes the factors that contribute to men and women's vulnerabilities, progress and challenges with foregrounding gender in DRR, as well as factors that contribute to differences in men and women's vulnerability. Chapter 2 also examined the significance of including a gendered approach in DRR policy and legislative framework. The specific content outlined above was specifically included in Chapter 2 to provide a comprehensive review and background, and to indicate gaps in the topic under investigation (see Chapter 2, Section 2.4; 2.5).

Chapter 3 documented the study design and methods implemented in the dissertation. The chapter provided a detailed description of research methodology and design employed by the researcher in the field, from data collection to analysis. The data collection tools included focus group discussions and semi-structured individual interviews. The respondents for the study were selected using purposive and snowball sampling methods. A total of 54 respondents were selected using this method. Data were then analysed using a flexible qualitative data analysis model, a mixture of iterative and fixed models (see Chapter 3, Section, 3.6).

This chapter also indicated what ethics considerations the researcher took into account when doing the study and elaborated on the limitations and demarcations identified.

Chapter 4 presented a holistic analysis of empirical findings gathered during the empirical phase of the research. These findings address the requirements and gaps of a gendered approach in DRR in the context of the Chobe district of Botswana. This data was generated from an appropriate sample of the population in the Chobe district of Botswana using Kasane and Kachikau as study areas.

The collection of data and the presentation of the findings in Chapter 4 aimed to address the remaining research objectives of the study as contained in Objective 2: To examine the factors that contribute to the vulnerabilities in the Chobe district of Botswana, Objective 3: To establish how gender issues can be foregrounded in disaster risk reduction policy and legislative frameworks, as well as Objective 4: To establish how gender issues can be mainstreamed into disaster risk reduction policy and legislative frameworks. This presentation of findings culminated in the recommendations in this final chapter. The findings of the study are discussed in the next section, followed by the necessary recommendations.

5.3 Findings and Recommendations

This section of dissertation offers a summary of the findings, followed by the necessary recommendations as aligned with the research topic and objectives.

5.3.1 Objective 1: To explore the global perspective on gender integration in disaster risk reduction policy and practice

Findings

There is a lot of effort at a global level to mitigate the impact of disasters. The study assessed the Hyogo Framework of action, the Sendai Framework and the National Disaster Risk Reduction Policy of Botswana to examine the extent to which gender is incorporated in the plans and strategies.

The documents mentioned above reveal the extent of the efforts undertaken to mitigate the consequences of disasters (see Chapter 2, Section 2.3). According to the literature and empirical study conducted, there is a huge gap in policy and practical guidance with regard to efforts to integrate gender into disaster risk reduction. Gender is recognised as important concept, but the findings show that various individuals, practitioners and organisations agree with the concept, but they don't apply or implement it in practice.

The HFA outlines that, "a gender perspective should be integrated into all disaster risk management policies, plans and decision-making processes, including those related to risk assessment, early warning, information management, and education and training" (see Chapter 2, Section 2.3). At a global level, efforts have been made to integrate gender in all disaster risk management policies, plans and decision-making processes, including those related to risk assessment and even early warning systems. Consequently, while the HFA and other subsequent policy documents state that gender is important, the integration of a gender perspective in DRR is not clearly indicated.

In efforts to bridge the gap, the Sendai Framework recognises the need for a broader and a more people-centred preventive approach to disaster risk. It brought a shift to a more people-centred approach where gender is a priority. Yet, despite the fact that many countries recognise the importance of gender integration in DRR, little has been done in terms of implementation. The prioritisation of gender as an area of action is absent from the plans, objectives and strategies of the policy documents.

The government of Botswana recognises gender equality and integration as an important element, but the foregrounding of gender in most of policy documents, including DRR, is not clear. The empirical findings reflect a lack of a gendered perspective in Botswana's national and district disaster risk management plan and policies. The BNDRS (2013-2018), "promotes a holistic and systematic inclusion of risk reduction measures into design and implementation of disaster preparedness, response and recovery programmes of national governments and partner organisations". The strategy does not prioritise gender and very little is done to include gender in practice.

Given the above, it is important for the government of Botswana to prioritise a gendered approach in developing, planning and implementing disaster risk management plans and policies at all levels.

Recommendations

- Gender in DRR should not only be highlighted in policy documents with no tangible results in practice. There is a great need for governing authorities and policy makers in Botswana to adopt and employ global frameworks with a gendered perspective and approach through the NDMO and to implement these by means of DRR strategies and policies at the national, district and local levels.
- The government of Botswana should employ a people centred-gendered approach in mitigating disaster risks at the national, district and local levels through the NDMO. In the context of this study, rather than just employing a holistic approach in DRR policies, plans and implementation, the government of Botswana through the Office of District Commission (ODC) should include gender as a priority in the Chobe district disaster management plan.
- Furthermore, the Botswana government through the NDMO should ensure that a gender perspective is incorporated and recognised as a key priority area in the National Disaster Risk Reduction Strategy of Botswana and in its national legislative policies and frameworks. This would ensure that both men and women have equal and equitable platforms in DRR.

- The government of Botswana should take the initiative to upgrade its old national disaster risk management policies like the National Policy on Disaster Management of 1996. The old policies should be updated by including a gendered perspective and approach in mitigating disasters.

5.3.2 Objective 2: To examine the factors that contribute to the vulnerabilities in the Chobe district of Botswana

Findings

Chapter 1 asked the question of which factors contribute to the vulnerabilities of men and women in the Chobe district of Botswana. There are several factors that contribute to vulnerabilities in the Chobe district (see Chapter 1, Section 1.3). According to the findings, seasonal hydro-metrological hazards is what influences most disasters that occur in Botswana. Overall, Botswana is faced with various hazards and disaster risks such as floods, droughts, pest infestations, human and animal diseases, wild (veld) fires, road and industrial accidents, and human-wildlife conflicts, among others (see Chapter 4, Section 4.2.1).

In the Chobe district, the seasonal flooding, bush fires, malaria outbreaks, cholera, diarrhoea, animal diseases, HIV/Aids epidemic, human-wildlife conflict, house fires, strong winds (storms), road and industrial accidents and pest infestation are the prevalent hazards and disaster risks. The above-mentioned hazards and disaster risks are all influenced by political, social, economic, physical and environmental factors that contribute to people's vulnerability in the Chobe district of Botswana.

In correlation with reviewed literature, the study found out that the impact of disasters is different for men and women in the Chobe district. The study found that the majority of women suffer more due to cultural and traditional aspects, lack of social and economic opportunities, and an imbalance in the power of men and women on decision-making platforms like in Kgotla. Furthermore, gender stereotypes were also found to be one of the factors contributing to the vulnerability of residence in the Chobe district.

Although the government of Botswana advocates for equal opportunities between men and women, gender stereotypes and behaviours still marginalise women in the Chobe district. The study found that some men still feel that women are supposed to be at home to raise children and take care of the family. This stereotype is deeply rooted in cultural and traditional beliefs, so women are side-lined when it comes to participating or taking leading roles in DRR initiatives. In addition, cultural views like "gadi etelelwe ke manamagadi", which means "women cannot lead", prevent women from reaching

leadership positions where they can contribute to DRR or inform authorities or government about their needs (see Chapter 4, Section 4.8).

A disaster is the product of hazard and vulnerability, including factors like social, physical, economic, cultural, environmental and political influences. This is also true in the Chobe district. The findings show that women suffer disproportionately, but this does not mean that women are just victims. As much as they are marginalised, they have capacities and abilities to contribute to disaster risk reduction.

Apart from the prevalent hazards and disaster risks recurrent in the Chobe district, the study established that it is cultural, traditional, social and economic aspects and gender stereotypes that contribute most to the impact of a disasters so that women are often more severely affected than men in the Chobe district.

Recommendations

- The Chobe district council through the disaster management team should invest more in community disaster risk reduction initiatives so that residents are empowered, involved and equipped with knowledge of recurrent hazards and disaster risks in the Chobe district of Botswana.
- The government of Botswana should regulate economic activities in the Chobe district. The district is one of the fastest growing towns, but due to the shortage of land, local residence are forced to settle and farm in high-risk flood zones, making them vulnerable to disaster risk. Furthermore, due to growing economic activities, humans are encroaching on the wildlife habitat resulting in human-wildlife conflict hence the need to regulate economic and development activities in the area.
- The government of Botswana in collaboration with the Chobe district council should come up with a robust disaster management plan. This plan should include a gendered approach to DRR. Women should not be seen as victims, but rather as equal partners. Through education and training, both men and women should be involved in mitigating the effects of disasters.

5.3.3 Objective 3: To establish how gender issues can be foregrounded in disaster risk reduction policy and legislative frameworks

Findings

According to the findings, the government of Botswana promotes an equal and non-discriminatory approach when it comes to gender and the wellbeing of its citizens.

However, the study found that there is no gendered perspective in most of the policies and strategies at national, district and local levels.

The majority of respondents in this study mentioned that the government of Botswana is doing a lot to ensure that there is equality when it comes to men and women's social and economic needs, including DRR management and strategies. Gender mainstreaming is a process that aims to advance gender equality by revising all mainstream policy arenas; the intention is to improve the effectiveness of local policies by making visible the gendered nature of assumptions, processes and outcomes.

Botswana's Constitution of 1966 (amended in 2002) supports equal treatment for all, be it men or women. However, based on the findings, the national disaster policy of Botswana is silent on gender. The same was found at the district level through the Office of the District Commission. Gender is also silent in the Chobe district's disaster management plan.

Just like many other patrilineal cultures in Africa, Botswana's local leadership is dominated by men. The findings reveal that women are not part of discussions and decision-making processes in the Kgotla. This is the platform where all the important decisions are made concerning the community. The government of Botswana utilises what is called a holistic approach, so there is no gender-specific approach in DRR policy and practice in Botswana.

Recommendations

- The government of Botswana should involve people at the grassroots level in planning and policy-making for DRR. The government should take the initiative to employ a bottom-up approach (people inclusive), rather than just employing top-down approach in coming up with decisions that will affect people in DRR processes. This can be done by creating support groups where both men and women are able to share ideas and work together in DRR initiatives.
- Creating mother groups where women can work together as an alternative means to enhance their participation in community disaster risk reduction initiatives can empower them to come together to share ideas and make decisions that can inform the government of their needs through the ODC.
- The government of Botswana should ensure that men are also included in the process of involving and empowering women to take active roles in DRR initiatives. Through the office of the ODC, the Chobe district can use male champions to take a leading role in empowering women to participate in various DRR and development initiatives in the district.

- Public awareness should be created through campaigns that address various cultural, social, political and economic barriers that influence men and women's vulnerability. The reports from this public awareness campaign can be used to inform the government of Botswana through ODC to address the impact of disasters for both men and women.
- When it comes to disaster strategies, the government should ensure that the economic activities in the Chobe district are regulated to mitigate the effects that comes from a shortage of land.
- There are already laws to bring gender equality. These should be used to address gender stereotypes and cultural connotations that hinder women's participation in DRR. The government should address cultural these connotations through public awareness using radios.

5.3.4 Objective 4: To assess the significance of a gendered approach to disaster risk reduction policy and practice in Chobe district of Botswana.

Findings

Based on the findings, the study has found that gender is an integral part of DRR, including a gendered approach in Chobe district is very important because it is one thing that can help men and women in the district to have equal and equitable platforms in mitigating the impact of disasters. Women possess skills and abilities just like men, employing gendered approach in DRR means that women contribution cannot be overlooked rather their efforts and contribution can be recognized and utilized to bring positive change in Chobe district. In the same light, men vulnerabilities that are often overlooked can also be addressed because gendered approach looks at both men and women. Employing gender approach in DRR policy and practice is what can encourage women to actively participate in DRR policy and practice processes in Chobe district.

The study discovered that women in Chobe district are a powerful resource that is often neglected due to various social, political, economic and environmental constraints among others. Besides the cultural connotations and gender stereotypes that marginalise women, the study found that women possess essential skills and abilities that can be used to curb impact of disasters in Chobe district. This study has revealed that men and women have different needs and wants, holistic approach to DRR does not address the needs of men and

women effectively. Through the findings, the study has shown that employing gendered approach in policy and practice can effectively assist to address devastating impact of disasters. If both men and women needs are specifically accommodated in both policy and practice it can help reduce vulnerabilities of women who are often disproportionately affected and also incorporate men needs that are overlooked (See section, 4.9). In case of a disaster, women are better placed as the first responders, this is because majority of women in the district stay at home. Therefore, including gendered approach in DRR is very significant because it means women will be involved rather than be treated as passive observers.

Recommendation

- The government of Botswana through NDMO should take the initiative to employ a gendered approach in policy and practice at grassroots level. Instead of employing a holistic approach the Chobe district through the NDMO should incorporate a gendered approach in Chobe district disaster management plan to fill the gaps brought about cultural, social and economic factors.
- Authorities in Chobe district and Botswana at large should see to it that, gendered approach is applied in policy and practice at all levels. The government of Botswana should embark on campaign through the Chobe district disaster management committee to capacitate and train disaster practitioners and various stakeholders about the importance of incorporating gender in DRR.
- The government of Botswana should also advocate for equal representation of genders in key decision making platforms like in Kgotla and district disaster management committees forum.
- The NDMO through Chobe district council should to conduct awareness program to sensitise the community on the importance of gender equality. This will improve quality of lives especially for those that are often marginalised. Employing social behaviour change communication to educate residents can help to address deep rooted cultural values and connotations that marginalise women and in some instances men.

5.4 Recommendations for future research

The study recommends the following areas for future research:

- examining a gendered approach in Botswana's legislative frameworks and DRR policies;

- assessment of the impact of disasters on vulnerable groups: the young, the elderly, the disabled and key populations;
- a gendered approach to community-based disaster risk reduction; and
- an evaluation of DRR policy development, planning and implementation.

5.5 Limitations of the study

The study only focused on men and women overlooking the effects of disasters on adolescent girls and young women (AGYW), children, disabled, the elderly and other vulnerable groups like refugees and key populations (LGTBI).

5.6 Concluding remarks

The emancipation and empowerment of women cannot be restricted when it comes to mitigating and managing the impact of disasters, it should cover the whole scope of societal issues, including disaster risk reduction. In the 21st century men and women should equally partake in the socio-economic, political and cultural activities in their areas as equal residents and citizens. Gender is an integral part of DRR, the findings of this study reveal that gender integration is very important, especially in the Chobe district of Botswana.

Gender mainstreaming is needed to get women equally involved in DRR policies, plans and implementation. Women have the capacity and ability to get involved and contribute to DRR, the government should just ensure that women are actively involved in community DRR in the Chobe district and elsewhere in Botswana. Once women are involved, their contribution to DRR would not be overlooked, and this would help bring positive change. Employing a gendered approach to DRR can create an equitable platform without barriers where men and women can freely share ideas and work together to mitigate disasters.

A gendered approach can help to get ahead of the myth that gender is only about women. A large majority of women are marginalised, but men's needs should also be taken into consideration. Employing a gendered approach in policy and practice can effectively assist in DRR because if both men and women's needs are specifically provided for in both policy and practice, it can help reduce vulnerabilities that come from various gendered aspects. Women are a powerful resource that is often neglected in DRR. It is very important for authorities in Botswana to incorporate and ensure that a gendered approach is implemented at all levels. In the short, in the medium and long run, it is the equal and active involvement of both ends of the gender spectrum that would help

communities like those in the Chobe district of Botswana to learn to forecast, prepare, prevent, cope or mitigate the impact of disasters.

REFERENCE LIST

- Adger, W.N. 2006. Vulnerability. *Global environmental change*, 16(3):268–281.
- Aguilar, L. 2009. *How natural disasters affect women*. <https://www.iucn.org/content/how-natural-disasters-affect-women> Date of access: 20 Oct. 2017.
- Alley Dog. 2016. *Definition of observation*.
<http://www.alleydog.com/glossary/definition.php?term=Empirical%20Investigation#ixzz45oPrr4eu> Date of access: 17 Apr. 2016.
- Annum, G. 2015. *Research instrument for data collection*.
https://www.academia.edu/11695245/RESEARCH_INSTRUMENT_FOR_DATA_COLLECTION Date of access: 17 Apr. 2016.
- Ariyabandu, M.M. 2005. *Addressing gender issues in humanitarian practice: tsunami recovery*. <https://duryognivaran.files.wordpress.com/2013/06/gender-in-humanitarian-practice1.doc> Date of access: 4 March 2019.
- Ariyabandu, M.M. 2009. Sex, gender and gender relations in disaster. (In Enarson, E. & Chakrabarti, P.G.D., eds. *Women, sex and gender*. New Delhi: Sage. p. 5–17).
- Ariyabandu, M.M & Foenseka. 2006. “Do disasters discriminate?” In Duryog Nivara. e.d., *South Asia Network for Disaster Mitigation: Tackling the tides and Tremors*, pp.23-40. South Asia disaster report 2005. Islamabad.
- Austin, W. & Boyd, M.A. 2010. *Psychiatric and mental health nursing for Canadian practice*. Toronto: Lippincott Williams & Wilkins.
- APWLD (Asia Pacific Forum on Women, Law and Development). 2005. “Why are women more vulnerable during disasters? Violations of women’ shuman rights in the tsunami aftermath”, Asia Pacific Forum on Women, Law and Development, Chiangmai http://iknowpolitics.org/sites/default/files/tsunami_report_oct2005.pdf Date of access: 6 June, 2019.
- Aysan, Y.F. 1993. *Keynote paper: vulnerability assessment*. (In Merriman, P. & Browitt, C., eds. *Natural disasters: protecting vulnerable communities*. London: ICE. p. 1–14).
- Babbie, E. 2007. *The practice of social research*. 4th Edition, Thompson Wadsworth, Belmont.
- Babbie, E.R. 2014. *The basics of social research*. 6th ed. Wadsworth, OH: Cengage Learning.

Bhattacharjee, A. 2012. *Social Science Research: Principles, Methods, and Practices*. 2nded. Open Access Textbooks. https://scholarcommons.usf.edu/cgi/viewcontent.cgi?referer=https://scholar.google.com/&httpsredir=1&article=1002&context=oa_textbooks Date of access: 8 August, 2018.

Bern, C., Sniezik, J., Mathbor, G.M., Siddiqi, M.S., Ronsmans, C., Chowdhury, A.M., Choudhury A.E., Islam, K., Bennish M. & Noji, E. 1993. Risk factors for mortality in the Bangladesh cyclone of 1991. *Bulletin of the World Health Organization*, 71(1):73–78.

Birkmann, J. 2006. *Measuring vulnerability to promote disaster-resilient societies: conceptual frameworks and definitions*. (In Birkmann, J., ed. *Measuring vulnerability to natural hazards: towards disaster resilient societies*. Tokyo: United Nations University. p. 9–54).

Blackstone, A.M. 2003. *Gender roles and society*. (In Miller, J.R., Lerner, R.M. & Schiamberg, L.B., eds. *Human ecology: an encyclopaedia of children, families, communities, and environments*. Santa Barbara, CA: ABC-CLIO. p. 335–338).

Blaikie, N.W.H. 2000. *Designing social research: the logic of anticipation*. Boston, MA: Polity Press.

Bradshaw, S. 2004. *Socio-economic impacts of natural disasters: A gender analysis*. Santiago, Chile: United Nations. https://books.google.mw/books?hl=en&lr=&id=PF5SMdpYFnDwC&oi=fnd&pg=PA5&dq=Socio-economic+impactsof+natural+disasters:+a+gender+analysis+Sarah+Bradshaw+2004&ots=kRHZHTXOD0&sig=hLQGt-rEfvizDnUr3l2pPtMqd6s&redir_esc=y#v=onepage&q=Socio-economic%20impactsof%20natural%20disasters%3A%20a%20gender%20analysis%20Sarah%20Bradshaw%202004&f=false Date of access: 7 Nov, 2017.

Bodenhamer, M. 2011. *Mid-term review of the Hyogo Framework for Action: An internal analysis of key findings submitted to the UN ISDR by World Vision International*. http://www.unisdr.org/files/18197_mtrwv.pdf Date of access: 15 Aug. 2016.

Boeije, H.R. 2010. *Analysis in qualitative research*. London: Sage.

Botswana Tourism Organisation. 2013. Kasane. <http://www.botswanaturism.co.bw/destination/kasane> Date of access: 1 Jun. 2016.

Boyce, J.K. 2000. *Let them eat risk? Wealth, rights and disaster vulnerability*. *Disasters*, 24(3):254–261.

- Bravo-Baumann, H. 2000. *Capitalisation of experiences on the contribution of livestock projects to gender issues*. Working Document. Bern: Swiss Agency for Development and Cooperation.
- Brown, C. 2010. *The 21st century urban disasters*.
https://www.globalcommunities.org/publications/21st_century_urban_disaster-global-communities.pdf Date of access: 9 May 2016.
- Canning, K. 2006. *Gender history in practice: historical perspectives on bodies, class and citizenship*. Ithaca, NY: Cornell University Press.
- Carver, T. 1996. *Gender is not a synonym for women*. Boulder, CO: Lynne Rienner.
- Ciampi, M.C., Gell. C., Lasap, L. & Turvill, E. 2011. *Gender and disaster risk reduction a training pack*. Oxford: Oxfam.
https://reliefweb.int/sites/reliefweb.int/files/resources/Full_report_116.pdf Date of access: 12 Oct. 2016.
- Clough, P. and Nutbrown, C. (2012). *A student's guide to methodology*. 3rd ed. London: SAGE.
- Cohen, D. & Crabtree, B. 2006. *Qualitative research guidelines project*.
<http://www.qualres.org/HomeObse-3594.html> Date of access: 15 Apr. 2016.
- Coutrix, S. 2015. Disaster risk reduction is everybody's business, "Says the UN chief".
<http://www.unmultimedia.org/radio/english/2015/03/disaster-risk-reduction-is-everybodys-business-says-un-chief/#.WfWrNWicZlU> Date of access: 12 Sep. 2016.
- Creswell, J. W. 2007. *Qualitative inquiry & research design: Choosing among five approaches* 2nd ed. Thousand Oaks, CA: Sage
- Creswell, J.W. 2013. *Qualitative inquiry and research design: Choosing among five approaches*. 3rd ed. Thousand Oaks, CA. Sage.
- Creswell, J. W. 2014. *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. 4th ed. Thousand Oaks, CA: Sage.
- Cutter SL, Boruff BJ, Shirley WL .2003. *Social vulnerability to environmental hazards*. Soc Sci Quarterly 84(2):242–261
- Dankelman, I. 2008. *The issues at stake: gender, climate change and human security*. (In Grossman, A. & Owren, C., eds. *Gender, climate change and human security: lesson from Bangladesh, Ghana and Senegal*. The Women's Environment and Development Organisation (WEDO), ABANTU for Development in Ghana, ActionAid Bangladesh and ENDA in Senegal).

- Davis, A. Postles, C., & Rosa, G. 2013. *A girl's right to say no to marriage: working to end child marriage and keep girls in school*. <https://plan-uk.org/file/en-a-girls-right-to-say-no-to-marriage-fullreport-web-32000722pdf/download?token=BE80wUIB> Date of access: 13 Aug, 2017.
- Davis, J.R., Wilson, S., Brock-Martin, A., Glover, S. & Svendsen, E.R. 2010. The impact of disasters on populations with health and health care disparities. *Disaster medicine and public health preparedness*, 4(1):30–38.
- De Vos, A.S., Strydom, H., Fouché, C.B. and Delpont, C.S.L. 2005 *Research at Grass Roots: For the Social Science Professionals*. 3rd Edition, Van Schaik, Pretoria.
- De Vos, A., Strydom, H., Fouché, C.B & Delpont. 2011. *Research at grassroots: for the social sciences and human service professions*. 4th ed. Pretoria: Van Schaik.
- Denzin, N.K. & Lincoln, Y.S. 2011. *Introduction: the discipline and practice of qualitative research*. (In Denzin, N.K. & Lincoln, Y.S., eds. *The Sage handbook of qualitative research*. 4th ed. Thousand Oaks, CA: Sage. p. 1–19).
- Depoy, E. & Gilson, S. 2008. *Evaluating practice: how to do good evaluation research in work settings*. New York: Routledge Taylor & Francis Group.
- DFID (Department for International Development). 2004. *Disaster risk reduction: a development concern, a scoping study on links between disaster risk reduction, poverty and development*. London.
- DFID (Department for International Development). 2006. *Reducing the risk of disasters—helping to achieve sustainable poverty reduction in a vulnerable world: A DFID policy paper*. London.
- Ding, Y., Hayes, M.J. & Widhalm, M. 2010. Measuring economic impact of drought: a review and discussion. *Disaster prevention and management: an international journal*, 20(4):434–446.
- Dowling, P. & Brown, A. 2010. *Design research/reading research: re-interrogating education*. 2nd ed. New York, NY: Routledge.
- Dube, O.P. & Mafoko, J.G. 2009. *Botswana case study*. (In UNEP [United Nations Environment Programme]. *Africa environment outlook case studies: impacts of fires on the environment*. Nairobi: UNEP. p. 7–17).
- Eckert, P. & McConnell-Ginet, S. 2013. *Language and gender*. 2nd ed. Cambridge: Cambridge University Press.

- Enarson, E. 1998. *Through women's eyes: a gendered research: agenda for disaster social science*. *Disasters*, 22(2):157–173.
- Enarson, E. 2009. *Women, gender & disaster: men & masculinities*. https://www.gdnonline.org/resources/GDN_GenderNote3_Men&Masculinities.pdf Date of access: 27 Jan. 2017.
- Enarson, E. 2012. *Women confronting natural disasters: from vulnerability to resilience*. London: Lynne Rienner.
- Enarson, E. & Chakrabarti, P.G.D., eds. 2009. *Women, gender and disaster: global issues and initiatives*. New Delhi: Sage.
- Enarson, E. & Morrow, B.H., eds. 1998. *The gendered terrain of disaster: through women's eyes*. London: Praeger.
- European Commission. 2005. *Equal guide on gender mainstreaming (Employment and social affairs)*. Luxembourg: Office for Official Publications of the European Communities.
- FAO (Food and Agricultural Organisation). 1997. *Gender: the key to sustainability and food security*. <http://www.fao.org/News/1997/introG-e.htm> Date of access: 26 July 2017.
- Ferris, Elizabeth, Daniel Petz and Chareen Stark. 2013. *The Year of Recurring Disasters: A Review of Natural Disasters in 2012. The Brookings Institution – London School of Economics, Project on Internal Displacement*. https://www.brookings.edu/wp-content/uploads/2016/06/Brookings_Review_Natural_Disasters_2012-2.pdf Date of access: 7 September, 2019.
- Fothergill, A. 1998. *The neglect of gender in disaster work: an overview of the literature*. (In Enarson, E. & Morrow, B.H., eds. *The gendered terrain of disaster*. London: Praeger. p. 11–25).
- Gaillard, J.C. 2010. Vulnerability, capacity, and resilience: perspectives for climate and development policy. *Journal of international development*, 22(2):218–232.
- Gaye, A., Klugman, J., Kovacevic, M., Twigg, S., and E. Zambrano. 2010. “*Measuring Key Disparities in Human Development: The Gender Inequality Index*.” Human Development Research Paper 46. UNDP–HDRO, New York.
- Ginige, K., Amaratunga, D. & Haigh, R. 2009. Mainstreaming gender in disaster reduction: why and how? *Disaster prevention and management: an international journal*, 18(1):23–34.
- Gibbs L. Kealy M. Willis K. Green J. Welch N. Daly J. 2007. *What have sampling and data collection got to do with good qualitative research?* Australian and New Zealand Journal of

Public Health, 31(6), 540–544. <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1753-6405.2007.00140.x> Date of access: 18 Nov, 2019.

Government of Botswana. 2012. *The revised Botswana National Policy on HIV and AIDS*.

<http://www.bw.undp.org/content/dam/botswana/docs/HIVAIDS/Botswana%20HIV%20and%20AIDS%20Policy%202012.pdf> Date of access: 18 Nov. 2017.

Greeff, M. 2007. *Information collection: interviewing*. (In De Vos, A.S., Strydom, H., Fouché, C.B. & Delpont, C.S.L. Research at grass roots: for the social science and human service professions. Pretoria: Van Schaik).

Grinnell, R.M., Jr. & Unrau, Y.A. 2005. *Social work research and evaluation: Quantitative and qualitative approaches*. 7th ed. New York: Oxford University Press.

Hall, B. 2013. Don't be a dead hero.

http://www.slate.com/articles/health_and_science/science/2013/05/rescuers_turning_into_victims_lessons_from_first_responders_on_saving_people.html Date of access: 10 Feb. 2017.

Habtezion, S. 2013. Gender and disaster risk reduction. United Nations Development Programme 304 East 45th Street, New York, NY 10017, USA www.undp.org/gender. <https://www.undp.org/content/dam/undp/library/gender/Gender%20and%20Environment/PB3-AP-Gender-and-disaster-risk-reduction.pdf> Date of access: 4 Nov, 2017.

Hannigan J. 2012. *Disasters without borders: international politics of natural disasters*. Boston, MA: Polity Press.

Hart, C. 1998. *Doing a literature review: releasing social science research imagination*. Thousand Oaks, CA: Sage.

Hay, J.E. 2009. Institutional and policy analysis of disaster risk reduction and climate change adaptation in Pacific Island countries.

http://www.unisdr.org/files/18869_institutionalandpolicyanalysisofdr.pdf Date of access: 10 Apr. 2016.

Hennink, M.M. (2007) *International Focus Group Research: A Handbook for the Health and Social Sciences*, Cambridge University Press, 280pp.

Hoffman, S.M. 1999. *Anthropology and the angry earth: an overview*. (In Oliver-Smith, A. & Hoffmann, S.M., eds. *The angry earth: disasters in anthropological perspective*. New York, NY: Routledge. p. 1–16).

Hox J, & Boeije H (2005) Data collection, primary vs. secondary.pdf. *Encycl Soc Meas* 1:593–599 http://www.joophox.net/publist/ESM_DCOL05.pdf Date of access: 5 September 2018.

ICSU (International council for science). 2005. Natural and human-induced environmental hazards: report from the ICSU scoping group. <https://www.unisdr.org/2005/task-force/tf-meetings/12th-TF-mtg/item3-ICSU.pdf> Date of access: 29 Sep. 2016.

IDNDR (International Decade for Natural Disaster Reduction). 1994. Yokohama strategy and plan of action for a safer world: Guidelines for natural disaster prevention, preparedness and mitigation. http://www.unisdr.org/files/8241_doc6841contenido1.pdf Date of access: 7 July, 2019.

IFRC (International Federation of Red Cross and Red Crescent Societies). 2007a. Yokohama strategy and plan of action for a safer world guidelines for natural disaster prevention, preparedness and mitigation. World Conference on Natural Disaster Reduction Yokohama, Japan, 23-27 May 1994. <http://www.ifrc.org/Docs/idrl/I248EN.pdf> Date of access: 18 Mar. 2017.

IFRC (International Federation of Red Cross and Red Crescent Societies). 2007b. World Disasters Report—Discrimination. <http://www.ifrc.org/PageFiles/99876/2007/WDR2007-English-1.pdf> Date of access: 16 May. 2017.

IISD (International Institute for Sustainable Development). 2015. The World Conference on Disaster Reduction, 18–22 January 2005. *Earth negotiations bulletin*, 26(4). <http://enb.iisd.org/vol26/enb2604e.html> Date of access: 20 Feb. 2017.

Irshad, H., Mumtaz, Z. & Levay, A. 2012. Long-term gendered consequences of permanent disabilities caused by the 2005 Pakistan earthquake. *Disasters*, 36(1):452–464.

ISDR (International Strategy for Disaster Reduction). 2001. Environmental management and the mitigation of natural disasters: a gender perspective. http://www.un.org/womenwatch/daw/csw/env_manage/documents/EGM-Turkey-final-report.pdf Date of access: 12 Apr. 2016.

ISDR (International Strategy for Disaster Reduction). 2007a. Gender perspective: Working together for disaster risk reduction. <http://reliefweb.int/report/world/gender-perspective-working-together-disaster-risk-reduction-good-practices-and-lessons> Date of access: 12 Jun. 2016.

ISDR (International Strategy for Disaster Reduction). 2007b. Hyogo Framework for Action (2005–2015): building the resilience of nation and communities to disasters. Geneva: United Nations.

ISDR (International Strategy for Disaster Reduction). 2007c. Words into action: a guide for implementing the Hyogo Framework. Geneva: United Nations.
http://www.unisdr.org/files/594_10382.pdf Date of access: 16 Nov. 2016.

ISDR (International Strategy for Disaster Reduction). 2008a. Disaster risk reduction strategies and risk management practices: critical elements for adaptation to climate change. <http://www.unhcr.org/4a1e4f782.pdf> Date of access: 10 Jan. 2016).

ISDR (International Strategy for Disaster Reduction). 2008b. Environment and disaster risk emerging perspective.
http://www.preventionweb.net/files/624_EnvironmentanddisasterriskNov08.pdf Date of access: 15 Apr. 2016.

ISDR (International Strategy for Disaster Reduction). 2009. The disaster risk reduction process: a gender perspective.
<https://www.preventionweb.net/english/hyogo/gar/background-papers/documents/Chap5/thematic-progress-reviews/UNISDR-Summary-of-Gender-&-DRR-worldwide.doc> Date of access: 4 June 2016.

Jayawardena, A.W. 2015. Hydro-meteorological disasters: causes, effects and mitigation measures with special reference to early warning with data driven approaches of forecasting. *Procedia IUTAM*, 17(2015):3–12.

Juana, J.S., Makepe, P.M., Mangadi, K.T. & Narayana, N. 2014. Socioeconomic impact of drought in Botswana. *International journal of environment and development*, 11(1):43–60.

Kitzinger, J. 2005. *Focus Group Research: Using Group Dynamics to Explore Perceptions, Experiences and Understandings*. In: Holloway, I., Ed., *Qualitative Research in Health Care*, Open University Press, Maidenhead, 56-70

Kumar, R. 2005. *Research methodology: a step-by-step guide for beginners*. London: Sage.

Kumar, R. 2011. *Research methodology: a step by step guide for beginners*. 3rd ed. London: Sage.

Kumar, R. 2014. *Research methodology: a step-by-step guide for beginners*. 4th ed. London: Sage.

- Kumbetoglu, F.B. & User, I. 2010. *Gender aspects of the disaster recovery process*. (In Dasgupta, S., Siriner, I. & De, P.S., eds. *Women's encounter with disaster*. London: Frontpage. p. 22–55).
- Dasgupta S, Siriner I, Sarathi P, editors. 2010. *Women's Encounter with Disaster*. London, UK: Front Page Publications.
- Khosla, P., Wijk, V.C., Verhagen, J., & James, V. 2004. *International Water and Sanitation Centre*.
- https://www.ircwash.org/sites/default/files/2004_10_top_gender_and_water.pdf Date of access 6 June, 2019.
- Kothari, C. R. 2005. *Research Methodology: New Age International*. 3rd Ed. London: Longman Publishers.
- Kuzel, A.J. 1992. *Sampling in qualitative inquiry*. (In Crabtree, B.F. & Miller, W.L., eds. *Doing qualitative research*. Newbury Park, CA: Sage. p. 31–44).
- Leaning, J. & Guha-Sapir, D. 2013. *Natural disasters, armed conflict, and public health*. *New England journal of medicine*, 369(19):1836–1842.
- Liamputtong, P. 2011. *Focus group methodology: principles and practice*. Thousand Oaks, CA: Sage.
- Liang, Z. 2012. *A reflection on gender mainstreaming in disaster risk reduction*. Lund: Lund University. (Dissertation–Masters).
- Manandhar, R. & McEntire, D.A. 2014. *Disasters, development, and resilience: exploring the need for comprehensive vulnerability management*. (In Kapucu, N. & Liou, K.T., eds. *Disaster and development: examining global issues and cases*. New York, NY: Springer. p. 19–37).
- Manthe-Tsuaneng, M. 2014. *Drought conditions and management strategies in Botswana*. Ministry of Environment, Wildlife and Tourism.
- http://www.droughtmanagement.info/literature/UNW-DPC_NDMP_Country_Report_Botswana_2014.pdf Date of access: 16 Nov. 2017.
- Marshall, C. & Rossman, G.B. 1995. *Designing qualitative research*. London: Sage.
- Maxwell, J.A. 2013. *Qualitative research design: an interactive approach*. 3rd ed. Thousand Oaks, CA: Sage.
- Mehta M. 2007. *Gender Matters: Lessons for Disaster Risk Reduction in South Asia*. Kathmandu, Nepal: ICIMOD [International Centre for Integrated Mountain Development]

<http://lib.riskreductionafrica.org/bitstream/handle/123456789/1448/gender%20matters.%20lessons.pdf?sequence=1> Date of access: 16 Sept, 2017.

Mishra, P. 2009. *Let's share the stage: involving men in gender equality and disaster risk reduction*. (In Enarson, E. & Chakrabarti, P.G.D., eds. *Women, sex and gender*. New Delhi: Sage).

Mohney, G. 2016. *9/11 First responders battle toxic exposures 15 years later*. ABC news, 11 Sep. <https://abcnews.go.com/Health/911-responders-battle-toxic-exposures-15-years/story?id=41981426> Date of access: 18 Nov. 2017.

Mookodi, G. 2000. *The Complexities of Female Household Headship in Botswana*. Pula: Botswana Journal of African Studies 14 (2):148-164

Moser, C. & Moser, A. 2005. Gender mainstreaming since Beijing: a review of success and limitations in international institutions. *Gender and development*, 13(2):11–22.

Munir, S. 2016. *Why mobilizing women's leadership is critical to disaster risk reduction*. <https://www.oxfam.ca/blogs/why-mobilizing-women%E2%80%99s-leadership-is-critical-to-disaster-risk-reduction> Date of access: 16 Feb. 2017.

Mutize, T.A.S. 2015. *Assessing Botswana's preparedness in dealing with natural disasters*. *South American journal of international research*, 2(1):1–16.

Neumayer, E. & Plümper, T. 2007. The gendered nature of natural disasters: the impact of catastrophic events on the gender gap in life expectancy, 1981–2002. *Annals of the Association of American Geographers*, 97(3)551–566.

Neuman, W.L. 2006. *Social research methods: qualitative and quantitative approaches*. New York: Pearson Allyn and Bacon.

Nieuwenhuis, J. 2010. *Analysing qualitative data* In Maree, K., ed. *First steps in research*. Pretoria: Van Schaik. p. 98-122)

Nunn, P.D., Hunter-Anderson, R., Carson, M.T., Thomas, F., Ulm, S. & Rowland, M.J. 2007. Times of plenty, times of less: last-millennium societal disruption in the Pacific Basin. *Human ecology*, 35(4):385–401.

ODPM (Office of Disaster Preparedness and Management). 2013. *Vulnerability and risk*. <http://www.odpm.gov.tt/node/162> Date of access: 10 March 2017.

O'Keefe, P., Westgate, K. & Wisner, B. 1976. Taking the naturalness out of natural disasters. *Nature*, 260(1):566–567.

- Omari, K. 2010. *Climate change vulnerability and adaptation preparedness in Southern Africa: a case study of Botswana*. Cape Town: Heinrich Böll Stiftung.
- Patton, M.Q. 2002. *Qualitative research and evaluation methods*. 3rd ed. Thousand Oaks, Calif.: Sage.
- Peterson, V.S. & Runyan, A.S. 2014. *Global gender issues in the new millennium*. Boulder, CO: Westview Press.
- Pelling, M. & Wisner, B. 2009. *Disaster risk reduction: Cases from urban Africa*, Earthscan, London.
- Rajasekar, R., Philominathan, P. & Chinnathambi, V. 2013. *Research methodology*. <http://arxiv.org/abs/physics/0601009v3> Date of access: 16 Apr. 2016.
- Richards, L. 2005. *Handling qualitative data: a practical guide*. London: Sage.
- Ridley, D. 2012. *The literature review: a step by step guide for student*. 2nd ed. London: Sage.
- Roller, M.R. & Lavrakas, P.J. 2015. *Applied qualitative research design 2015*. New York: Guilford Press.
- Ross, P. 2014. Why gender disaster data matters: 'In some villages, all the dead were women'. *The Guardian*, 8 Sep. <https://www.theguardian.com/global-development-professional-humanitarian-response-data-gender> Date of access: 15 June 2017.
- Royse, D. 2004. *Research methods in social work*. London: Thomson Brooks/Cole.
- Ruth, M. & Ibararan, E.M., eds. 2009. *Distributional impacts of climate change and disasters: concepts and cases*. Cheltenham: Edward Elgar.
- Saidulu, B.B. 2013. Vulnerabilities to disasters and disaster preparedness. *Madhya Pradesh journal of social sciences*, 18(2):112–122.
- Sarantakos, S. 2013. *Social research. 4th ed. New York, NY: Palgrave Macmillan*.
- Schwandt, T.A. 2007. *The dictionary of qualitative research*. 3rd ed. Thousand Oaks, CA: Sage.
- Sedgwick, P. 2013. *Snowball sampling*. https://www.researchgate.net/publication/291162231_Snowball_sampling/download Date of access 31 May, 2019.
- Siyabona Africa. 1998. Kasane. http://www.botswana.co.za/africa_kasane.html Date of access: 1 Jun. 2016.

- Simon, M. K. (2011). *Dissertation and scholarly research: Recipes for success* (2011 Ed.). Seattle, WA, Dissertation Success, LLC.
- Smith, H.W. 1991. *Strategies of social research*. 3rd ed. Orlando, FL: Holt, Rinehart and Winston.
- Statistics Botswana. 2013. *Preliminary results Botswana AIDS impact survey IV*. <http://www.statsbots.org.bw/sites/default/files/BAIS%20IV%20PRELIMINARY%20RESULTS%20Nov%202013%281%29.pdf> Date of access: 20 Nov. 2017.
- Statistics Botswana. 2015. *Botswana environment statistics water and climate digest*. <http://www.statsbots.org.bw/sites/default/files/publications/Environment%20Statistic%20Water%20%26%20Climate%20Digest%202015.pdf> Date of access: 16 Nov. 2017.
- Strauss, A., & Corbin, J. 1990. *Basics of qualitative research: Grounded theory procedures and techniques*. Newbury Park, CA: Sage Publications, Inc.
- Stewart, D.W., Shamdasani, P.N. & Rook, W.D. 2007. *Focus groups: theory and practice*. 2nd ed. Thousand Oaks, CA: Sage.
- Strydom, H. 2011. *Participatory action research*. In: DE VOS, A.S., STRYDOM, H., FOUCHÉ, C.B. & DELPORT, C.S.L. eds. *Research at grass roots: for the social sciences and human service professions*. Pretoria: Van Schaik Publishers, 491-506.
- Struwig, F.W. & Stead, G.B. 2001. *Planning, designing and reporting research*. Cape Town: Maskew Miller Longman.
- Tadesse, D. 2010. *The impact of climate change in Africa*. <https://www.issafrica.org/uploads/Paper220.pdf> Date of access: 10 Apr. 2016.
- Thomas, V. & Lopez, R. 2015. Asian Development Bank (ADB) <https://www.adb.org/sites/default/files/publication/176899/ewp-466.pdf> Date of access: 31 May, 2019.
- Tsacoyeanes, J. 2017. *Natural disasters: unequal effects on men and women*. <https://ampglobalyouth.org/students/natural-disasters-unequal-effects-on-men-and-women/> Date of access: 20 Jun. 2017.
- Twigg, J. 2004. *Disaster risk reduction: mitigation and preparedness in development and emergency programming*. London: Overseas Development Institute.
- Twigg, J. 2015. *Disaster risk reduction*. London: Overseas Development Institute.

UN (United Nations). 1994. *The Yokohama strategy and plan of action for a safer world*. <http://unpan1.un.org/intradoc/groups/public/documents/apcity/unpan029311.pdf> Date of access: 27 Sep. 2016.

UN (United Nations). 1997. *Report of the Economic and Social Council for the year*. New York, NY.

UN (United Nations). 2005a. *Hyogo Framework for Action (2005-2015): Building the resilience of nations and communities to disasters*. Geneva.

UN (United Nations). 2005b. *Strategic directions for the ISDR system to assist the implementation of the Hyogo Framework for Action 2005-2015: building the resilience of nations and communities to disasters*. Geneva.

UN (United Nations). 2015. Gender responsive disaster risk reduction: a contribution by the United Nations to the consultation leading to the Third UN World Conference on Disaster Risk Reduction version 2. https://reliefweb.int/sites/reliefweb.int/files/resources/40425_gender.pdf Date of access: 17 June, 2017.

UN (United Nations). 2005c. *Report of the world conference on disaster reduction*. Kobe, Hyogo, Japan. <http://www.unisdr.org/2005/wcdr/intergover/official-docs/Final-report-conference.pdf> Date of access: 14 Nov. 2016.

UN (United Nations). 2009. *Making disaster risk reduction gender sensitive: policy and practical guidelines*. http://www.unisdr.org/files/9922_MakingDisasterRiskReductionGenderSe.pdf Date of access: 4 May 2016.

UN (United Nations). 2015. *The world's women 2015: trends and statistics*. New York, NY.

United Nations. 2015. Sendai Framework for DRR 2015-2030

UNDP (United Nations Development Programme). 2012. HIV and AIDS. http://www.bw.undp.org/content/botswana/en/home/ourwork/hiv_aids/overview.html Date of access: 20 Nov. 2017.

UNDP (United Nations Development Programmes). 2013-2018. National disaster risk reduction strategy. <https://www.undp.org/content/dam/botswana/docs/Gov%20and%20HR/Botswana%20National%20Disaster%20Risk%20Reduction%20Strategy-April%202013.pdf> Date of access: 7 Sept, 2017.

UNDP (United Nations Development Programme). 2019. Disaster Risk Reduction. <https://www.undp.org/content/undp/en/home/2030-agenda-for-sustainable-development/planet/disaster-risk-reduction-and-recovery/disaster-risk-reduction.html> Date of access: 6 June, 2019.

UNEP (United Nations Environmental Programme). 2005a. Environmental management and disaster reduction. Session concept paper on environmental management and disaster reduction: building a multi-stakeholder partnership, Kitano Room of Portopia hotel, Kobe, Japan, 18–22 January.

UNEP (United Nations Environmental Programme). 2005b. GEO Yearbook 2004–2005: an overview of our changing environment. Nairobi.

UNISDR & CRED report (1998-2017). *Economic Losses, Poverty & Disasters*. <https://www.emdat.be/publications> Date of access: 11 June, 2019.

UNISDR (United Nations International Strategy for Disaster Reduction). 2002. *ISDR background paper for WSSD*. Geneva: United Nations.

UNISDR (United Nations International Strategy for Disaster Reduction). 2004. Terminology: basic terms of disaster risk reduction. Geneva.

UNISDR (United Nations International Strategy for Disaster Reduction). 2007. Hyogo Framework for Action 2005–2015: building the resilience of nations and communities to disasters. http://unisdr.org/files/1217_HFABrochureEnglish.pdf Date of access: 15 Sep. 2016.

UNISDR (United Nations Office for Disaster and Risk Reduction). 2009a. Making disaster risk reduction gender-sensitive policy and practical guidelines. Geneva: United Nations.

UNISDR (United Nations International Strategy for Disaster Reduction). 2009b. The disaster risk reduction process: a gender perspective. <http://www.fire.uni-freiburg.de/Manag/gender%20docs/UNISDR-Summary-of-Gender-&-DRR-worldwide.pdf> Date of access: 13 Apr. 2016.

UNISDR (United Nations Office for Disaster and Risk Reduction). 2011. UNISDR policy on gender mainstreaming in disaster risk reduction. Geneva: United Nations.

UNISDR (United Nations Office for Disaster and Risk Reduction). 2013. Annual report 2013. Final Report on 2012-2013 Biennium Work Programme https://www.unisdr.org/files/37302_annualreport2013.pdf Date of access: 15 April, 2017.

UNISDR (United Nations International Strategy for Disaster Reduction). 2015a. *Mobilizing women's leadership in disaster risk reduction: high level multi-stakeholder partnership dialogue*. <http://www.wcdrr.org/uploads/Mobilizing-Women%E2%80%99s-Leadership-in-Disaster-Risk-Reduction.pdf> Date of access: 14 May 2016.

UNISDR (United Nations International Strategy for Disaster Reduction). 2015b. *The Sendai Framework for Disaster Risk Reduction 2015–2030*. http://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf Date of access: 10 May 2016.

UNOCHA (United Nations Office for the Coordination of Human Affairs). 2009. *Regional update no. 6 – Cholera/acute watery diarrhea Outbreaks in Southern Africa*. https://www.humanitarianresponse.info/system/files/documents/files/Regional_Cholera_Update_NO.6_06_March_09_F.pdf Date of access: 20 Nov. 2017.

UNODRR (United Nations Office for Disaster Risk Reduction). 2016. *The Sendai Framework: making the difference for poverty, health and resilience*. <https://www.youtube.com/watch?v=M9m6mb-bIYM&t=13s> Date of access: 15 Apr. 2017.

Van Dijkhorst, H. & Vonhof, S. 2005. *Gender and humanitarian aid: a literature review of policy and practice*. Netherlands: Department of Disaster Studies, Wageningen University.

Valdés, H.M. 2009. *A Gender Perspective in DRR*. In: Enarson, E. and P.G. Dhar Chakrabarti (eds) *Women, Gender and Disaster. Global Issues and Initiatives*. 18-28. New Delhi: SAGE Publications India

Van Niekerk, D. 2011. *Introduction to disaster risk reduction*. African Centre for Disaster Studies, North West University, Potchefstroom South Africa.

Vatsa, K. S. & Krimgold, F. 2000. *Financing disaster mitigation for the poor*. (In Kreimer, A. & Arnold, M., eds. *Managing disaster risk in emerging economies*. Washington, DC: World Bank. p. 129–136).

Walliman, N. 2001. *Your Research Project: A Step by Step Guide for the First Time Researcher*. Sage, Thousand Oaks

Wahlström, M. 2015. New Sendai Framework strengthens focus on reducing disaster risk. *International journal of disaster risk science*, 6(2):200–201.

Wahlström, M. 2017. Social work and the Sendai Framework for Disaster Risk Reduction. *European journal of social work*, 20(3):333–336.

- Walby, S. 2005. Introduction: comparative gender mainstreaming in a global era. *International feminist journal of politics*, 7(4):453–470.
- Walter, J. 2001. *Disaster data: key trends and statistics in World Disaster Report 2001: focus on recovery*. Geneva: ICRC.
- Welman, C., Kruger, F. & Mitchell, B. 2005. *Research methodology*. 3rd ed. Cape Town: Oxford University Press.
- Weru, A. 2015. *Experts seek gender-inclusive framework for disaster risk reduction*. <https://www.unisdr.org/archive/42982> Date of access: 21 Jul. 2017.
- White, E.H. 1977. Purdah. *Frontiers: a journal of women studies*, 2(1):31–42.
- WHO (World Health Organisation). 2002. *Gender and health in disasters*. Geneva.
- WHO (World Health Organisation). 2016a. *Gender, equity and human rights*. <http://www.who.int/gender-equity-rights/en/> Date of access: 5 Apr. 2016.
- WHO (World Health Organisation). 2016b. *Gender, women and health: What do we mean by "sex" and "gender"?* <http://apps.who.int/gender/whatisgender/en/> Date of access: 31 May 2016.
- WHO (World Health Organization). 2017a. *Gender: Fact sheet No 403*. <http://www.who.int/mediacentre/factsheets/fs403/en/> Date of access: 17 Oct. 2016.
- WHO (World Health Organization). 2017b. *Malaria*. <http://www.who.int/mediacentre/factsheets/fs094/en/> Date of access: 20 Nov. 2017.
- Wisner, B. 2011. Are we there yet? Reflections on integrated disaster risk management after ten years. *Journal of integrated disaster risk management*, 1(1).
- Wisner, B., Blaikie, P., Cannon, Y. & Davis, I. 2004. *At risk: natural hazards, people's vulnerability and disasters*. 2nd ed. London: Routledge.
- Wisner, B. & Luce, H.R. 1993. Disaster vulnerability: scale, power and daily life. *GeoJournal*, 30(2):127–140.
- Wisner, B., 2016. *Vulnerability as concept, model, metric and tool*. <https://oxfordre.com/naturalhazardscience/view/10.1093/acrefore/9780199389407.001.0001/acrefore-9780199389407-e-25?print=pdf> Date of access: 12 October, 2017.
- WMO (World Meteorological Organisation). 2017. *Hyogo Framework for Action 2005–2015: building the resilience of nations and communities to disasters*. http://www.wmo.int/pages/prog/drr/resourceHFA_en.html Date of access: 28 Oct. 2017.

- World Bank. 2016. *More and better gender data: a powerful tool for improving lives*. Synopsis. <http://www.worldbank.org/en/results/2016/05/09/more-and-better-gender-data-a-powerful-tool-for-improving-lives> Date of access: 13 Oct. 2016.
- Yavinsky, R. 2012. *Women more vulnerable than men to climate change*. <https://www.prb.org/women-vulnerable-climate-change/> Date of access: 17 Nov, 2017.
- Yin, R.K. 1994. *Case study research: design and methods*. 2nd ed. Thousand Oaks, CA: Sage.
- Yin, R.K. 2016. *Qualitative research from start to finish*. 2nd ed. New York, NY: The Guildford Press.
- Zakour, M.J. & Gillespie, D.F. 2013. *Vulnerability theory*. (In Zakour, M.J. & Gillespie, D.F., eds. *Community disaster vulnerability: theory, research, and practice*. New York, NY: Springer. p. 17–35).

ANNEXURES

ANNEXURE A: TITLE REGISTRATION



Private Bag X6001, Potchefstroom
South Africa 2520

Tel: 018 299-1111/2222
Web: <http://www.nwu.ac.za>

Higher Degree Administration
Tel: 018-299 4249
Email: Marla.Raubenheimer@nwu.ac.za

08 May 2017

Dear Mr VJ Ngosi

REGISTRATION OF TITLE

At the recent Faculty Board meeting, the faculty of Natural Sciences approved your title as follows:

Gendered approach toward Disaster Risk Reduction: Case study of Chobe District, Botswana

The abovementioned title may under no circumstances be changed without consulting your supervisor/promoter and obtaining the approval from the Faculty Board.

Should you wish to submit for examination, please inform your supervisor. Upon approval of your supervisor, please submit the Notice of Submission form THREE months in advance, if you intend on submitting. The form is available at the M & D department or the administrative manager of the faculty.

Dates of submission of copies for examination:

- 17 October to 14 November for the May 2017 graduation ceremony
- 1 April to 30 April 2017 to qualify for the September/October 2017 graduation ceremony

Should you neglect to submit by 18 November 2016, the possibility exists that you will not qualify to graduate in May 2017. You will then be required to register again for 2017 to qualify for the next graduation ceremony in September/October 2017.

Your attention is drawn to the following publications / web addresses:

1. A Rules: http://www.nwu.ac.za/sites/www.nwu.ac.za/files/files/i-governance-management/policy/7P-Arules2015_e_1.pdf
2. Manual for Postgraduate Studies: Is available on the website of the Ferdinand Postma Library

We wish you a pleasant and successful period of study.

Yours sincerely

Ms M Campbell-Jacobs on behalf of Ms M Raubenheimer
FOR CAMPUS REGISTRAR

Original details: (1051217) C:\Users\10512187\Desktop\Title registration.docm
9 March 2015

File reference: 7.1.11.1

ANNEXURE B: RESEARCH PERMIT

TELEGRAMS: FULA
TELEPHONE: 3950800
TELEX: 2655 BD



REPUBLIC OF BOTSWANA

MINISTRY OF PRESIDENTIAL AFFAIRS,
GOVERNANCE AND PUBLIC
ADMINISTRATION
PRIVATE BAG 001
GABORONE

REF: OP 5/59/8 X (39)

05 May, 2017

Vincent Junior Ngosi
North-West University, Oppirif Residence, Block 2,
Room 103, Potchefstroom 2520.

Dear Sir,

APPLICATION FOR RESEARCH PERMIT

Reference is made to above subject matter.

You are herewith granted permission for research permit to conduct a study titled: **Gendered approach towards Disaster Risk Reduction: Case study of Chobe District, Botswana.**

The permit is valid for 3 months from May-July 2017.

1. Copies of any report/papers written as a result of the study are directly deposited with the Office of the President.
2. The permit does not give authority to enter any premises, private establishment or protected area. Permission for such entry should be negotiated with those concerned.
3. You conduct the project according to the particulars furnished in the approved application taking into account the above conditions.
4. Failure to comply with any of the above stipulated conditions will result in the immediate cancellation of the permit.

Thank you.

Yours faithfully,

Dr. F. J. Ramsay

For/PERMANENT SECRETARY TO THE PRESIDENT

Copied to: Director, Botswana National Library Services
Director, National Archives and Records Services

ANNEXURE C: LETTER OF CONSENT



AFRICAN CENTRE FOR DISASTER STUDIES

North-West University
PUK Campus
Private Bag X6001
Potchefstroom
2520
Tel: +27 (0)18 299 1624
Fax: +27 (0)18 293 5266
E-mail: kristel.fourie@nwu.ac.za
Web: <http://acds.co.za>

01 February 2017

Re: Mr. Vincent Ngosi Student at the North-West University as Master Of Science In Environmental Sciences With Disaster Risk Science

To whom it might concern:

Mr. Vincent Ngosi (*Student number: 25253743*) is enrolled for the qualification MSc. In Environmental Sciences With Disaster Risk Science. The main part of this qualification and the successful completion thereof relies on the student's successful completion of a year long research project. Mr. Vincent Ngosi has decided to focus his research on the differences experienced by male and females when it comes to disasters and aim to establish how gender can be taken into consideration to improve risk reduction efforts. With the African Centre for Disaster Studie's, NWU, involvement in a community based, capacity building project (EAGER Project) in Botswana and more specifically Kasane and Kachikau, Mr. Ngosi has become quite interested to focus his empirical component of his research in Kasane, Chobe District. His dissertation is therefore titled: GENDERED APPROACH TOWARDS DISASTER RISK REDUCTION: CASE STUDY OF CHOBE DISTRICT, BOTSWANA.

With the support of this letter and the accompanying application for a research permit Mr. Ngosi is seeking your permission to conduct this research during the course of this year (2017).

In terms of funding for this research Mr. Ngosi will rely on bursaries from the North-West University as well as funding from the EAGER Project due to his research being conducted in one of the countries involved in the EAGER Project.

We hope that you will find his request in order and invite you to make contact with either his supervisor or programme coordinator at any stage of the process should you need further information.



Kind Regards,
Me. Kristel Fourie
Supervisor and Lecturer: African Centre for Disaster Studies,
North-West University.
Potchefstroom Campus
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Visit our website at www.acds.co.za

ANNEXURE D: RESEARCH QUESTIONS GUIDE FOR GOVERNMENT OFFICIALS

Subject/Theme	Semi-structured questions
Trends and recurring disasters in Botswana (Disaster Risk Profile)	<p>What are the most common and recurring disasters in Botswana?</p> <p>Can you elaborate the most recent disasters that have taken place in the country?</p> <p>What are the root causes of these disasters?</p> <p>What is the current trend and frequency of disasters in the country?</p> <p>Are there any other existing factors or conditions within the country that contributes to the impact of disasters?</p> <p>How are people living in Botswana affected by these disasters?</p>
Gender and impact of disasters at district level (Chobe district).	<p>What are the most common and prevalent disasters in Chobe district (Kasane, Kachikau)</p> <p>What are the root causes of these disasters in Chobe?</p> <p>In what ways is Chobe district affected by these disasters?</p> <p>How are different genders (men and women) affected by disasters in the district?</p> <p>Follow up: Who is the most affected between men and why?</p> <p>Are there particular conditions that influence men and women to suffer differently from disasters?</p> <p>Are there any measures or policies that you have taken to address gender (men and women) issues in DRR?</p>
DRR policy and frameworks	<p>What are the mechanisms and steps that you follow to develop DRR policy and frameworks?</p> <p>Do these steps involve both men and women or does the procedure have equal presentation of both genders?</p> <p>How has gender been prioritised as area of action in your DRR policy documents?</p> <p>To what extent are the Botswana Disaster Risk Reduction statutory and policy frameworks in sync with global and regional policy frameworks?</p> <p>Follow up question: If yes has that helped address disaster risk and the mitigation of disasters?</p> <p>How do you make sure that the Botswana DRR policy documents are able to address vulnerabilities of different genders (men and women) in disaster risk reduction practice?</p> <p>What have you done to strengthen disaster risk reduction initiatives?</p>
Coordination in managing disaster risks	<p>How does the central government coordinate with the regional and local government and other stakeholders in addressing impact of disasters?</p> <p>Are there enough persons from both genders included in decision making positions so that governance of Disaster risk is</p>

Subject/Theme	Semi-structured questions
	<p>informed by both gender perspectives?</p> <p>Do men and women have the same access to power, equal rights and resources?</p>
<p>Mechanisms of gendered approach to DRR</p>	<p>Are there specific activities or initiatives that you have employed to address gender issues in DRR?</p> <p>Follow up:</p> <p>What are the mechanisms that you think can be used to employ gender in DRR policy and legislative framework?</p> <p>What is obstructing the mainstreaming of gender in Botswana policy and framework?</p> <p>If you had to describe the ideal approach to disaster risk reduction in the Chobe district how would it include gender as a priority?</p>
<p>The root causes and dynamic pressures</p>	<p>What are the factors that influence disasters and disaster risk to be worse in terms of its impact?</p>
<p>Vulnerability Influence</p>	<p>What can be done to avert men and women vulnerabilities?</p>
<p>Significance of gendered approach</p>	<p>In your opinion, what do you think is the significance of involving men and women in Disaster risk reduction?</p>

ANNEXURE E: QUESTIONS GUIDE FOR FOCUS GROUP DISCUSSIONS

Location: Chobe district, Kasane Township, Botswana.	
Subject/Theme	Discussion item
Prevalent hazards and disaster risk	<p>What are some of the disasters that are prevalent here in Chobe district (Kasane & Kachikau)? Can you list the kinds of disasters that are prevalent and have affected the area in recent years?</p> <p>How do these disasters affect people in the community?</p> <p>Between men and women who are the most vulnerable?</p> <p>Why do you think men or women are the most affected?</p> <p>In your opinion, what are the factors that contribute to the difference in impact of disasters between men and women?</p>
Overview of gendered initiatives in DRR	<p>What is your understanding of the meaning of the gender?</p> <p>Do you have an understanding of Disaster risk reduction?</p> <p>What is your knowledge of the DRR activities in Kasane/Kachikau?</p> <p>Are there facilities in the area where you are able to learn and be allowed to participate in DRR activities?</p> <p>How are men and women involved in these DRR activities in the community?</p> <p>Do you feel that both men and women are fully and equally involved in DRR initiatives?</p>
Central and Local government DRR initiatives	<p>How does the central and local government assist Kasane community in disaster risk reduction?</p> <p>Do you get adequate resources from the Central and Local government in disaster risk reduction activities?</p> <p>Are there government practitioners or any other professionals who assist men and women to work together in disaster risk reduction?</p> <p>Do you think men and women are equally placed in leadership positions in DRR initiatives in your community?</p> <p>Are there specific policies or guidelines (rules) that are followed in DRR activities in your community?</p>
Gender and DRR retrospective	<p>Is there commitment from the local government in promoting men and women participation in DRR activities?</p> <p>How do men and women relate in undertaking DRR activities?</p> <p>What are some of the barriers that prevent men and women from working together in DRR activities?</p>
Promoting gender in DRR	<p>What are the mechanisms that you think can help men and women to work and support each other in DRR activities in order to reduce disaster risk?</p> <p>In your own words, what do you think is the significance of men and women working together in DRR?</p>

ANNEXURE F: INTERVIEW GUIDE FOR DISASTER MANAGEMENT PRACTITIONERS

Disaster Management Practitioners	
Subject/Theme	Discussion/interview item
Impact of disasters	<p>What are the most recurring disasters in this area? How do these disasters affect the Chobe district? From your experiences how are men and women affected by this disasters? In your opinion, who between men and women, are the most affected by disasters? Follow up: Why are either men or men affected more by disasters? Do you get support from either the central or local government to address disaster risk?</p>
DRR Policy documents	<p>Do you have specific policy and frameworks that guide you in addressing disaster risk and impact? Are your policy documents aligned with governmental or any other international framework and policies? Do you get enough support from the central government in addressing disaster risk and impact?</p>
Gender and Disaster risk reduction	<p>What is your understanding of the term gender? How do you make sure that both men and women are involved in DRR practice in the district? How do you make sure that both men and women are given equal opportunities and platform in addressing disaster risk? Based on your experiences what do you think are the mechanism that can assist to effectively mainstream gender into DRR? What are the barriers of including men and women (mainstreaming gender) in DRR activities in the Chobe district?</p>
Government commitment and support	<p>Do you receive adequate support in terms of financial and political resources in efforts to address disaster risk and impact?</p>
Significance of gendered approach in DRR.	<p>What do you think is the significance of gendered (including men and women) approach in DRR?</p>

ANNEXURE G: INTERVIEW QUESTIONS GUIDE FOR TRADITIONAL LEADERS

Themes	Interview item
The impact and overview of disaster trends	<p>What are the most recurring disasters in your area?</p> <p>How do these disasters affect men and women in your area?</p> <p>Who are affected more from the impact of disasters between men and women (hazard)?</p> <p>Follow up question: Why are either men or women affected more?</p>
Gender and cultural aspects	<p>What is your understanding of the term gender?</p> <p>In regards to culture and traditional roles, what are the typical roles of men and women living in your area?</p> <p>Are men and women allowed to work together and interact in your area?</p> <p>As a traditional authority, have you managed to embrace the need to ensure equal rights (and participation) of women and men in the daily developmental activities of society?</p>
Managing disaster risk and disasters	<p>In times of catastrophic events (disasters) how do you help to address disaster risk in your area?</p> <p>Do you get any support from Local or central government or any other stakeholders such as non-governmental organisations?</p>
Gender mainstreaming in DRR	<p>Are men and women allowed to work together and participate in DRR activities?</p> <p>What are the mechanisms that you think can assist men and women to work together in disaster risk reduction?</p>
Challenges of gender mainstreaming in DRR	<p>What are the challenges of gender mainstreaming in DRR in your area?</p>

ANNEXURE H: DECLARATION OF LANGUAGE EDITING



Director: CME Terblanche - BA (Pol Sc), BA Hons (Eng), MA (Eng), TEFL
22 Strydom Street Tel 082 821 3083
Baillie Park, 2531 cumlaudelanguage@gmail.com

DECLARATION OF LANGUAGE EDITING

I, Christina Maria Etrechia Terblanche, hereby declare that I edited the
research study titled:

**Gendered Approach toward disaster Risk Reduction: Case Study
of Chobe District, Botswana**

for **Vincent Junior Ngosi** for the purpose of submission as a
postgraduate study for examination. Changes were indicated in track
changes and implementation was left to the author.

Regards,

A handwritten signature in black ink that reads 'CME Terblanche'.

CME Terblanche

Cum Laude Language Practitioners (CC)

South African Translators Institute acc nr: 1001066

Full member of the Professional Editors Guild