KADIR HAS UNIVERSITY
SCHOOL OF GRADUATE STUDIES
DEPARTMENT OF INTERNATIONAL RELATIONS

DO CLIMATE-RELATED NATURAL DISASTERS AFFECT THE CONFLICT DYNAMICS THROUGH AFFECTING THE HORIZONTAL INEQUALITIES?: THE CASES OF MALAWI, MOZAMBIQUE AND NIGERIA

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MASTER'S DEGREE

ISTANBUL, SEPTEMBER, 2021

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This study, titled "**DO CLIMATE-RELATED NATURAL DISASTERS AFFECT THE CONFLICT DYNAMICS THROUGH AFFECTING THE HORIZONTAL INEQUALITIES?: THE CASES OF MALAWI, MOZAMBIQUE AND NIGERIA,"** prepared by the **MİRKAN RODİ MUTLU**, was deemed successful with the **UNANIMOUS** as a result of the thesis defense examination held on the **22/09/2021** and approved as a **MASTER'S DEGREE THESIS** by our jury.

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Director of the School of Graduate Studies
APPROVAL DATE: Day/Month/Year

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LIST OF ABBREVIATIONS

ACT	Action by Churches Together International
AFORD	Alliance for Democracy
CARE	Fighting Global Poverty and World Hunger
CERF	Central Emergency Response Fund
CIAT	International Center for Tropical Agriculture
CWS	Church World Service
DDR	Disarmament, Demobilization, and Reintegration
DFID	Department for International Development
DHA	United Nations Department of Humanitarian Affairs
DHS	Demographic and Health Surveys
DPA	Deutsche Presse Agentur
DTP3	Diphtheria Tetanus Toxoid and Pertussis
DPP	Democratic Progressive Party
EISA	Electoral Institute for Sustainable Democracy in Africa
EM-DAT	The International Disasters Database
EPR	Ethnic Power Relations
FAO	Food and Agriculture Organization
FRELIMO	Mozambique Liberation Front
GFDRR	Global Facility for Disaster Reduction and Recovery
HI	Horizontal Inequality
IFPRI	International Food Policy Research Institute
IFRC	International Federation of Red Cross and Red Crescent Societies
HIS	Integrated Household Survey
INGC	National Institute of Disaster Management
IPCC	Intergovernmental Panel on Climate Change
ISIS	Islamic State of Iraq and the Levant
IUCN	International Union for Conservation of Nature
IWI	International Wealth Index
LTTE	Tamil Tigers

MCP	Malawi Congress Party
MPD	Ministry of Planning and Development
MRCS	Mozambique Red Cross Society
MRRA	Ministry of Relief and Rehabilitation Affairs
NASA	National Aeronautics and Space Administration, U.S.A
NEMA	National Emergency Management Agency
NIMET	Nigerian Meteorological Agency
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
OFDA	Office of U.S. Foreign Disaster Assistance
ONUMUZ	United Nations Operation in Mozambique
PDNA	Post-Disaster Needs Assessment
PMEL	Pacific Marine Environmental Laboratory
PMS	The Poverty Monitoring
RENAMO	The Mozambican National Resistance
SARPN	Southern African Regional Poverty Network
SHDI	Subnational Human Development Index (SHDI)
TNH	The New Humanitarian
UCDP	Uppsala Conflict Data Program
UDF	United Democratic Front
UN	United Nations
UNAPROC	Civil Protection Department
UNDAC	United Nations Disaster Assessment and Coordination
UNDP	United Nations Development Programme
UNECA	United Nations Economic Commission for Africa
UNHCR	United Nations High Commissioner for Refugees
UNIFEF	United Nations Children's Emergency Fund
UNOHAC	United Nations Office for Humanitarian Assistance Coordination
UNRC	UN Resident Coordinator's Office
UNSDR	United Nations International Strategy for Disaster Reduction
USA	United States
USAID	United States Agency for International Development
WFP	World Food Programme

WHO	World Health Organization
WMO	World Meteorological Organization

DO CLIMATE-RELATED NATURAL DISASTERS AFFECT THE CONFLICT DYNAMICS THROUGH AFFECTING THE HORIZONTAL INEQUALITIES: THE CASES OF MALAWI, MOZAMBIQUE AND NIGERIA

ABSTRACT

There is a complex relationship between natural disasters and conflict. While the literature mainly investigates this relationship through the impact of climate related-natural disasters on conflict via its effect on state capacity, economic-agricultural output, grievances and greed, there is less attention to the climate-related natural disasters' impact on conflict through affecting the horizontal inequalities. Since that the climate related-natural disasters can highly worsen the economic and social conditions in vulnerable deprived regions and less worsen the conditions in advantaged regions, climate-related natural disasters can worsen the horizontal inequalities in the country. Horizontal inequalities can increase the risk of conflict. Therefore, it is important to analyze this relationship. In this thesis, I investigate the impact of the climate-related natural disasters on conflict dynamics through affecting the horizontal inequalities. By focusing on the cases of Malawi, Mozambique and Nigeria, I think that the climate-related natural disasters increase the risk of conflict in Malawi, Mozambique and Nigeria by worsening the horizontal inequalities in these countries. On contrary to my expectation, my results show that while the climate related-disasters increased the risk of conflict in Nigeria through worsening the horizontal inequalities, they did not increase the risk of conflict in Malawi and Mozambique via horizontal inequalities. Specifically, for Mozambique, the results indicated that climate related-natural disasters did not increase the risk of conflict via horizontal inequalities since that both the advantaged and deprived regions were affected in similar levels. For Malawi, my results suggest that the despite that the climate related-natural disasters worsened the horizontal inequalities, there were no increased risk of conflict. The reason is that affected deprived people did not feel injustice or inequality. Also, the low-level horizontal inequalities affected the the peace situation in Malawi. As an important note, my findings are mainly weak and should not be understand as strong/important results. I mainly observe the relationship among the disasters-conflict-horizontal inequalities.

Keywords: climate change, climate-related natural disasters, horizontal inequality, conflict, Malawi, Mozambique, Nigeria

İKLİM'E BAĞLI DOĞAL AFETLER YATAY EŞİTSİZLİKLER ÜZERİNDEN ÇATIŞMA DİNAMİKLERİNE ETKİ EDİYOR MU?: MALAVİ, MOZAMBİK VE NİJERYA VAKALARI

ABSTRACT (ÖZET)

İklim'e bağlı doğal afetler ile çatışma dinamikleri arasında karmaşık bir ilişki vardır. Araştırmalar genellikle bu ilişkiyi iklim'e bağlı doğal afetlerin devlet kapasitesi, ekonomik etkisi, tarımsal etkisi üzerinden tartışırken, ikim'e bağlı doğal afetlerin yatay eşitsizliğe etkisi üzerine ilgi daha azdır. İklim'e bağlı doğal afetler, savunmasız, gelişmemiş ya da az gelişmiş bölgelerin ekonomik ve sosyal durumlarını daha çok etkilerken, gelişmiş ve avantajlı bölgelerin ekonomik ve sosyal durumlarını daha az etkilemektedir. Bu sebepten dolayı iklim'e bağlı doğal afetler ülkelerdeki yatay eşitsizliği kötüleştirebilir. Yatay eşitsizlikler de çatışma riskini arttırabilir. Bu sebepten dolayı bu ilişkiyi incelemek önemlidir. Bu tez, iklim'e bağlı doğal afetlerin yatay eşitsizlik üzerinden çatışma dinamiklerine olan etkisini incelemektedir. Malavi, Mozambik ve Nijerya vakalarına odaklanarak, iklim'e bağlı doğal afetlerin bu ülkelerde yatay eşitsizliği kötüleştirerek bu vakalarda çatışma riskini arttırmış olabileceğini düşünüyorum. Beklentilerime zıt olarak, sonuçlar, iklim'e bağlı doğal afetlerin yatay eşitsizlikleri kötüleştirerek sadece Nijerya'da çatışma riskini arttırdığını, fakat Malavi ve Mozambik'te arttırmadığını ortaya koydu. Mozambik genelinde, sonuçlar, iklim'e bağlı doğal afetlerin savunmasız ve gelişmiş bölgelere sıklık ve etki anlamında aynı oranda etki ettiği için yatay eşitsizliği arttırmadığını ortaya koydu. Malavi özelinde, sonuçlar, iklim'e bağlı doğal afetlerin yatay eşitsizlikleri arttırmasına rağmen, yatay eşitsizliklerin ülkedeki insanlardaki adaletsizlik ve eşitsizlik duygusunu arttırmadığı için çatışma riskini arttırmadığını destekledi. Ayrıca, Malavi'de olan düşük seviyeli yatay eşitsizliklerin de bu barış durumunu önemli ölçüde desteklediğini ortaya koydu. Çok önemli bir not olarak, bu tezde bulduğum bulgular ve bağlamalar genel olarak zayıftır ve önemli/güçlü bulgular olarak okunmamalıdır. Bu tez genel olarak doğal afetler-çatışma dinamikleri-yatay eşitsizlikler ilişkisini incelemiştir ve gözlemlemiştir.

Anahtar Sözcükler: İklim Değişikliği, ikim'e bağlı doğal afetler, yatay eşitsizlik, çatışma, Malavi, Mozambik, Nijerya

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To My Family...

1) INTRODUCTION

Climate change is one of the most important issues in the world. As IPCC confirmed, climate change is occurring, and human influence plays a major part in this change (IPCC, 2018, pp. 4-9). Specifically, the IPCC Special Report on Global Warming of 1.5ºC explained that: "Human activities are estimated to have caused approximately 1.0°C of global warming above pre-industrial levels, with a likely range of 0.8°C to 1.2°C." (IPCC, 2018, p. 4). Besides, the report has high confidence that global warming will continue if the current trend continues (IPCC, 2018, p. 4). Also, NASA explained that there are many important evidences of this rapid climate change occurring in the World (NASA, 2021a). In this context, NASA expressed that rising temperatures, warming oceans, shrinking ice sheets, retreating glaciers, rising sea levels, decreased snow covers and more frequent and intense extreme events are some of the most important evidences of this rapid climate change in the World (NASA, 2021a).

Extreme events are one of the complex issues which are affected by climate change. IPCC expressed that there are significant observable changes (contributed by climate change) in the extreme events in the world since 1950 (IPCC, 2018, p. 4). Also, NASA mentioned that extreme events (drought, hurricanes, floods) will likely to be more intense and frequent in different parts of the World as climate change progresses (NASA, 2021a). Thus, extreme events and climate change are connected with each other. As IPCC mentioned, extreme events can lead to natural disasters by interacting with exposed and vulnerable human and natural system (IPCC, 2012, pp. 1-4). Thus, it is crucial to understand both the frequency and severity of extreme events as well as the exposure and vulnerability (human influence) of the region (IPCC, 2012, pp. 1-4). Therefore, the disaster risk needs to be assessed by considering the three elements of the disaster risk, which are vulnerability, exposure level and hazard risk.

In the context of natural disasters, as the EM-DAT database expressed, there are different types of natural disasters such as geological disasters, climatological, hydrological, biological, metrological (EM-DAT, 2021). Since that this paper is focused on climate-related disasters, this paper will only focus on climate-related disasters such

as droughts, floods, hurricanes. In terms of the number of dead people, around 1 million people died due to climate-related natural disasters since 1970, according to the EM-DAT database (EM-DAT, 2021). More importantly, many research support that many people's economic and social conditions were highly deteriorated due to these disasters (Abel, Brottrager, Cuaresma, & Muttarak, 2019; Abubakar & Yamusa, 2013; Abugu & Onuba, 2015; ACT, 1997; BBC, 2015; Burke, Miguel, Satyanath, Dykema, & Lobell, 2009; Burrows & Kinney, 2016; CEDRISA, 2009; Children, 2003; Derrick, 1977; DHA, 1994a, 1997a; Etuonovbe, 2011; IPCC, 2012, 2018; Islam & Winkel, 2017; Jamet & Corfee-Morlot, 2009; Koubi, 2018, 2019; Landis, 2014; NASA, 2021b; OCHA, 2019). In terms of the occurrence of natural disasters, the EM-DAT database shows that the occurrence of climate-related natural disasters was highly increased after the 1950s (EM-DAT, 2021). Also, the EM-DAT database shows that the economic cost and damage (caused by climate-related disasters) were also increased since the 1980s (EM-DAT, 2021). Besides, while the natural disasters mostly occurred in the USA, China, India, Philippines, Indonesia and Japan, many poor African states and Asian states had a high death ratio caused by extreme events and climate change (EM-DAT, 2021). Also, it was expressed that the African states and many Asia states are the most vulnerable states due to their high vulnerability and exposure level (APN, 2020; Scheffran, Link, & Schilling, 2019). In the end, considering the discussion above, natural disasters are highly important and needs to be assessed especially considering the three elements of disaster risk, which are vulnerability, exposure and hazard risk.

In the literature, there are many studies that connect natural disasters to conflict (APN, 2020; Buhaug, 2010, 2016; Burke et al., 2009; Burrows & Kinney, 2016; Detges, 2016; Ghimire, Ferreira, & Dorfman, 2015; Gleick, 2014; Harris, Keen, & Mitchell, 2013; Hendrix & Salehyan, 2012; Hsiang, Burke, & Miguel, 2013; Ide, 2019; Kelley, Mohtadi, Cane, Seager, & Kushnir, 2015; Koubi, 2018, 2019; Miguel, Satyanath, & Sergenti, 2004; Nett & Rüttinger, 2016; Nwokeoma & Chinedu, 2017; O'Loughlin, Linke, & Witmer, 2014; O'Loughlin et al., 2012; Scheffran et al., 2019; Schleussner, Donges, Donner, & Schellnhuber, 2016; UNDP, 2011; Van Weezel, 2015; Vivekananda, Wall, Sylvestre, Nagarajan, & Brown, 2019; Von Uexkull, Croicu, Fjelde, & Buhaug, 2016). As I will discuss in detail, natural disasters can affect the

conflict dynamics by damaging the economic output, decreasing the state capacity, increasing the migration and the competition between different ethnic or livelihoods groups (APN, 2020; Buhaug, 2010, 2016; Burke et al., 2009; Burrows & Kinney, 2016; Detges, 2016; Ghimire et al., 2015; Gleick, 2014; Harris et al., 2013; Hendrix & Salehyan, 2012; Hsiang et al., 2013; Ide, 2019; Kelley et al., 2015; Koubi, 2018, 2019; Miguel et al., 2004; Nett & Rüttinger, 2016; Nwokeoma & Chinedu, 2017; O'Loughlin et al., 2014; O'Loughlin et al., 2012; Scheffran et al., 2019; Schleussner et al., 2016; UNDP, 2011; Van Weezel, 2015; Vivekananda et al., 2019; Von Uexkull et al., 2016). Also, many studies mentioned that the contextual factors (such as poverty in the country, political and social situation) is highly important and affect the natural disasters-conflict relationship (Buhaug, Gleditsch, & Theisen, 2010; Koubi, 2018, 2019). Furthermore, many of the climate-conflict studies were mainly focused on Africa. The main reason is the high vulnerability of the Africa continent since that the economic and social conditions were highly deprived in many parts of Africa, as I expressed previously. In these studies, I found many relations which explain the natural disasters-conflict relationship in the context of decreased economic output, decreased state capacity, and competition between ethnic groups. However, I could not find a study that explains how natural disasters affect conflict dynamics by worsening horizontal inequalities. Therefore, I think that it would be effective and important to focus on this relationship. Before I explain this relationship, I want to explain the horizontal inequalities and their connections with the risk of conflict.

As Stewart expressed, horizontal inequalities are inequalities between culturally defined groups in the state (Stewart, 2005, p. 1). According to Stewart, Brown and Langer, the culturally defined groups can be regional, ethnic and religious groups (Stewart, Brown, & Langer, 2008, p. 409). In other words, horizontal inequalities are the inequalities between different ethnic or regional groups in the country (Stewart et al., 2008, p. 409). As an important note, Stewart explained that horizontal inequality is multidimensional, and these dimensions are political, economic, social and cultural (Stewart et al., 2008, p. 409). Therefore, horizontal inequality does not only focus on economic inequality but also the political, social and cultural inequalities between different groups. In terms of its relationship with conflict, Hillesund, Bahgat, Barrett, Dupuy, Gates, Nygård,

Rustad, Strand, Urdal, and Østby mentioned that the horizontal inequality-conflict relationship is based on three interlinked conditions, which are group identity, collective motivation and opportunity (Hillesund et al., 2018, p. 464).

In terms of group identity, Hillesund and her colleagues expressed that group identities are important to overcome the collective action dilemma (Hillesund et al., 2018, p. 465). Specifically, they mentioned that people could mobilize effectively and risk their life if there is strong group identification (Hillesund et al., 2018, pp. 464-467). Thus, as different sources mentioned, there would be a rebellion easily and more effectively between culturally defined groups or against the government, especially if there are severe inequalities between culturally defined groups (Cederman, Weidmann, & Gleditsch, 2011; Hillesund et al., 2018; Stewart, 2005). In terms of collective motive, Hillesund and her colleagues expressed that deprived groups can feel injustice and grievances if they feel that they could not have what they think they deserve (Hillesund et al., 2018, pp. 465-466). Thus, according to Cederman, Gleditsch, and Buhaug, collective motive can be created among the relatively deprived people if the group feel there is an injustice between their groups and the other groups (Cederman, Gleditsch, & Buhaug, 2013). In terms of opportunity, Hillesund and her collugues expressed that horizontal inequality increases the opportunity to rebel when the group (that have a strong group identity) have the same feeling of injustice and collective motivation (caused by horizontal inequalities) (Hillesund et al., 2018, pp. 465-467). Thus, it gives the opportunity to solve the collective action dilemma (Hillesund et al., 2018, pp. 465-467). To sum up, horizontal inequality can increase feelings of injustice, which can create collective motivation between the groups that have a strong group identity (Cederman et al., 2013; Hillesund et al., 2018; Stewart, 2005). In the end, the collective motivation can solve the collective action dilemma and gives the opportunity to rebel for the deprived groups that have a strong group identity (Cederman et al., 2013; Hillesund et al., 2018). Therefore, the horizontal inequalities are highly relevant for the risk of conflict (Cederman et al., 2013; Hillesund et al., 2018).

In the context of natural disasters-horizontal inequality-conflict relationship, different studies express that deprived regions (economically and socially) are more vulnerable to

the impact of the natural disasters compared to the advantaged regions (Apodaca, 2017; Islam & Winkel, 2017). Specifically, since deprived regions have bad economic and social conditions and more dependence on agriculture, these regions can be affected more severely by natural disasters compared to the advantaged regions (Apodaca, 2017; Islam & Winkel, 2017). Thus, while the natural disasters highly affected and worsen the conditions in the deprived regions, the natural disasters less affected the advantaged regions in the countries. Therefore, it can be argued that the economic and social gap (between the advantaged and deprived region) can be increased due to the impacts of natural disasters. Thus, it can be suggested that the economic and social horizontal inequalities can be increased due to this discriminative impact of natural disasters. Since horizontal inequality increases the risk of conflict, it can be argued that natural disasters affect the risk of conflict by affecting the horizontal inequalities in the country.

It should also be noted that vulnerability is not the sole factor that affects the disaster risk in the country. As expressed previously, the exposure level and the hazard risk are the other two key factors in the context of disaster risk. Still, many studies show that vulnerability is highly important in this context (Buhaug et al., 2010; Koubi, 2019; Peters & Budimir, 2016; Scheffran et al., 2019; Schleussner et al., 2016). Thus, this study mainly focuses on the vulnerability factor while acknowledge and consider the other factors, which are the exposure and the hazard risks. In the end, this study focus on the impact of natural disasters on the risk of conflict through its effect on horizontal inequalities in the cases of Malawi, Mozambique and Nigeria. In terms of cases, I selected Malawi, Mozambique and Nigeria due to the fact that these countries have similar disaster patterns but different conflict dynamics in their respective time periods. I will deeply cover the reasons of my case selection in the “Theoretical Framework” section.

Before I explain the different sections of this thesis, due to my research design, my study only gives opinions and ideas on disasters-horizontal inequalities-conflict. Therefore, the mechanism that I presented in this thesis should not be understand as strong linkages and explanations on this relationship. My linkages are mainly weak and can not be understand that there are genaralied disasters-horizontal inequality-conflict

relationship. The used words such as “affected,” “impacted,” or “contributed” should not be understand as a strong connection but rather weak connections. They are mainly giving ideas and opinions on the relationship of disasters-horizontal inequality-conflict.

My thesis consists of six chapters which are the “Introduction”, “Literature Review”, “Theoretical Framework”, “Research Design”, “Analysis”, and “Conclusion”. These chapters also include different sections and parts that are important for this thesis. In below, I will explain these chapter starting from the second chapter, which is the “Literature Review”.

In the second chapter, I will review the literature by focusing on the major discussions on natural disasters, horizontal inequality and conflict. In this chapter, firstly, I examine the literature on climate change, natural disasters and the three elements of disaster risk, which are vulnerability, exposure and hazard risk. Secondly, I will focus on the literature on horizontal inequality, conflict and their connection. Thirdly, I examine the relationship between climate change, natural disasters, and conflict. In this section, I specifically cover the natural disasters- horizontal inequality-conflict theories after I provide a broader discussion on climate-conflict relation. Lastly, I will examine the climate profiles and the conflict dynamics of Malawi, Mozambique and Nigeria. In this section, I discuss these countries in the context of natural disasters-horizontal inequalities-conflict.

In the third chapter, I will explain my theoretical framework in this thesis. In this chapter, firstly, I will explain why my research is relevant, significant and important in the literature of climate-conflict. Secondly, I will explain why I selected Malawi, Mozambique and Nigeria in the context of natural disasters-horizontal inequality-conflict. Thirdly, I briefly discuss the main theories that I deduce in this thesis. Since that the main theories will be deeply covered in the literature review, this discussion will be brief. Fourthly, I present my hypotheses and explain them in detail.

In the fourth chapter, I will explain my research design by presenting the mechanism, data analysis and gathering processes. In this chapter, firstly, I will introduce the

mechanism that I explain in this thesis. Secondly, I will present my mechanism and the weak contributing factors which observe the relationship between natural disasters to conflict. Then, I discuss my main hypotheses in the context of this mechanism based on contributing factors. Sixthly, I will present my data collection and analysis processes by explaining the major datasets and sources that I use in this research. Specifically, I will explain how I used and analysed these data and sources in my research.

In the fifth chapter, I will test my hypotheses and explain my main results in this thesis. This chapter consists of three important sections. The first section will observe how the natural disasters affected the economic and social conditions of the different regions of Malawi, Mozambique and Nigeria in their respective periods. The second section will analyse the horizontal inequalities in Malawi, Mozambique and Nigeria in their respective periods. The third section is the most important section since that this section will focus on the mechanism which connects natural disasters to conflict. In this section, I try to understand how the natural disasters affected the conflict dynamics by affecting the horizontal inequalities in the cases of Malawi, Mozambique and Nigeria. For clarity, I will focus on three countries in different sub-sections and examine the mechanism presented previously. Also, as I will deeply express later, my results should not be understand as a strong/direct relationship, but rahter my reserach demonstrate weak contributing factors. Lastly, in this chapter, I will compare the results for Malawi, Mozambique and Nigeria.

In the sixth chapter, I summarize and discuss the main conclusions and the results. Also, I discuss each chapter very briefly. Besides, I will explain my limitations and possible further research and studies in this context.

2) THE LITERATURE REVIEW

By focusing on Malawi, Mozambique and Nigeria, this thesis focuses on the impact of natural disasters on the conflict by affecting the horizontal inequalities. Thus, it is essential to assess the literature on natural disasters, horizontal inequalities, conflict and their complex relationship. Also, as mentioned previously, since climate change is projected to worsen the disaster risk, climate change is highly relevant for this thesis. Moreover, it is important to understand the climate profiles of Malawi, Mozambique and Nigeria. Furthermore, it is significant to understand the conflicts (especially related to HIs and natural disasters) in Malawi, Mozambique and Nigeria. Considering this discussion, firstly, I will examine the literature on climate change, extreme events and natural disasters briefly. This section focuses on the causes of climate change, evidence of climate change, observed changes, and projected changes in climate. Also, I focus on the impact of climate change and extreme events on different sectors such as agriculture, fisheries and the economy. More importantly, the three elements of the disaster risk (vulnerability, exposure, hazard risk) will be examined in this section.

Secondly, I will discuss the primary roots of conflicts and examine the horizontal inequality-conflict relationship. Thus, I will explain what horizontal inequalities are and why they are relevant to conflict dynamics. Thirdly, I focus on the relationship between climate change, natural disasters and conflict. Since the climate-conflict and natural disaster-conflict literature are highly interlinked, I examine these two interlinked literatures in one section. Fourthly and most importantly, I focus the studies which examine the impact of natural disasters on conflict through affecting horizontal inequalities. This section will discuss how natural disasters increase horizontal inequality and how this relationship affects the conflict? As mentioned previously, since horizontal inequality is the development of relative deprivation theory, it captures many features of the relative deprivation theory. It is important to understand the impact of natural disasters on relative deprivation since it gives the idea of how natural disasters increases the feeling of injustice, grievances and frustration among disadvantaged people. Thus, I will also examine how natural disasters affect relative deprivation. Nevertheless, the main focus point will be the relationship between natural disasters-horizontal inequality and conflict relationship in this section. Fifthly, I will examine the

climate profile and the dynamics of the conflicts of Malawi, Mozambique and Nigeria. In this section, I focus on the studies which examine how climate change and natural disasters affect the climate and the main sectors in Malawi, Mozambique and Nigeria. Also, I will focus on the Boko Haram conflict, the 2013 RENAMO-FRELIMO conflict and Malawian peace, especially in the context of climate, natural disaster and horizontal inequality.

2.1) Climate Change, Extreme Events and Natural Disasters

Climate change is highly significant for our World. As confirmed by different sources, the temperatures are rising, rainfall patterns are changing, and there are more frequent and severe extreme events in many parts of the World (IPCC, 2012, 2014a, 2018; NASA, 2021a, 2021b). Also, as IPCC mentioned, extreme events can lead to natural disasters in line with the exposure and the vulnerability of the affected areas (IPCC, 2012, pp. 1-4). Thus, Prevention Web confirmed that hazard, exposure and vulnerability are important to understand the risk of natural disasters (PreventionWeb, 2021). Since that climate change can increase the hazard risk, climate change is highly significant for the disaster risk along with the socio-economic situations of the affected areas. Considering this discussion, firstly, this chapter briefly examines observed climate changes, causes of climate change, the impact of climate change, changes in extreme events in the World to understand the changes in hazard risks. Secondly, this chapter focus on natural disasters, disaster risk and trends in the natural disaster. In this section, I especially focus on the relationship between vulnerability and disaster since the vulnerability-disaster relation is important for this thesis. Thirdly and more specifically, this section will examine Malawi, Mozambique and Nigeria in the context of climate change, extreme events and natural disasters. Consequently, this chapter examines climate change, extreme events and natural disasters in the World and specifically in Malawi, Mozambique and Nigeria.

2.1.1) The Causes of Climate Change

There are different definitions of climate change in the literature. As one of the most important sources, IPCC defines climate change as "change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or

longer" (IPCC, 2018, p. 544). In terms of scientific consensus, there is a scientific consensus that climate change is occurring, and greenhouse gases emitted by human activities are the main driver of climate change (IPCC, 2018; NASA, 2021a). Also, IPCC explained that global warming is projected to increase and reach a very dangerous level (1.5 C) between 2030 to 2052 and if the human activities remain similar (IPCC, 2018, p. 4). Furthermore, the IPCC report explained that this level is highly dangerous for human and animal species since that it can have cathestrope impacts (IPCC, 2018, p. 9).

2.1.2) The Evidence: Observed Changes in Climate System

There are different reliable sources that express that there is observed evidence on the changes in the climate system (BBC, 2020; Cook et al., 2016; IPCC, 2014a, 2018; Jamet & Corfee-Morlot, 2009; NASA, 2021a; WMO, 2020). These observed evidences are rising global surface temperature, warming of the oceans and ocean acidification, sea-level rise, declining arctic sea ice, decreased snow cover, glacial retreat, shrinking ice sheets and frequent and intense extreme events (BBC, 2020; Cook et al., 2016; IPCC, 2014a, 2018; Jamet & Corfee-Morlot, 2009; NASA, 2021a; WMO, 2020). This section will examine these observed changes in the climate system very briefly.

In terms of temperature, there is a scientific consensus that Earth's global surface temperature is rising (BBC, 2020; Cook et al., 2016; IPCC, 2014a, 2018; Jamet & Corfee-Morlot, 2009; NASA, 2021a; WMO, 2020). To explain specifically, NASA expressed that the average surface temperature has risen about 0.9 degrees Celsius since the late 19th century (NASA, 2021a). Also, WMO expressed that the year 2016 was the warmest (WMO, 2020, p. 3). Furthermore, The IPCC have high confidence that the period of 1983-2012 was highly likely the hottest 30 years in the northern hemisphere in the last 800 years. (IPCC, 2014a, p. 2). Consequently, as the evidence shows that there is global rapid warming in the past several decades in the World. In terms of precipitation, different sources confirm that there are less uncertainty and agreement on the impact of climate change on precipitation around the World (BBC, 2020; IFRC, 2008; IPCC, 2014a, 2018; NASA, 2021a). As an important argument, as NASA mentioned, since that global warming increases evaporation, there could be more severe and frequent storms in some places (NASA, 2021a). Thus, NASA expressed that this

situation can cause more rainfall and floods in the affected areas (NASA, 2021a). Nevertheless, as different sources expressed, the literature is not certain about the changes in precipitation caused by climate change (Cook et al., 2016; IPCC, 2014a, 2018; NASA, 2021a). The warming of the ocean and ocean acidification is another important change in the climate system. There are different evidences and statements on the warming of the oceans and ocean acidifications. As IUCN expressed, the ocean absorbs most of the excess heat from greenhouse gas emissions (IUCN, 2021). IPCC revealed that the ocean absorbed more than 90% of the excess heat from greenhouse gas emissions between 1971 to 2010 (IPCC, 2014a, p. 4). Therefore, the temperature of the oceans is rising in the World (IPCC, 2014a, 2018; NASA, 2021a). Also, IPCC expressed that the upper ocean warmed considerably, and it is projected to be warmer in the coming years, according to IPCC (IPCC, 2014a, p. 4). Regarding ocean acidification, IPCC has high confidence that the acidity increased in the oceans considerably (IPCC, 2014a, p. 4). In addition to IPCC, PMEL Carbon Program also expressed that the acidity of surface ocean waters has increased by around 30% since the industrial revolution (P. C. Program, 2021).

The sea-level rise is another climate change indicator in the literature. As explained by IPCC, global means sea level rose by 0.19 m between 1901 and 2010 (IPCC, 2014a, p. 4). On this issue, IPCC expressed that sea-level rise is highly related to global warming (IPCC, 2014a, p. 4). Specifically, NASA explained that melted ice sheet and glaciers are contributing to the sea level rise (NASA, 2021a, 2021b). Consequently, there are different evidences that climate change is occurring, and human activities are the most important reason for this climate change. In the warming planet, there is a rapid loss of ice sheets, decreased snow cover and the retreat of glaciers (NASA, 2021a, 2021b). As explained by the National Snow and Ice Data Center, most of the glacial ice is found in Antarctica and Greenland (Center, 2021). IPCC have high confidence that the Greenland and Antarctic ice sheets are losing mass over the last two decades (IPCC, 2014a, p. 4). Furthermore, according to Velicogna and her colleagues, a significant number of ice sheet were lost in Greenland. (Velicogna et al., 2020, p. 1). Regarding the decreased snow cover, NOAA explained that rising temperatures are decreasing the snow time (on the ground) in the Northern Hemisphere (NOAA, 2021). Similar to

NOAA, NASA also mentioned that the amount of snow cover (in spring) in the Northern Hemisphere decreased over the past five decades, and the snow covers are melting earlier (NASA, 2021a). Consequently, there are different evidences that climate change is occurring, and human activities are the most important reason for this climate change.

In the context of extreme events, different sources expressed that there are considerable changes in many extreme weathers and climate events, especially since the 1950s (IPCC, 2014a, 2018). As these sources mentioned, there are frequent and severe extreme events around the World due to climate change (IPCC, 2014a, 2018). As different sources expressed, the common extreme events are heat wave, cold wave, drought, floods and storms in the World (BBC, 2020; NASA, 2021a). Firstly, in the context of heatwaves, there are different studies that confirm the changes in heatwaves (BBC, 2020; IPCC, 2014a, 2018; Kuglitsch et al., 2010; Martinez & Bandala, 2016; NASA, 2021a). As Bandala and Martinez explained, "A heatwave is generally defined as a period of time, usually of several days, when temperatures significantly higher than average are registered" (Martinez & Bandala, 2016, p. 1). In terms of changes in heatwaves, IPCC expressed that the frequency of heatwaves highly likely increased in most of the parts of Europe, Asia and Australia (IPCC, 2014a, pp. 7-8). It is further expressed that the probability of occurrence of the heatwave (in some locations) very likely was doubled due to human influence (IPCC, 2014a, pp. 7-8). Secondly, in the context of cold waves, Van Oldenborgh and his colleagues expressed that cold waves are becoming milder and they are not increasing in terms of frequency in the northern midlatitudes (Van Oldenborgh et al., 2019, pp. 1-2) Thirdly, in the context of drought, IPCC expressed that drought is generally "a period of abnormally dry weather long enough to cause a serious hydrological imbalance" (IPCC, 2014a, p. 122) In general, IPCC has medium confidence that some of the regions of the World had more intense and longer droughts since the 1950s (IPCC, 2014a, 2018). However, they also expressed that some of the regions had less frequent, less intense, or shorter droughts. Furthermore, the Center For Climate And Energy Solutions expressed that some observed changes in the drought patterns were linked to anthropogenic climate change in the USA and the world (Solutions, 2021).

Fourthly, in the context of floods, there are significant studies regarding the changes in floods and the human influence on this change. As defined by IPCC, the flood is “is the overflowing of the normal confines of a stream or other body of water or the accumulation of water over areas that are not normally submerged" (IPCC, 2014a, p. 123). Furthermore, IPCC expressed that there are different types of floods, such as fluvial river floods, flash floods, urban floods, pluvial floods, coastal floods (IPCC, 2014a, p. 123). In terms of the changes in flood patterns and the human influence on this, there are different researches. Kundzewicz et al. (2007) found that observed increase in precipitation intensity and other climate changes might have affected floods (Kundzewicz et al., 2008, p. 5). As a more contemporary report, IPCC 2018 report expressed that extreme streamflow and flood frequency was increased in different areas (IPCC, 2018, p. 201). More importantly, IPCC 2018 report expressed that further global warming likely to increase the flood risk in many parts of the World (IPCC, 2018, p. 179). Fifthly, in the context of storms, there are different results for the storm types in the literature. In this context, Holland and Bruyère found a regional and global increase in the proportion of the strongest hurricanes (Holland & Bruyère, 2014, p. 625). Also, Foltz and Leung found a rapid intensification in the hurricanes (Leung, Balaguru, & Foltz, 2017). Also, Holland and Bruyère explained that global warming also affects the different types (in terms of level) of hurricanes in various ways. (Holland & Bruyère, 2014, p. 617). In terms of future projections, IPCC explained that the intensity of the cyclones likely to increase while the frequency of the cyclones likely to decrease due to the increase in global warmings (IPCC, 2018, p. 7).

2.1.3) The Impact of Climate Change and Extreme Events on Nature and Human Systems

There are significant impacts of climate change and extreme events on natural and human systems, according to IPCC reports (IPCC, 2014a, 2018). In this context, Maslin summarized that many ecosystems will be under threat, and many species will be in danger of extinction due to global warming (Maslin, 2014, pp. 97-99). Also, Maslin explained that there is a significant impact of climate change on agriculture, food security and water security (Maslin, 2014, pp. 94-101). Besides, it was expressed that there will be more forced migrations and more violence/conflict due to the rise of

temperature, climate change, environmental scarcities and extreme events (Bhavnani, 2006; Buhaug et al., 2010; Homer-Dixon, 1994; Miguel et al., 2004; Nel & Righarts, 2008; Percival & Homer-Dixon, 1998; Reuveny, 2007).

In one of the most comprehensive research, Mora, Spirandelli, Franklin, Lynham, Kantar, Miles, Charlotte Z, Freel, Moy, and Louis published a comprehensive article in 2018 in *Nature* (Mora et al., 2018). They explained that climate hazards are intensified by the ongoing emission of GHGs, and this can impact human systems (Mora et al., 2018, p. 1062). Mora et al. focused on the impacts of ten climate hazard (warming, temperature, floods, droughts, heat waves, sea levels, fires, storms) on the human systems (Mora et al., 2018, pp. 1062-1064). Through their systematic review, they found 467 pathways on the impact of climate hazards on human systems such as economy, health, water, food, security (Mora et al., 2018, pp. 1062-1064). To summarize, they found 27 pathways on the impact of climate change on human health where the increased deaths, increased diseases and worsening mental health were among the most common issues (Mora et al., 2018, p. 1063). In the context of food, they found ten pathways of the impact of climate change on the food system where the most common issue was the worsening quantity/quality of food (from agriculture, fisheries and livestock) (Mora et al., 2018, pp. 1063-1064). In the context of water, they found that climate hazards mainly impacted the quantity and quality of freshwater (Mora et al., 2018, p. 1065). In terms of infrastructure, they found that the electricity, transportation and building sector were mainly affected by climate hazards (Mora et al., 2018, p. 1065). In the context of the economy, they found that climate change/extreme events causes economic losses, increases unemployment and decreases revenues in the World (Mora et al., 2018, pp. 1065-1066). Lastly, in the context of security, they found that migration, increased conflict, violence and disruption of social order were the most common issues affected by climate change/extreme events (Mora et al., 2018, p. 1066). Consequently, Mora and his colleagues found different impacts of climate change/extreme events on the human systems in their research (Mora et al., 2018). The impact of climate hazards on the security, economy, food and water systems will be examined in more detail in the next sections.

2.1.4) Natural Disasters

The previous sections showed that extreme events mainly occur more frequently and severely in many parts of the World. As IPCC explained, these extreme events can lead to disasters by interacting with exposed and vulnerable human and natural system (IPCC, 2012, pp. 1-4). Thus, it is crucial to understand both the frequency and severity of extreme events as well as the exposure and vulnerability (human influence) to understand the changes in natural disasters and the disaster risk properly. Therefore, this chapter will examine the three components of disaster risk, which are hazard, exposure and vulnerability. Firstly, as UNI-SPIDER defined, the hazard is a phenomenon/process or human activity that can cause loss of life, injuries, damages to assets, economic and social disruptions, and environmental degradation (UN-SPIDER, 2021). Also, UNISDR summarized that there could be biological, environmental, geological, hydrometeorological and technological hazards (UNISDR, 2009). To give examples, flood, drought, heatwaves, cold waves (Hydrometeorological), industrial pollution, nuclear radiation, toxic wastes (technological), earthquakes, volcanic activity (geological), bacteria, viruses or parasites (biological), soil degradation, and deforestation (environmental) are the common hazards in the World, according to UNISDR (UNISDR, 2009). Besides, UNI-SPIDER mentioned that the hazard risk could be discussed according to its frequency, magnitude, intensity and its location (UN-SPIDER, 2021). As expressed in the previous sections, climate change increases the frequency and intensity of many extreme events in the World. Thus, climate change increases one of the main factors of disaster risk, which is the hazard risk.

Secondly, according to the UN, exposure means that "the situation of people, infrastructure, housing, production capacities and other tangible human assets located in hazard-prone areas" (Assembly, 2016, p. 18). In line with the definition, UNI-SPIDER explained that the population and the total assets in the affected area is key to determine the exposure level (UN-SPIDER, 2021). Also, IPCC explained that the exposure is significant in the disaster disk (IPCC, 2012, pp. 1-4). Also, Prevention Web mentioned that while the vulnerability and the exposure are affecting each other, they are not the same (PreventionWeb, 2021). In this issue, Prevention Web expressed that the area

could be exposed, but the area could have no vulnerabilities or low vulnerabilities at the same time (PreventionWeb, 2021).

Thirdly, according to the UN, vulnerability means "the conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards" (Assembly, 2016, p. 24). As PreventionWeb expressed, the vulnerability is related to the poor economic conditions, high inequality, poor planning and construction, poor education conditions, poor health conditions, bad quality of the structures, lack of awareness of the people, poor environmental awareness and management and dependency on agriculture and fisheries (PreventionWeb, 2021). Also, PreventionWeb expressed that political tensions, conflict situation and bad governance create vulnerabilities among the people (PreventionWeb, 2021). To explain the importance of vulnerability, Scheffran, Link and Schilling explained that the countries that have high vulnerabilities are at great risk in the disaster situation (Scheffran et al., 2019, pp. 1-6).

Specifically, Scheffran and his colleagues mentioned that sensitivity and adaptive capacity are needed to be assessed to understand the vulnerability (Scheffran et al., 2019, pp. 4-6). In this context, according to Adger, sensitivity is "the degree to which system is modified or affected by perturbation" (Adger, 2006, p. 260). Thus, the economic and social conditions are quite important in this sense. As an example, Scheffran and his colleagues expressed that poverty, the dependency on agriculture, health conditions are the main factors which affect the sensitivity (Scheffran et al., 2019, p. 5). In terms of adaptive capacity, Scheffran and his colleagues explained that adaptive capacity is the ability/skill to deal (or respond) to the impact of climate change or natural disasters (Scheffran et al., 2019, p. 5). Thus, Scheffran and his colleagues expressed that the response capacities and risk reduction strategies are very significant in terms of adaptive capacity (Scheffran et al., 2019, p. 5). In terms of climate change, as discussed in the previous sections, climate change increases the hazard risk by increasing the frequency and the magnitude of extreme events. As different sources confirmed, these frequent and severe extreme events had a severe impact on agriculture,

incomes, economic conditions, health conditions, educational conditions in the affected areas (Macpherson, 2018; Mora et al., 2018; NASA, 2021b; Nelson, 2010; Nett & Rüttinger, 2016; Peters & Budimir, 2016; Reuveny, 2007). Therefore, different sources confirm that the impact of climate change and natural disasters can worsen the economic and social conditions of many already vulnerable poor people (Apodaca, 2017; Islam & Winkel, 2017; Scheffran et al., 2019). Thus, as climate change progresses, many vulnerable rural agricultural people or vulnerable poor people will be at greater risk due to the increase in frequency and the severity of the extreme events. In the end, the impacts of climate change can further increase the vulnerability of these people by worsening the economic and social conditions of the affected areas (Islam & Winkel, 2017). Therefore, while vulnerability increases the impact of natural disasters/climate change, natural disasters and climate can create further vulnerability (Islam & Winkel, 2017). Thus, climate change is highly relevant for one of the most important factors of disaster risk, which is vulnerability. Consequently, as UNI-SPIDER expressed that vulnerability and exposure is human influence while most of the hazards are natural phenomena (UN-SPIDER, 2021). Thus, as UNI-SPIDER expressed that all of the components are crucial and needs to be understood effectively to understand the disaster risk (UN-SPIDER, 2021).

2.2) Conflict and Horizontal Inequalities

2.2.1) Types, Levels, and Causes of Conflict

Koubi explained that there are different types of conflicts such as interpersonal conflict, intergroup conflict, intercommunal conflict, violence against the government, civil conflict, low-intensity conflict, and political repressions (Koubi, 2019, p. 345). In terms of levels, Koubi explained that there are different studies that focus on conflict through the state-level, local-level, administrative-level, and specific location/group (Koubi, 2019, p. 345). Allansson, Melander and Themner explained that there are three different types of conflict which are state-based conflicts, non-state conflicts and one-sided conflicts (Allansson, Melander, & Themnér, 2017, pp. 574-579). Allansson, Melander and Themner explained that state-based armed conflict includes conflicts which include at least one government forces, and the conflict may conduct between two governments or between government and rebel group (Allansson et al., 2017, pp. 575-576). Non-state

based armed conflict includes conflicts when none of the forces belongs to the government (Allansson et al., 2017, pp. 578-579). One-sided violence is the conflict that occurs between one armed group/government forces and unarmed civilians (Allansson et al., 2017, p. 579). In terms of total numbers of death, the total number of deaths is 2.523,676, and state-based violence caused most of these deaths in the period of 1989-2019, according to UCDP (U. C. D. Program, 2021). Allansson, Melander, and Themner explained that the most conflict-affected countries are Rwanda, Syria, Afganistan and Ethiopia in these periods (Allansson et al., 2017, p. 577). Also, while the deaths were mostly caused by the one-sided conflict in Rwanda, Ethiopia, Afganistan, and Syria experienced state-based conflicts (Allansson et al., 2017, p. 577).

In the context of causes of conflict, there are different theoretical arguments in the literature. Firstly, the opportunity cost of rebellion theory (greed hypothesis) is an important theory in the conflict literature. Collier and Hoeffler developed this theory, and this theory mainly expresses that when there are low income and bad economic opportunities, the likelihood of joining/creating rebellion is higher (Chassang & i Miquel, 2009; Collier & Hoeffler, 2004). Specifically, the theory argues that rebels have fewer things to lose if they had low income and bad economic opportunities (Chassang & i Miquel, 2009; Collier & Hoeffler, 2004). Also, it was suggested that war provides economic incentives to the people (Nett & Rüttinger, 2016; Stewart, Holdstock, & Jarquin, 2002). For instance, an uneducated and unemployed young man can find a job as a rebel and can benefit from the economic intensives such as looting or illegal money (Nett & Rüttinger, 2016; Stewart et al., 2002). Consequently, these sources express that when the economic opportunities are bad and low, the risk of joining the rebel movement is high since the rebel had less thing to lose (Chassang & i Miquel, 2009; Collier & Hoeffler, 2004; Nett & Rüttinger, 2016; Stewart et al., 2002).

The second theory is the state capacity theory which is explained by Fearon and Laitin (Fearon & Laitin, 2003). According to this theory, state strength and ability are important to provide opportunities and services to its people and defeat or suppress the rebellion movements (Fearon & Laitin, 2003). Thus, this theory expresses that the country is more prone to civil war if a country is weak or poor (Fearon & Laitin, 2003).

Consequently, according to this theory, weak and poor states are more prone to civil war (Fearon & Laitin, 2003).

Thirdly, the climate-conflict relation is also an important debate in the literature. As Koubi expressed, this theory may interact with the state capacity and opportunity cost of rebellion theory (Koubi, 2018, 2019). For instance, as I will discuss in more detail in the coming sections, the agricultural decline (caused by climate change/natural disasters) may weaken the state capacity, or it can destroy the economic opportunities and increase the opportunity cost of rebellion (Koubi, 2018, 2019). This chapter will be examined in detail in the coming sections.

Fourthly, relative deprivation and horizontal inequality are other important theories in the literature. According to relative deprivation theory, Gurr and Leggewie expressed that if there is a mismatch between the economic, political and social assets that people think that they should have, and what they have, people can feel grievance and injustice (Gurr & Leggewie, 1970, p. 24). Gurr and Leggewie mentioned that people could compare their conditions with better conditions (Gurr & Leggewie, 1970, pp. 24-26). More importantly, Gurr and Leggewie explained that people could compare their situation with the other individuals who may have a better situation (Gurr & Leggewie, 1970, pp. 24-26). Besides, Gurr and Leggewie expressed that groups (not only individuals) also can compare their conditions to conditions of the other groups (Gurr & Leggewie, 1970, pp. 24-26). In the end, people/groups can use violence, and this situation may cause violent events due to the increased feelings of grievance, injustice, and frustration, according to Gurr's theory (Gurr & Leggewie, 1970). Stewart and Langer confirmed that horizontal inequality is a theory developed from the relative deprivation theory (Arnim Langer & Stewart, 2013, p. 2). In the context of horizontal inequality, Stewart expressed that the horizontal inequalities are the inequalities between groups (race, religion, ethnic, regional), and these inequalities are multidimensional (Stewart et al., 2008, p. 409). Due to its importance for my thesis, horizontal inequality and its impact on conflict will be discussed in detail in the next section.

2.2.2) Horizontal Inequality and Conflict Dynamics

In this chapter, I will focus on the concept of horizontal inequality and its relationship with conflict and peace dynamics. To explain, firstly, this chapter will examine the concept of horizontal inequality. In this chapter, I focus on what are horizontal inequalities and how horizontal inequality differs from vertical inequality. Secondly, I focus on the relationship between horizontal inequality and conflict by examining the core theoretical arguments, quantitative studies, case studies. Consequently, this chapter focus on horizontal inequalities and their relationship with conflict.

2.2.3) Horizontal Inequality and Its Difference from the Vertical Inequality

Stewart expressed that horizontal inequalities are the inequalities between culturally defined groups (Stewart, 2005, pp. 1-3). In order to explain the culturally-defined groups, Bahgat, Dupuy, Gates, Nygård, Rustad, Strand, Urdal, Østby, and Barrett explained that the culturally-defined groups could be ethnic, religious, regional and racial groups (Bahgat et al., 2017, pp. 52-63). Stewart explained that there are different dimensions of horizontal inequalities. According to Stewart, there are political, economic, social and cultural dimensions of the horizontal inequalities (Stewart, 2008, pp. 12-13). In terms of political horizontal inequality, Langer and his colleagues explained that political horizontal inequality includes the inequalities in the distribution of the political power and opportunities between the groups (Arnim Langer, Stewart, & Venugopal, 2012, p. 6). Specifically, this inequality can happen in the cabinet, parliament, presidency and other political institutions (Arnim Langer et al., 2012, p. 6). In the context of economic horizontal inequality, Langer and his colleagues explained that the economic horizontal inequalities are the inequalities on income, employment and ownership of assets between the culturally-defined groups (Arnim Langer et al., 2012, p. 6). In terms of social horizontal inequalities, Hillesund and her colleagues explained that social horizontal inequalities include the inequalities in the health and education conditions and the access to public services between different groups (Hillesund et al., 2018, p. 467). In terms of the cultural horizontal inequalities, Langer and his colleagues explained that the cultural horizontal inequalities include "disparities in the recognition and standing of different groups' languages, customs, norms, and practices" (Arnim Langer et al., 2012, p. 6). As different sources showed, horizontal

inequality is multidimensional, and the dimensions are political, economic, social and cultural.

The horizontal inequality differs from vertical inequality. Hillesund and her colleagues expressed that while horizontal inequality focuses on the inequalities between different groups, vertical inequalities are focusing on the inequalities between individuals and households (Hillesund et al., 2018, p. 463). Also, Stewart explained that while horizontal inequality is multidimensional, vertical inequality is mainly considered unidimensional by mainly focusing only on income inequality (Stewart, 2005, p. 3). As an important note, Stewart expressed that vertical inequalities could also be multidimensional (Stewart, 2005, p. 3). However, Stewart was expressed that there is a low amount of research that examines vertical inequality by focusing on multidimensions (Stewart, 2005, p. 3). Consequently, there are important differences between horizontal inequalities and vertical inequalities.

2.2.4) Horizontal Inequalities and Conflict

In this section, I will discuss the relationship between horizontal inequality and conflict. Firstly, this chapter will examine why horizontal inequalities are relevant and important for conflict dynamics. Secondly, this section will examine the similarities and differences between relative deprivation theory and horizontal inequality in the context of conflict. This section is especially important since horizontal inequality is mainly considered as the development of Gurr's relative deprivation theory. These differences and similarities need to be assessed to understand HIs theory effectively. Thirdly, this section also explains that why horizontal inequalities are a more significant contributor to the conflict compare to vertical inequality. This section is also quite important since that vertical inequality mainly was considered, and horizontal inequality was neglected in conflict studies.

Hillesund and her colleagues mentioned that the horizontal inequality-conflict theory mainly was discussed around three conditions which are the group identity, motive and opportunity (Hillesund et al., 2018, p. 464). In terms of group identity, Stewart expressed that group identities (regional, cultural, religious, ethnic) were important in the conflict situation (Stewart, 2009a, pp. 1-6). The reason is that group identities are

important to overcome the collective action issue, according to Hillesund and her colleagues (Hillesund et al., 2018, p. 465). As Hillesund and her colleagues mentioned, people could mobilize effectively and risk their life if there is strong group identification (Hillesund et al., 2018, p. 465). Thus, as different sources mentioned, there could be violence/rebellion easily and more effectively between culturally-defined groups or against the government, especially if there are severe inequalities between culturally-defined groups. In terms of motive, Hillesund and her colleagues expressed that deprived groups can feel frustration, injustice and grievances if they think that they could not have what they think they deserve (Hillesund et al., 2018, pp. 465-466). Furthermore, relatively deprived groups can think that there is an injustice between them and other groups (Hillesund et al., 2018, pp. 464-467). Thus, it was expressed that the motive (collective motive) can be created among the relatively deprived people if the group think there is an injustice and inequalities between their groups and the other groups (Cederman et al., 2013, p. 32; Cederman et al., 2011, p. 482; Hillesund et al., 2018, p. 466; Stewart, 2008). Also, Stewart that HIs focuses on the relatively privileged group as well as the relatively deprived groups (Stewart, 2005, p. 3). In this context, Stewart expressed that that relatively privileged groups also use violence when they feared that they would lose their advantage to access the assets and resources (Stewart, 2005, p. 3). In terms of opportunity, as Hillesund and her colleagues expressed that horizontal inequality increases the opportunity to rebel when the group (that have a strong group identity) have the same feeling of injustice and the collective motivation (caused by horizontal inequalities) (Hillesund et al., 2018, pp. 464-467). Thus, it gives the opportunity to solve the collective action dilemma (Hillesund et al., 2018, pp. 464-467). As a result, horizontal inequalities increase the risk of conflict (Hillesund et al., 2018).

In this topic, Stewart also expressed that the horizontal inequalities are more likely to cause conflict when they are severe, consistent and widened (Stewart, 2008, pp. 18-20). In this context, Stewart expressed that the conflict is more likely when there are both severe political and economic HIs in the country (Stewart, 2008, pp. 18-20). According to Stewart, the reason is that while political inequality increases the risk of rebellion, the socio-economic ethnic/regional inequalities increases the grievances and making the

mobilization easily and effectively (Stewart, 2008, pp. 18-20). Also, Stewart explained that when there is no political horizontal inequality and economic horizontal inequality at the same time, the risk of rebellion is decreasing (Stewart, 2008, pp. 18-20). Stewart expressed that when one group had political inclusion, the group leader or the member of the group can benefit from this inclusion and forget about their economic problems (Stewart, 2008, pp. 18-20). Also, when one group had an economic advantage, they do not care about their political exclusion (Stewart, 2008, pp. 18-20). On the other hand, when there is both economic and political HIs, the risk will be much greater, according to Stewart (Stewart, 2008, pp. 18-20).

In the literature, horizontal inequality is mainly considered as the development of Ted Gurr's theory of relative deprivation. Ia1sn his book, Gurr and Leggewie expressed that people can feel grievance, injustice and frustration if there is a mismatch between the political, economic and social assets that people feel that they should have and what they actually have (Gurr & Leggewie, 1970, pp. 24-26). In the context of mismatch and discrepancy, Gurr and Leggewie expressed that the individuals can compare their situation with a better situation (Gurr & Leggewie, 1970, pp. 24-26). Also, individuals can compare their situation with the other individuals who may have a better situation (Gurr & Leggewie, 1970, pp. 24-26). Furthermore, Gurr and Leggewie expressed that groups also can compare their situation to the situation of the other groups (Gurr & Leggewie, 1970, pp. 24-26). As a result of the feelings of injustice, grievance and frustration, people or groups can use violence, and this situation may cause violent events, according to relative deprivation theory (Gurr & Leggewie, 1970). There were significant differences between the relative deprivation theory and the horizontal inequality theory, as Langer and Stewart expressed (Arnim Langer & Stewart, 2013, pp. 2-3). Firstly, Langer and Stewart explained that while relative deprivation theory focuses on only the relatively deprived groups, the HIs theory focuses on both the relatively privileged and the deprived people in the context of rebel and conflict (Arnim Langer & Stewart, 2013, pp. 2-3). Hillesund and her colleagues explained that a relatively deprived group could use violence if they fear that they will lose their privilege of access to the assets and resources (Hillesund et al., 2018). Secondly, Langer and Stewart mentioned that horizontal inequality considers both objective inequalities

and subjective/perceived inequalities (Arnim Langer & Stewart, 2013, p. 2). However, Siroky and his colleagues mentioned that relative deprivation is based on subjective/perceived inequalities (Siroky, Warner, Filip-Crawford, Berlin, & Neuberg, 2020). As Langer and Stewart mentioned, the perceived/subjective inequalities are quite important since people mainly act according to their perception/feelings rather than objective indicators (Arnim Langer & Stewart, 2013). Consequently, HIs theory is the development of Gurr's relative theory, and it has significant differences with relative deprivation theory.

Different studies focus on the horizontal inequalities-conflict relationship. Wimmer, Cederman and Min examined the period of 1946-2005, and they found that the risk of conflict is higher in the countries that have high political exclusion (Wimmer, Cederman, & Min, 2009). In addition to this research, Østby examined 55 countries between 1986-2003 (Østby, 2008a). Østby found that there is a high risk when social and economic inequalities are severe (Østby, 2008a). There are also different studies that also found a positive relationship between socio-economic inequalities and conflict (Brown, 2010; Cederman et al., 2011). In specific research, Mancini also focused on Indonesia by focusing on the child mortality rate and conflict, and Mancini found that ethnic-communal violence is more likely when child mortality is increasing (Mancini, 2008). Also, Murshed and Scott explained that horizontal inequalities played an important part in the Maoist rebellion since the many inequalities got worse over the years, and the conflict occurred (Murshed & Gates, 2005). Consequently, different research confirmed that the economic, social and political horizontal inequalities were significant causes of conflict.

2.3) Climate, Natural Disasters and Conflict

This chapter focuses on the literature, which connects the climate and natural disasters to conflict. Since that climate-conflict and natural disaster-conflict literature are deeply interlinked with each other, this section will focus on the climate-conflict and disaster-conflict literature in one section. Also, since the natural disaster-horizontal inequality-conflict relationship will be examined in detail in the next section, this section will not discuss this relationship. As the most influential studies show, there are direct and indirect pathways that connect the climate and natural disaster to conflict (Buhaug,

2016; Buhaug, Gleditsch, Theisen, 2008; Koubi, 2019; Koubi 2018). Also, the contextual factors (such as political, social and economic factors) were considered in both direct and indirect relationships since these factors can intensify or decreases the impact of the climate on conflict. This section will examine both the direct and indirect pathways briefly.

2.3.1) Direct Mechanisms of Climate-Conflict Nexus

In terms of direct mechanisms, Koubi expressed that there are mainly two direct pathways that connect the climate to conflict. Koubi expressed that the first direct mechanism is the impact of climate-induced scarcity on conflict (Koubi, 2019, pp. 348-349). In order to understand this relationship, Buhaug expressed that the many quantitative studies primarily focused on the simple climatological or meteorological indicators such as temperature, rainfall anomalies, droughts to understand the climate-conflict relations in a direct way (Buhaug, 2016, p. 334). Also, Buhaug expressed that most of these studies focus on Africa, and these studies did not focus on the complex and interactive relations of the climate-conflict (Buhaug, 2016, p. 334). Still, Buhaug noted that some of these studies consider contextual factors (Buhaug, 2016, p. 334). The second direct mechanism is the impact of the climate on conflict through its effect on the psychological or physiological factors, according to Koubi (Koubi, 2019, pp. 348-349). Since this pathway is not primarily focusing on group dynamics, this connection is not mainly examined by political scientist or international relations studies. Still, this section will briefly explain some evidences in this pathway since that this pathway also explains the climate-conflict relations.

2.3.1.1) Physiological and Psychological Factors, Climate and Conflict

As mentioned previously, there is a vast literature that focuses on the influence of the climate on conflict through considering the effect of the climate on physiological and psychological factors (Anderson, Anderson, Dorr, DeNeve, & Flanagan, 2000; Anderson & DeLisi, 2011; Mares & Moffett, 2016). Anderson and Delisi explained that one main way of this connection is the impact of the hot temperatures aggression, hostility and violence (Anderson & DeLisi, 2011). In this issue, Anderson, Anderson, Dorr, DeNeve and Flanagan found that the hostility and anger of the participants were

increased by the uncomfortably warm temperatures (Anderson et al., 2000). On the global level, Mares and Moffett focused on 57 countries and found that "each degree Celsius increase in annual temperatures is associated with a nearly 6% average increase in homicides" (Mares & Moffett, 2016, p. 297). Consequently, these studies showed that climate change could increase the feelings of aggression, anger, hostility among individuals.

2.3.1.2) Climate-Induced Scarcity, Direct Linkages and Conflict

There are different studies in the context of climate-induced scarcity and conflict. As mentioned previously, the first wave of the quantitative studies mainly focused on Africa (still some studies which focus on other continent or global level), and they used simple climatological and meteorological indicators and did not consider the complex and interactive climate-conflict relation. The literature shows that while some of these studies find an influence of the climate variability on conflict, some of them could not find (or find a little) a relationship between the climate variability and the conflict. In addition to these studies, there are also studies that found mixed results. In this section, I examine most of these studies.

Firstly, there are studies that find a significant relationship between climate and conflict. Landis examined the relationship between monthly temperature changes and conflict at a global level (Landis, 2014). Through his research, Landis (2014) found that the likelihood of low intensity and the high intensity of civil war is increased by the increase in mean monthly temperature (Landis, 2014, pp. 610-615). Also, Bollfrass and Shaver (2015) also that the areas which have high temperatures had more conflict compare to the areas which have lower temperatures (Bollfrass & Shaver, 2015, p. 4). Furthermore, Hsiang, Burke and Miguel (2013) focused on the connection of temperature, rainfall and different types of conflict, and they found that "Each 1-SD change in climate toward warmer temperatures or more extreme rainfall increases the frequency of interpersonal violence by 4% and intergroup conflict by 14%" (Hsiang et al., 2013, p. 1212). Therefore, this research also shows that progress in climate change can increase the risk of conflict at different levels in future. In a more regional study, Burke, Miguel, Satyanath, Dykema and Lobell examined the period of 1981 and 2002 in

Africa, and they found a positive relationship between civil war and temperature increases (Burke et al., 2009). Also, Hendrix and Salehyan (2012) found that conflict is more likely to occur in wetter years between 1979 and 2002 in the 47 African countries (Hendrix & Salehyan, 2012). To sum up, all of these studies found a significant relationship between climate indicators and the different types of conflict.

Secondly, some studies could not find an influence of climate variability on conflict. In order to explain some of the major studies, Wischnath and Buhaug focused on Asia, and they found little support on the relationship between climate variability and conflict (Wischnath & Buhaug, 2014). Also, Theisen, Holtermann and Buhaug could not find a relationship (direct) between the drought and the civil war in their research, which focuses on the period of 1960-2004 in Africa (Theisen, Holtermann, & Buhaug, 2011). To sum up, these studies could not find a significant relationship between the different types of conflict and climate variability.

Thirdly, there are also mixed results in the relationship between climate and conflict. O'Louglin, Witmer, Linke, Laing, Gettelman and Dudhia focused on East Africa for the period of 1990 to 2009, and they found that "much warmer than normal temperatures raise the risk of violence, whereas average and cooler temperatures have no effect." (O'Loughlin et al., 2012, p. 18344). In addition to this research, O'Loughlin, Linke, and Witmer focused on the period of 1980-2012 for Sub-Sahara Africa, and they found that the level of conflict increases with the extreme temperatures (O'Loughlin et al., 2014, p. 16712). However, they also expressed that the relationship between temperature extremes and conflict have significant inconsistencies in their research (O'Loughlin et al., 2014, p. 16712). Furthermore, they mentioned that the influence of the economic, political and geographic factors are more important than the climate anomalies on conflict (O'Loughlin et al., 2014, p. 16712). To sum up, these researches have mixed results on the relationship between climate and conflict.

2.3.2) Indirect Mechanisms of Climate-Conflict Nexus

There are different indirect pathways that connect climate change to conflict. In literature, many studies focused on climate-conflict relation by considering the impact of climate on political instability, social fragmentation, economic downturns and

migration movements. Also, these pathways are not isolated from each other, but rather they are interacting with each other. For instance, since that political instability can cause economic instability or social fragmentation, economic instability also can cause political instability or social fragmentation. Also, it should be expressed that the contextual factors (poverty, political conditions, social conditions) played an important role in the relationship of climate-conflict.

2.3.2.1) The State Capacity, Economic Downturns, Climate, Natural Disasters and Conflict

The state capacity theory can be discussed in the context of political instability, economic downturns and climate relation. In general, Nel and Righarts explained that state capacity and legitimacy could be weakened by natural disasters and climate variations (Nel & Righarts, 2008, p. 162). As mentioned previously, the state ability and strength are important for providing service to its people and keeping the oppositions/rebels under control, according to the state capacity theory. However, Koubi expressed that the state revenues or other economic outputs of the state can be decreased due to natural disasters and climate variations (Koubi, 2018, pp. 201-202). Since that economy is crucial for providing the basic services to its people and keeping the oppositions/rebels under control, it is highly significant for state capacity (Koubi, 2018, pp. 201-202). According to Fearon and Laitin, the risk of conflict increases when states are week (Fearon & Laitin, 2003). Therefore, the impact of natural disasters is highly relevant for the state capacity, as Nel and Righarts expressed (Nel & Righarts, 2008, p. 162).

As one of the most important pathway in this relation, Eastin expressed that natural disasters are affecting the conflict by decreasing the state capacity, which in turn decreases the capacity to suppress the rebels (Eastin, 2016, p. 323). To explain in detail, Eastin stressed that the financial impacts of disasters and the relief expenditures decrease the counterinsurgency operations (Eastin, 2016, pp. 323-324). Also, damaged infrastructures complicate the counterinsurgency operations (Eastin, 2016, pp. 323-324). Also, the availability of the military staff can be reduced since the military is dealing with humanitarian assistance (Eastin, 2016, p. 323). Thus, considering these three

mechanisms, it would be difficult to capture, suppress or defeat the insurgent groups (Eastin, 2016, pp. 323-324). As a different pathway, Koubi expressed that reduces revenues may prevent the state from providing the basic services and goods to its people, which in turn damage the relationship between the state and its people (Koubi, 2018, pp. 201-202). Therefore, Nett and Rüttigner expressed that armed rebel groups can provide the basic good and gain legitimacy against the weak state (Nett & Rüttinger, 2016). As an important note, the state may already be fragile or weak before the disaster, and the impact of the disaster can be devastating for the weak states. Mitra explained that the disaster responses are highly weak in the fragile and weak states due to their decreased capacity and ability (Mitra & Vivekananda, 2015, p. 1). Thus, Mitra explained that natural disasters affect these weak states severely (Mitra & Vivekananda, 2015, p. 1). Consequently, natural disasters or climate variations may undermine the state capacity by creating severe economic consequences, especially in fragile and weak states.

2.3.2.2) Opportunity Cost of Rebellion, Climate, Natural Disasters and Conflict

The opportunity cost of rebellion theory also can be discussed in the context of the climate-economy-conflict relationship. Climate variations can have significant impacts on many sectors, such as agriculture (Koubi, 2018, 2019). As a result of this impact, the economic conditions of the people can be worsened due to climate variations (Koubi, 2018, 2019). As expressed previously, when legal economic opportunities and incomes decline, individuals are more likely to choose to join rebel or criminal groups. In other words, Koubi mentioned that if the farming incomes would be lower than the expected income which can be gained by joining criminal or rebel groups, the opportunity cost of rebellion can decrease, and the risk of joining rebel groups can increase (Koubi, 2018, p. 201). In a similar argument, Ohlsson expressed that if people lost their livelihoods suddenly, they could have frustration and failed expectations due to their suddenly declined economic conditions (Ohlsson, 2000, pp. 3-5). Thus, these men can join a rebel group due to their sudden livelihoods losses (Ohlsson, 2000, pp. 3-5). Consequently, these studies express the importance of climate variations on the individual's incentives for joining a rebellion or criminal groups.

There are different studies that focus on the relationship between climate, economy and conflict. Miguel, Satyanath and Sergenti focused on the rainfall variation, economic growth and civil war relationship in the period of 1981-1999 for the 41 African states (Miguel et al., 2004). They found that the risk of conflict is increasing with lower rainfall growth/levels (Miguel et al., 2004, p. 725). On the other hand, Van Weezel focused on the rainfall-economic growth and conflict relationship considering the period of 1981-2010 for the 47 African States, and they could not find a significant relationship between the conflict and rainfall in their research (Van Weezel, 2015, p. 153). Caruso, Petrarca and Ricciuti focused on Indonesia over the period 1993–2003, and they found that the conflict episodes are increasing by the increase in minimum temperature in December (the most significant month for the rice harvest) (Caruso, Petrarca, & Ricciuti, 2016, p. 66). They expressed that this violence is occurring primarily by the reduction of rice production (Caruso et al., 2016, p. 66). As an important research, Heijmans, Okechukwu, Schuller tot Peursum and Regine Skarubowiz expressed that the drought in northern Afganistan worsened the economic conditions of the many households in northern Afganistan (Heijmans, Okechukwu, Schuller tot Peursum, & Sarubowiz, 2009, pp. 34-35). Thus, they expressed that many young people joined the armed groups for finding new economic opportunities (Heijmans et al., 2009, pp. 34-35) As a different example, Nett and Rüttinger expressed that the droughts in the 1970s and 1980s contributed to the shrinking of Lake Chad and worsened the economic conditions and opportunities in the Lake Chad region (Nett & Rüttinger, 2016, pp. 16-18). Thus, many people chose to join the armed groups due to economic opportunities (Nett & Rüttinger, 2016, pp. 16-18). In a similar argument, King explained that the crop losses and agricultural decline accelerated the recruitment of ISIS in Syria (King, 2015, pp. 154-156). Consequently, there are different studies and theories which express the relationship of climate-political instability-economy-conflict.

2.3.2.3) Climate, Natural Disasters, Migration and Conflict

In terms of the climate-migration-conflict relationship, there is a vast literature that focuses on the relationship between migration-climate change and conflict (Owain & Maslin, 2018, Freeman 2017). Burrows and Kinney mentioned that climate variations and disasters could have catastrophic impacts on the human systems, and the people

decide or forced to leave their places due to the impact of the climate variations natural disasters (Burrows & Kinney, 2016, p. 4). Specifically, they expressed that people can move to other places as their last resort because of the significant impacts of climate-related events (Burrows & Kinney, 2016, p. 6). Also, Burrows expressed that there are also other perspectives, such as viewing the climate-related migration as an adaptative or coping strategy (Burrows & Kinney, 2016, p. 6). Thus, the literature shows that there are different reasons for people's choice of migration. As one of the most important research, Reuveny expressed that there could be competition over the scarce resources between the host community and the migrants who migrate due to natural disasters (Reuveny, 2007, p. 659). Also, Reuveny explained that there could be distrust between the receiving country and the origin country through different pathways (Reuveny, 2007, p. 659). Consequently, there are different pathways that connect climate-related migration to conflict.

In the context of this relationship, there are different qualitative and quantitative studies in the literature. Reuveny found that droughts contributed to migration in 19 cases, and floods contributed to migration in 9 cases (Reuveny, 2007, pp. 663-668). Furthermore, his research shows that around 10 drought-induced migration (drought is not the only reason) resulted in conflict (Reuveny, 2007, pp. 663-668). Also, his research shows that around 3 flood-induced migration (floods is not the only reason) resulted in conflict (Reuveny, 2007, pp. 663-668). Therefore, his result supported that natural disasters can contribute to migration which can lead to conflict.

In a more specific case, Kelley, Mohtadi, Cane, Seager and Kushnir mentioned that the drought episodes caused a displacement of the millions of people from rural areas to urban areas in Syria (Kelley et al., 2015, pp. 3241-3243). Thus, Kelley and his colleagues expressed that this urban migration increased the population pressures and increased the pressure on a limited resource (Kelley et al., 2015, pp. 3241-3243). Also, Kelley and his colleagues expressed that this migration also increased unemployment and inequality, which increased the unrest in Syria (Kelley et al., 2015, pp. 3241-3243). In a similar argument, Gleick expressed that the drought-related migration was a significant factor in the unrest and the political instability in Syria (Gleick, 2014, p.

338). However, Selby could not find evidence that civil war onset was affected by the drought-related migration in Syria (Selby, Dahi, Fröhlich, & Hulme, 2017, p. 232).

In more broad research, Abel, Brottrager, Cuaresma and Muttarak expressed that the drought severity and the risk of conflict were increased due to climate change (Abel et al., 2019, p. 239). Also, Ghimire, Ferreira and Dorfman examined the impact of the flood-induced displacement on civil conflict (Ghimire et al., 2015). They found that while the flood-induced displacement exacerbates the existing conflicts, it did not cause new conflicts (Ghimire et al., 2015, p. 614). Consequently, the disaster-migration-conflict relationship is complex, and there are different results on this topic.

2.3.2.4) Climate, Natural Disasters, Resource Scarcity and Conflict

There are different studies which focus on the impact of climate change and natural disaster on resource scarcity and conflict. Homer-Dixon expressed that there is a relationship between conflict and environmental scarcity (Homer-Dixon, 1994, pp. 5-6). Overall, Homer-Dixon mentioned that the environmental stresses and scarcity can cause severe consequences for the state by causing decreased agricultural production, decreased economic output, migration, social fragmentation and disruption of state infrastructure (Homer-Dixon, 1994, p. 31). These conditions can contribute to conflict dynamics. (Homer-Dixon, 1994, p. 31). Also, Percival and Homer-Dixon expressed that the relationship between environmental scarcity and conflict is not direct and environmental stresses are intervening variables of the conflict situation (Percival & Homer-Dixon, 1998, p. 279). Specifically, Percival and Homer-Dixon expressed that environmental scarcity has three elements which are supply induced scarcity, demand induced scarcity and structural scarcity (Percival & Homer-Dixon, 1998, p. 280). Percival and Homer-Dixon mentioned that supply induced scarcity can occur due to the depletion and degradation of renewable resources renewable (Percival & Homer-Dixon, 1998, p. 280). Percival and Homer-Dixon expressed that destroyed croplands is an example of supply induced scarcity (Percival & Homer-Dixon, 1998, p. 280). In the context of demand-induced scarcity, Percival and Homer-Dixon explained that demand-induced scarcity could occur due to increased consumption caused by high population growth (Percival & Homer-Dixon, 1998, p. 280). In terms of structural scarcity,

Percival and Homer-Dixon mentioned that structural scarcity could occur when there is an unequal distribution of resources (Percival & Homer-Dixon, 1998, p. 280). They expressed that it mainly occurs when only relatively privileged groups have the resources and the other groups have a lack of access to these resources (Percival & Homer-Dixon, 1998, p. 280).

In the context of natural disasters-scarcity-conflict, Bhavnani expressed that natural disasters damage the delivery of basic services and the disasters have negative consequences for the production of the goods (Bhavnani, 2006, pp. 13-14). For instance, Koubi explained that natural disasters could damage the resources, farmlands, crops and livestock (Koubi, 2019). Therefore, Bhavani explained that disasters could contribute to supply-side scarcity (Bhavnani, 2006, pp. 13-14). Also, Bhavnani explained that the state has to provide relief and support to the people who are affected by the disaster (Bhavnani, 2006, p. 14). However, there could be a high level of needs on resources (after the disaster) which can increase the demand-induced scarcity (Bhavnani, 2006, p. 14). In a different pathway, according to Brzoska & Fröhlich, there are different studies express that the competition over scarce resources can be increase by the impact of natural disasters and climate change on limited resources (Brzoska & Fröhlich, 2016, p. 193). In the end, this competition can result in violence between groups (Brzoska & Fröhlich, 2016, p. 193). To sum up, the literature shows that there are different pathways that connect the disasters to resource scarcity and conflict.

2.3.2.5) State Repression in Post-Disasters Situation

The literature mainly supports the argument that state repression can increase after natural disasters. Apodaca expressed that deprived groups are the vulnerable groups in society (Apodaca, 2017, p. 4). Apodaca expressed that natural disasters affect a large number of deprived people and cause high losses in the deprived affected communities (Apodaca, 2017, p. 4). Therefore, Apodaca explains that the grievances of the deprived affected community cannot be decreased easily (Apodaca, 2017, p. 4). In the end, the affected community and their supporters can mobilize for a political change in the country (Apodaca, 2017, p. 4). In line with this argument, Wood and Wright expressed that state repression (against own citizens) increases after natural disasters (Wood &

Wright, 2016, p. 1446). Wood and Wright expressed that while the grievances are increasing, the state control is decreasing after the disasters (Wood & Wright, 2016, p. 1446). Thus, this situation creates an opportunity for mobilization to challenge the state authority (Wood & Wright, 2016, p. 1446). Therefore, the state increases its repression for maintaining control and eliminate the threats (Wood & Wright, 2016, p. 1446). Thus, there can be more violence and conflict after natural disasters, according to Wood & Wright (Wood & Wright, 2016, p. 1446). Consequently, the literature shows that the state repression is increasing for maintaining control since those grievances of the affected people could lead to mobilization and challenge the state authority (Wood & Wright, 2016, p. 1446).

2.3.2.6) Climate, Natural Disasters, Disaster Diplomacy, Unity and Peace

The arguments in the previous sections mainly explained that the impact of natural disasters increases the risk of conflict through different pathways and linkages. However, there is also a literature which expresses that the natural disaster decreases the risk of conflict in the state. One common literature argues that disasters do not increase the risk of conflict but rather bolster pro-social behaviour and peace. Slettebak expressed that the risk of antisocial behaviour mainly decreases in the disaster and post-disaster situation, according to the sociological research on post-disaster behaviour (Slettebak, 2012). Specifically, Fritz (1996) said that "antisocial behaviour, such as aggression towards others and scapegoating are rare or nonexistent. Instead, most disasters produce a great increase in social solidarity among the stricken populace, and this newly created solidarity tends to reduce the incidence of most forms of personal and social pathology" (Fritz, 1996, p. 10). In other words, Fritz (1961) expressed that the differences (between people or groups) will not be significant in disasters since people are faced with similar problems under similar conditions in the disaster situation (Fritz, 1961, p. 655). In this situation, Slettebak expressed that people unite against a common threat, and the group identities will not be significant (Slettebak, 2012, pp. 165-166). Thus, Slettebak expressed that disasters create a sense of unity and prevent divergences among the groups and decreases the risk of conflict in the country, according to disaster sociology theories (Slettebak, 2012, p. 165).

Nelson expressed that these theories give importance to post-disaster cooperation considering the impact of the disasters on pro-social behaviour and peace (Nelson, 2010, pp. 156-159). In this context, Kelman's theory called “disaster diplomacy” claimed that disasters create an opportunity to facilitate a better dialogue, cooperation and relations between the opposing parties (Kelman, 2006, pp. 1-2). In other words, as Nelson said, "disaster diplomacy is the idea that natural disaster occurrence can lessen hostility between traditional rival states and that disasters themselves can contribute, at least in part, to measurable progress in otherwise difficult diplomatic situations" (Nelson, 2010, p. 158). There are different studies that supports these arguments. In this context, Billon and Waizenegger expressed that tsunami contributed to the peace process in Aceh (Billon & Waizenegger, 2007, p. 422). In this context, Gaillard, Clave and Kelman also expressed that the tsunami was a powerful catalyst in diplomatic talks in Aceh (Gaillard, Clavé, & Kelman, 2008, p. 511). In a different research, Nelson found that while major disasters increase the risk of conflict initiation, there was no single example that a rival state attacked a country which the disaster impacted (Nelson, 2010, p. 155). Thus, Nelson expressed that this result is supporting the disaster diplomacy theory (Nelson, 2010). As an important example for this thesis, Keen and Wilson argued that the 1990 droughts contributed to ending the RENAMO-FRELIMO war because the drought weakened the Renamo rebels (Keen & Wilson, 1994). As one of the most important research, Evin expressed that Turkey and Greece’s relations were softened after the 1999 earthquake (Evin, 2004, p. 4). Greece even removes its formal objection to Turkey's EU membership (Evin, 2004, p. 17). In a more broad example, Kreutz found that while the ceasefires or ceasefire talks mainly occur after natural disasters, the peace agreement less occurs after the disaster (Kreutz, 2012, p. 482). As these examples showed, there are many studies that explain that disasters decrease the risk of conflict and creates better dialogue, cooperation and unity.

2.4) Natural Disasters, Horizontal Inequality, Relative Deprivation and Conflict

In this section, I will discuss the studies which examine the impact of natural disasters on the conflict by its effect on relative deprivation and horizontal inequality. Firstly, I examine the impact of natural disasters on relative deprivation. Since that relative deprivation captures many dynamics of horizontal inequality, this discussion is important to capture the dynamics of the relationship of natural disasters-relative

deprivation-horizontal inequality. Secondly, I examine the studies which focus on the impact of natural disasters on inequalities (both vertical and horizontal) and how these inequalities affect natural disasters. This discussion is important since it is important to understand the natural disaster-inequality relationship before understanding the relationship of natural disasters-horizontal inequality relationship. Thirdly, I examine how natural disasters affect the conflict by affecting the horizontal inequalities. In this discussion, although almost all of the studies do not directly focus on the natural disasters-horizontal inequality-conflict relationship, many of these studies capture the significant aspects of horizontal inequalities in the context of the impact of the natural disasters. Fourthly, pre-disaster responses and post-disaster responses are significant, and they are important for the relative deprivation-horizontal inequality-natural disasters-conflict relationship. Thus, this chapter will also discuss the effect of pre-disasters and post-disaster responses on conflict situation by affecting the relative deprivation and horizontal inequalities as well as affecting different dynamics. Consequently, this chapter will explain the studies which capture an important aspect of the relationship between relative deprivation-horizontal inequality-natural disaster-conflict.

2.4.1) Natural Disasters, Horizontal Inequality, Relative Deprivation and Conflict

There are different sources that express that disasters can worsen the relative deprivation and the inequalities (vertical and horizontal), which in turn contribute to conflict. Firstly, I would like to discuss the impact of natural disasters on conflict through affecting relative deprivation. In this context, Bhavnani expressed that natural disasters can affect the decremental relative deprivation and the aspirational relative deprivation, which in turn increases the risk of conflict (Bhavnani, 2006, p. 11). Bhavnani mentioned that decremental relative deprivation occurs when the expectations of the group remain stable while their value capability decreases (Bhavnani, 2006, p. 11). In the context of the natural disaster, Bhavnani expressed that since natural disasters mainly cause losses and decrease the wealth of the groups in a significant level, groups can "become increasingly frustrated by the widening gap between their actual level of economic achievement and the level they feel they deserve leading to grievances." (Bhavnani, 2006, p. 12). In terms of aspirational relative deprivation, Bhavnani explained that aspirational relative deprivation occurs "when a group's

capabilities remain constant while their aspirations increase and people are unable to attain new expectations." (Bhavnani, 2006, p. 12). Related to this issue, Bhavnani expressed that there can be expectations on redevelopment, support and aid after the natural disaster (Bhavnani, 2006, p. 12). However, the ineffective distribution of aid or actual redevelopment efforts may contribute to aspirational relative deprivation, which increases the grievances and the risk of conflict (Bhavnani, 2006, p. 12). Therefore, it can be argued that natural disasters can increase the relative deprivation (both aspirational and decremental) that increase the grievances and the risk of conflict (Bhavnani, 2006, pp. 11-12).

Secondly, in terms of inequality-natural disaster-conflict relation, the literature shows that inequalities can increase disaster risks, and disasters can worsen inequalities in societies. In order to understand the effect of inequality on climate hazards, Islam and Winkel examined the relations between social inequality and climate hazards (Islam & Winkel, 2017). Their term of "social inequality" include both the inequalities based on gender, ethnicity, religion, regional, race, as well as the assets and income and access to basic services (Islam & Winkel, 2017, p. 2). Thus, the term of social inequality captures some dynamics of the horizontal and vertical dynamics, although it does not focus on these two inequalities directly (Islam & Winkel, 2017, p. 2). They identified three channels that connect inequality to climate hazards (Islam & Winkel, 2017, p. 6). Firstly, they expressed that inequality accelerates the exposure of disadvantaged groups to the negative impacts of climate change and natural disasters (Islam & Winkel, 2017, p. 6). Secondly, the authors expressed that since they have a high level of exposure level, "inequality increases the disadvantaged groups' susceptibility to damages caused by climate hazards." (Islam & Winkel, 2017, p. 2). Thirdly, they said, "inequality decreases these groups' relative ability to cope with and recover from the damages they suffer." (Islam & Winkel, 2017, p. 2). Thus, Islam and Winkel explained that inequality increases the vulnerability (against the impact of climate hazard) of the social groups by making them more exposed, more sensitive and less strong to cope with the natural disaster (Islam & Winkel, 2017, p. 2). In addition to this research, The IPCC report also expresses that geographically and socially disadvantaged people are particularly affected negatively by climate change and hazards (IPCC, 2014b, p. 12). Specifically,

the report expresses that climate hazards are affecting the people who are facing discrimination based on gender, age, race, class more significantly (IPCC, 2014b, p. 6). In a different relation, the IPCC report explained that climate hazards exacerbate inequalities (IPCC, 2014b, p. 20). Also, Islam and Winkel expressed that since inequalities (multidimensional) makes the disadvantaged groups more exposed, more sensitive and less strong to cope with the impacts of natural disasters, these disadvantaged groups suffer more loss of assets (financial, human, social, physical) and income due to the natural disasters (Islam & Winkel, 2017, pp. 6-7). Therefore, inequality also can be worsened due to the impacts of natural disasters (Islam & Winkel, 2017, pp. 6-7).

In terms of horizontal inequalities, natural disasters and conflict relationship, since that some groups (region, ethnic group, religion group) are more disadvantaged compare to the other groups in the country, these disadvantaged groups can be more severely affected by the impacts of natural disasters compared to the other advantaged regions. In this context, Skoufias, Rabassa and Olivieri expressed that the disadvantaged poor regions are more affecting compared to the prosperous regions by the effect of climate change/natural disasters (Skoufias, Rabassa, & Olivieri, 2011). In a similar argument, Apodaca also expressed that natural disasters will impact the marginalized and disempowered groups more harshly (Apodaca, 2017, p. 4). In line with these results, Detges found that the regions that have a poor infrastructure in Africa are more vulnerable to the impacts of the droughts (Detges, 2016, p. 696). As significant research, Pelling and Dill expressed that "disasters often hit politically peripheral regions hardest catalysing regional political tension" (Pelling & Dill, 2006, p. 3). Specifically, Pelling and Dill expressed that Moroccan demonstrators protested the government for poor disaster response after the 2004 earthquake, and these protestors mainly came from the region which has historical resistance to the national rulers (Pelling & Dill, 2006, p. 3). In this context, the earthquake becomes a symbol of the perceived inequalities. In a similar argument, Von Uexkull, Croicu, Fjelde and Buhaug expressed that droughts mainly create conflict, especially if there are politically excluded groups or vulnerable agricultural people (Von Uexkull et al., 2016, p. 12391). Moreover, Schleussner, Donges, Donner and Schellnhuber expressed that natural

disaster can impact ethnic groups differently because of the ethnically specific livelihoods and the socio-economic discrimination towards ethnic groups (Schleussner et al., 2016, p. 9216). Consequently, it can be argued that there can be more losses and suffering in the human, financial, social assets in the disadvantaged and deprived groups/regions compare to the advantaged regions and groups. Therefore, while natural disasters highly worsen the economic and social conditions of the disadvantaged regions, the disasters less worsen the economic and social conditions of the advantaged regions/groups. Therefore, horizontal inequalities (primarily economic and social HIs) can increase in the country. As explained previously, horizontal inequalities are important contributors to the conflict in the world.

It should also be noted that disaster risk is not only composed of vulnerability, but it also includes hazard risk and exposure. In terms of hazard risk, horizontal inequality, disaster and conflict relation, McKim expressed that some regions (such as low-lying areas or coastal areas) are more at risk from the impacts of the climate hazards (McKim, pp. 3-4). Therefore, these areas are expected to be more affected by the adverse effects of climate change, especially if these regions have vulnerabilities that I expressed in the previous paragraph. In the end, there could be losses in human, economic and social assets, which in turn can increase the economic and social horizontal inequalities in the country. Lastly, as I will further examine in the next section, the literature mainly gives importance to the impact of the pre-disaster response, post-disaster response and the distribution of humanitarian aid on the inequalities, grievances and conflict. Mitra and Vivekananda expressed that if the distribution of the post-disaster relief would be unequal between the groups (or if some groups affected more by the disaster), inequality and relative deprivation can increase in the country (Mitra & Vivekananda, 2015, pp. 1-3). Therefore, it can be argued that if some groups get less relief and the other groups get more relief, the reconstruction and redevelopment levels would be different, and the economic and social horizontal inequalities can also increase in the state.

Consequently, the literature shows that there is a complex and interactive relationship between horizontal inequality, natural disasters and conflict. Disadvantaged groups/regions can affect more severely by the disasters compare to the advantaged

groups (Apodaca, 2017; Detges, 2016; Islam & Winkel, 2017; Schleussner et al., 2016; Skoufias et al., 2011; Von Uexkull et al., 2016). Therefore, compared to the advantaged regions/groups, the deprived and disadvantaged regions will experience more losses in human, financial and social assets by the impact of the natural disasters (Apodaca, 2017; Detges, 2016; Islam & Winkel, 2017; Schleussner et al., 2016; Skoufias et al., 2011; Von Uexkull et al., 2016). Therefore, while natural disasters highly worsen the economic and social conditions of the disadvantaged regions, the disasters can less worsen the economic and social conditions of the advantaged regions/groups. Thus, there can be an increase in the economic and social horizontal inequalities in the state. As mentioned previously, severe, persistent and widened political, economic and social horizontal inequalities are significant contributors to the conflicts in the world.

2.4.2) Pre-Disaster Responses, Post Disaster Responses, Natural Disasters and Conflict

There are different sources that express the importance of the pre-disaster responses/ conditions and post-disaster responses in the disaster situation (Bhavnani, 2006; Mitra & Vivekananda, 2015; Peters & Budimir, 2016). There is also a vast literature that focuses on the effects of the pre-disaster/responses and post-disaster responses on peace and conflict. In the context of conflict, Peters and Budimir summarized that unequal/ineffective distribution of post-disaster aid, unequal/ineffective protective measures/assets, corrupt or weak government responses could increase the grievances and the risk of conflict in the country (Peters & Budimir, 2016, pp. 11-13). As Mitra and Vivekananda mentioned, ineffective responses and mismanagement of disaster could damage the social contract between the affected groups and the government (Mitra & Vivekananda, 2015, p. 3). More importantly, Mitra and Vivekananda expressed that if the government could not distribute the relief equally, the people might be frustrated, and this could cause protest and demonstrations (Mitra & Vivekananda, 2015, pp. 2-4). Also, Bhavnani expressed that if the actual distribution of aid could not satisfy the expectations on the redevelopment and distribution of aid of the affected community, the relative deprivation, grievances, and the risk of conflict can increase (Bhavnani, 2006, p. 12). Consequently, Ide summarized that when one group (ethnic/social groups) thinks that they get less relief and aid compare to the other groups, they can feel grievances and feelings of injustice, and the risk of conflict is

increasing (Ide, 2019). As mentioned previously, the unequal responses also can worsen the economic and social horizontal inequalities, which in turn increase the risk of conflict.

In the literature, there are different cases that show the importance of the pre-disaster response and the post-disaster response on political change and conflict. One of the most common examples is the impact of the 2004 Tsunami in Aceh. In this context, the UNDP report expressed that the disaster response decreased the political tension between the Government and Free Aceh Movement in Aceh (UNDP, 2011, p. 18). There was a high level of international humanitarian aid and significant national response to the disaster (UNDP, 2011, p. 8). Mitra and Vivekananda expressed that President created a special agency to prevent the unequal distribution of the to funds/aids and to improve the Aceh both physically, economically, socially, culturally and psycho-socially (Mitra & Vivekananda, 2015, p. 4). Therefore, the aids both focus on the impact of the tsunami and conflict. In contrast to Aceh, the disaster response worsened the relations and increased tensions between the opposing parties in Sri Lanka (UNDP, 2011, p. 8). Gaillard, Clave, and Kelman expressed that unequal distribution of aid worsened the tensions between parties in Sri Lanka (Gaillard et al., 2008, p. 515). Mitra and Vivekananda expressed that the government feared that LTTE (the opposing party) would gain global sympathy and assistance by the impact of the tsunami (Mitra & Vivekananda, 2015, p. 4). Therefore, the government prevented many opportunities in the region (Mitra & Vivekananda, 2015, p. 4). Therefore, Mitra and Vivekananda explained that the Tamil population (located in the North and East) felt that they could not get the same level of assistance as the people in the South (Mitra & Vivekananda, 2015, p. 4). This discriminative approach was felt by the Tamil people worsened peace efforts in the region (Mitra & Vivekananda, 2015, p. 4). Another example could be the floods in Kyrgyzstan in 2006. In this context, the UNDP report expressed that the people did not move to the other areas since the new areas (provided by the government) were not suitable for growing cotton (the main income source) (UNDP, 2011, p. 46). Therefore, the grievances towards the governments increased among the people (UNDP, 2011, p. 46). In another example, Olson and Gawronski mentioned that there was government corruption (in the reconstruction and relief) after the 1972 earthquake in Nicaragua, and this corruption increased the support for the Sandinista

rebels (Olson & Gawronski, 2003, pp. 9-12). Also, Pelling and Dill expressed that demonstrators protested the government for poor response to the earthquake in Morocco (Pelling & Dill, 2006, p. 3). Consequently, if the pre-disaster responses and post-disasters are not conducted equally, people can feel injustice and grievances, which in turn can cause conflict. Also, the horizontal inequalities can be worsened if one region takes more relief, reconstruction funds, and other regions receive fewer funds, attention and relief.

2.5) Malawi, Mozambique and Nigeria: Climate Profile and Conflict Dynamics

In this section, firstly, I focus on the climate profile of Malawi, Mozambique and Nigeria. Also, I examine the conflict and peace dynamics in three countries.

2.5.1) Climate Profiles, Natural Disasters and Risks: Malawi, Mozambique and Nigeria

This section aims to understand the climate profile, changes/projected climate changes and the impact of the natural disasters on different sectors in Malawi, Mozambique and Nigeria. For the three-country, firstly, the country's climate profile will be explained. Secondly, observed historical climate trends will be examined. Thirdly, projected climate changes will be explained. Fourthly, I will examine the impact of natural disasters on the different sectors in these countries. Consequently, this chapter will examine the three countries in the context of climate change, extreme events and natural disasters.

2.5.1.1) Malawi

In terms of climate classification, as expressed by USAID, while the southeast of Malawi has a hot semi-arid climate, most of the southern areas have a tropical savanna and monsoon climate (USAID, 2017, p. 1). The northern regions mainly have a dry winter and hot summer, according to USAID (USAID, 2017). The central regions also mainly have a dry winter and hot summer (and some central areas experience warm summer) (USAID, 2017). Thus, Malawi has different climate zones. In terms of temperature, the Irish Aid report expressed that temperatures mainly drop to around 18-19˚C in the winter (Aid, 2018, p. 8). The warmest months are the months between September to January (Aid, 2018, p. 8). Also, Li and Messina Peter and Snap explained

that most of the southern regions have high temperatures in Malawi (Li, Messina, Peter, & Snapp, 2017, p. 4). In terms of rainfall, as explained by USAID, there are two rainy two different seasons; from November to April, there is a rainy season (USAID, 2017, p. 2) From May to October, there is a dry season (USAID, 2017, p. 2). Consequently, there are different climate zones, temperature and rainfall trends in Malawi.

In literature, there are different observed historical climate trends in Malawi. In terms of temperature, the World Bank Group explained that the temperatures increased considerably between the years 1960 and 2006 (W. B. Group, 2021b). Also, the World Bank Group expressed that while the number of hot days (per year) has increased, cold days (per year) has decreased between the years between 1960 and 2003 in Malawi (W. B. Group, 2021b). In the context of precipitation, the literature mainly expressed that year-to-year rainfall is so high so that it is quite difficult to understand and identify the long-term trends (W. B. Group, 2021b; USAID, 2017). In the context of extreme events, there are multiple sources that state that extreme events are occurring more frequently and intensely (Aid, 2018; W. B. Group, 2021b; USAID, 2017). For instance, the World Bank Group expressed that the intensity, frequency and magnitude of the droughts and floods increased considerably in the last 20 years in Malawi (W. B. Group, 2021b). To sum up, historical climate trends show that there is an increase in the average temperature, and there are changes in the nature of extreme events (floods and droughts) in Malawi.

In the context of projected (future) climate change, the World Bank Group explained that temperatures could reach the dangerous level in 2060 and 2090 in Malawi (W. B. Group, 2021c). Moreover, McSweeney, Newand and Lizcanoe expressed they expect an increase in the number of days and nights that considered hot in the current climate (McSweeney, New, & Lizcano, 2014). In terms of precipitation, according to the Irish Aid Report, there is an inconsistency across the models on the projections of rainfall (Aid, 2018, p. 9). Therefore, projections of rainfall are not quite clear. In terms of extreme events, the USAID report expressed that the frequency of droughts and floods will be an increase in the future (USAID, 2017, p. 2). To sum up, as the literature

shows, the average temperatures and the frequency of extreme events will be expected to increase in the future.

In this paragraph, I will focus on the impact of the extreme events on the key sectors such as agriculture, fisheries, water resources, food security, coastal resources and the economy in Malawi. Agriculture is crucial for the economy and food security in Malawi, according to a USAID report (USAID, 2017, p. 2). As expressed by CIAT, agriculture contributes around 30% of Malawi's GDP and agriculture accounts for 80% of the employment (CIAT, 2018, p. 2). As CIAT expressed, more than 2 million rural smallholder farmers are depending on agriculture (primarily rain-fed) as their main source of livelihood (CIAT, 2018, p. 2). As the report expressed, these smallholder farmers are key for food security since they mainly produce crops for domestic consumption (CIAT, 2018, p. 2). Specifically, the report expressed that smallholder farmers produce approximately 80% of all food consumed in Malawi (CIAT, 2018, p. 2). The larger estates mainly focus on cash products such as tobacco, sugar and tea (CIAT, 2018). FAO explained that these agricultural commodities (mostly tobacco and tea, and sugar) account for around 80% per cent of the country's total exports (FAO, 2015, p. 1). Therefore, CIAT expressed, maize is critical for food, and tobacco is critical for export and revenues in Malawi (CIAT, 2018, p. 2). As this discussion showed, agriculture is key for people and the state. However, USAID expressed that the agriculture sector has a high reliance on rainfed crops (USAID, 2017, p. 2). Therefore, the World Bank Group expressed that the sector is highly vulnerable to the weather/climate shocks such as erratic rainfall and droughts (W. B. Group, 2021a). As USAID expressed, Maize, as a crucial crop in Malawi, has especially sensitive to changes in rainfall and temperature (USAID, 2017, p. 2). There are already important impacts of the climate variations on the crops in Malawi. USAID expressed that the production of maize suffered from frequent droughts, and this situation caused food shortages frequently (USAID, 2017, p. 2). To sum up this discussion, many people depend on agriculture as their main source of livelihoods in Malawi and agricultural production is highly crucial for food security and the state economy. Therefore, the extreme events have significant consequences for the agriculture, food security and economic conditions of people and the state economy. In terms of future projections, the

USAID report explained that there are future risks such as decreased yield of rainfed crops, further degradation of soil quality and productivity, a shift in the timing of planting and growing seasons, destruction of agricultural infrastructure, crop losses, food shortages, increase in grain prices and imports and decreased in export income and GDP (USAID, 2017, p. 2). Thus, agriculture, economy and food security are projected to be affected more as climate change progresses (USAID, 2017, p. 2).

In terms of water resources, as expressed by FAO, Malawi has important lakes, rivers and aquifers (FAO, 2005). To explain, Lake Malawi, Lake Malombe, Lake Chilwa, Lake Chiuta, Shire River, Ruo River, Bua River, Rukuru River, and Songwe River are the main water sources in Malawi, according to GFDRR (GFDRR, 2011, p. 10). As explained by the World Bank Group, these river systems cover 20% of the country's surface area (W. B. Group, 2021d). Therefore, the literature shows that there are important water sources in Malawi. However, due to climate change, increased water demand and population growth, there are issues in water availability. As expressed by the World Bank Group, water availability (in terms of quality and quantity) is highly affected by the increasing frequency of droughts and floods (W. B. Group, 2021d). There are also future climate projections for water resources. According to USAID, the water supply and water quality is projected to decrease in the future (USAID, 2017, p. 3).

In the context of fisheries, the fisheries sector is highly important for food security and the economy. The USAID report expressed that local food security is affecting by fisheries (USAID, 2017, p. 3). The report explained that around 30% of Malawi's animal protein supply is coming from fisheries (USAID, 2017, p. 3). Thus, the report explained that the fisheries are critical for nutrition and food security (USAID, 2017, p. 3). Also, the USAID report explained that fisheries are accounting 10% of the population's livelihoods (USAID, 2017, p. 3). Besides, 60,000 people are directly working in the fisheries sector. Also, the fisheries sector is contributing 4% of the GDP of Malawi, according to FAO (FAO, 2005). Therefore, the fisheries sector is also crucial for the state economy and the economic conditions of many people in Malawi. However, the sector facing problems due to climate change and unsustainable fishing

practices. According to USAID, climate change negatively affects the productivity, biology of fish and reproduction (USAID, 2017, p. 3). Specifically, Weyl expressed that Lake Malawi is on a dangerous path (Weyl, 2019, pp. 28-29). Weyl expressed that overfishing and agricultural activity in the lake's basin have negative consequences for the fishes in the lakes (Weyl, 2019, pp. 28-29). The effect of climate change is expected to be more serious for Lake Malawi in the future, according to USAID (USAID, 2017, p. 3). In general, the USAID report expressed that reduced productivity, fish migration, reduced fish stocks and damage to fish habitat are the future risks of climate change (USAID, 2017, p. 3).

Consequently, there are different impacts of climate change and extreme events in Malawi. The previous discussion showed that agriculture, fisheries, water resources and food security were highly affected by the changes in climate and extreme events. Since that agriculture and fisheries are key for the state economy and the economic conditions of many farmers and fishers, more frequent and intense extreme events will significantly impact the state economy and the economic conditions of many farmers and fisheries in Malawi.

2.5.1.2) Mozambique

In terms of climate profile, the USAID report explained that Mozambique has different climate zones due to the fact that north and center areas are tropical/subtropical and the southern region is tropical desert/semi-arid steppe (USAID, 2018, p. 2). In terms of temperatures, FAO expressed that the Zambezi basin, the coastline of Cabo Delgado, Nampula, Zambezia and Sofala are the hottest regions in Mozambique (FAO, 2016, p. 1). While the period between the October-March is mainly hot and rainy, the period of April-September is cooler and drier, according to USAID (USAID, 2018, p. 2). In terms of rainfall, the USAID report expressed that November is the month that the rainy season begins, and the rainy season peaks in January and February (USAID, 2018, p. 2). Also, the African Development Bank expressed that rainfall is quite high in the northern and the central regions of Mozambique (Bank, 2018, pp. 6-9). Also, the World Bank Group expressed that the southern areas are quite drier and receive quite a low rainfall

(W. B. Group, 2021e). Consequently, Mozambique has different climate zones and the northern, central and southern areas have different rainfall and temperatures.

In literature, there are different observed historical climate trends in Mozambique. In the context of temperature, the USAID report expressed that average temperatures were increased 1.5-2.0 C in the period of 1961-2010 (USAID, 2018, p. 2). In terms of precipitation, the World Bank Group expressed that mean rainfall was decreased in Mozambique (W. B. Group, 2021e). Specifically, Zambezia and Sofola experienced more dry days in 2000-2014 compared to the period of 1981–1999, according to the USAID report (USAID, 2018, p. 2). In the context of sea-level rise, the USAID report explained that sea level increased considerably in the years 1961-2010 (USAID, 2018, p. 2). In the context of extreme events, the Ministry of Foreign Affairs of the Netherlands's report expressed that there is an increase in the episodes of extreme events in the south and coastal regions because of the changes in temperature and rainfall (Netherlands, 2018, p. 4). USAID report also mentioned that there are more episodic floods in the coastal regions since 1960 (USAID, 2018, p. 2). Also, Ehrhart and Twena explained that floods are occurring mainly in central and southern regions (Erhart & Twena, 2006, p. 8). Also, Ehrhart and Twena expressed that there are more drought episodes in Southern Mozambique (Erhart & Twena, 2006, p. 8). To sum up, USAID concluded that the occurrence of extreme weather events (such as drought, heavy rainfall events, hurricanes, and cyclones) has increased since the 1950s in Mozambique (USAID, 2018, p. 2).

In the context of projected (future) climate change trends, there are different sources in the literature. In the context of temperature, the World Bank Group expressed that temperatures are projected to increase in southern and the coastal areas in Mozambique (W. B. Group, 2021f). USAID confirmed that hot days and nights will also increase in the future in Mozambique (USAID, 2018, p. 2). In terms of precipitation, the World Bank Group expressed that projections on rainfall are less certain for the country, and it will change depending on the region (W. B. Group, 2021f). In the context of sea-level rise, USAID expects a considerable sea-level rise by 2090 in Mozambique (USAID, 2018, p. 2). In the context of extreme events, USAID expressed that droughts, floods,

tropical cyclones may become more frequent and intense in Mozambique (USAID, 2018, p. 2). Drought is especially expected to be more common in the central and southern regions of Mozambique, according to USAID (USAID, 2018, p. 2). As the literature shows, extreme events such as drought, flood and cyclones are expected to be more frequent and intense in Mozambique.

I will focus on the impact of the extreme events on the key sectors such as agriculture, fisheries, water resources, food security, coastal resources and the economy in Mozambique. Agriculture is crucial for the economy, food security and livelihoods in Mozambique (USAID, 2018, p. 2). As USAID expressed, rural people highly depend on agriculture as their main source of livelihoods (USAID, 2018, p. 2). Also, according to USAID, agriculture is contributing to around 25% of Mozambique's GDP, and agriculture employs over 80% of the workforce of the country (USAID, 2018, p. 2). Furthermore, the World Bank Group expressed that small-scale subsistence farmers are responsible for agricultural production (W. B. Group, 2021g). Also, they expressed that more than 90% of food production is rain-fed (W. B. Group, 2021g). The key impacts of climate variations on agriculture are crop losses, declined agricultural production and disruption of local markets, according to USAID (USAID, 2018, p. 2). As explained by different sources, the natural disasters caused crop losses, livestock losses and worsened the food security and the economic conditions of many people in Mozambique (Bank, 2018; W. B. Group, 2021g; USAID, 2018). Therefore, climate variations have significant impacts on Mozambique's agricultural sector, economy, food security and the economic conditions of many rural people. There are also projected impacts of climate change and natural disasters on the agriculture sector, food security and economy. In this issue, the African Development Bank expressed that climate change will cause more crop loss and reduced yields in the future (Bank, 2018, p. 12). Since agriculture is key to the economy of the country, the economy also will be affected highly negatively in the future. To sum up, agriculture, the economy and food security are already affected by natural disasters, and they will be affected more as climate change progresses.

In terms of water resources, USAID expressed that Mozambique has over 100 river basins, significant lakes and many groundwater sources (USAID, 2018, p. 3). Among them, Zambezi River, Limpopo River, Lake Niassa and Lake Chiura are especially significant, according to different sources (FAO, 2016; USAID, 2018). Therefore, considering the rivers, lakes and groundwaters, the literature mainly agrees that Mozambique has abundant water resources. However, rising temperature, increased risk of floods and droughts, more variable rainfall and high population growth will increase the demand for water resources in Mozambique, as USAID expressed (USAID, 2018, p. 3). Also, FAO mentioned that Mozambique is highly vulnerable since many of the rivers start from abroad (FAO, 2016, p. 4). Also, Ehrhart and Twena expressed that freshwater availability is expected to decrease in the future (Erhart & Twena, 2006, p. 13). To sum up, although that Mozambique have abundant water resources, the impact of climate change can put the water resources under pressure.

In terms of coastal resources, Mozambique has a 2,470 km coastline, and this coastline is home to 60% of the population (USAID, 2018, p. 3). The coastline is also a home for the different significant ecosystems such as mangroves and seagrass, and coral reefs (USAID, 2018, p. 3). Also, USAID expressed coral reefs are maintained the many coastal small-scale fisheries (USAID, 2018, p. 3). As USAID explained, fisheries are significant for food security/quality and economic conditions due to the fact that fisheries support around 6.6 million people, and also fisheries provide around 50% of Mozambicans' animal protein (USAID, 2018, p. 3). However, the World Bank Group expressed the low-lying areas/zones will be flooded, and the coastlines will be eroded due to the increasing intensity of storm surges and the rising sea levels (T. W. B. Group, p. 10). In the context of cities, the highly populated, low-lying cities of Beira and Maputo are especially under threat, according to USAID (USAID, 2018, p. 3). To sum up, 60% of the population live in the coastal zones in Mozambique, and there are significant ecosystems that are important for the fisheries, economy, livelihoods, food security/quality and biodiversity (USAID, 2018, p. 3). However, climate change is projected to lead to loss and damage of coral reefs, mangroves, seagrass and negative consequences on small-scale fisheries and the people living in low-lying, highly populated areas such as Beira and Maputo (USAID, 2018, p. 3).

Consequently, there are different impacts of climate change and extreme events in Mozambique. The previous discussion showed that agriculture, fisheries, coastal resources, water resources and food security were highly affected by the changes in climate and extreme events. Since that agriculture and fisheries are key for the state economy and the economic conditions of many farmers and fishers, these changes in climate and frequent and intense extreme events are significant and have a significant impact on the state economy and the economic conditions of many farmers and fisheries in Mozambique.

2.5.1.3) Nigeria

USAID report expressed that Nigeria has nine ecological areas (USAID, 2019, p. 2). The northern areas are mainly classified as "arid, desert-hot" and "arid, steppe-hot", and southern areas (and some of the north-central) are mainly classified as "tropical, savannah" (USAID, 2019, p. 2). In terms of rainfall trends, USAID explained that the southern regions receive more rainfall than the northern areas (USAID, 2019, p. 2). The USAID report also mentioned that while the southern region received the rains in all of the year, the northern regions mainly receive the rains in around 5-6 months (USAID, 2019, p. 2). In terms of temperature, the USAID report shows that the northern regions experienced higher temperatures compared to the southern region (USAID, 2019, p. 2). To sum up, Nigeria has different ecological areas, and the northern regions have a higher temperature and less rainfall than the southern regions.

In the context of observed historical climate trends and projected future climate change trends in Nigeria, Haider summarized that there are significant changes in the climate of Nigeria (Haider, 2019, p. 2). In terms of temperature, the World Bank Group summarized that there are increases in temperature in Nigeria (W. B. Group, 2021h). The World Bank Group also explained that the number (annual) of hot days and hot nights increased from 1960 to 2003 in Nigeria (W. B. Group, 2021h). In terms of precipitation, the World Bank Group summarized that the annual precipitation decreased considerably in Nigeria from 1960 to 2003 (W. B. Group, 2021h). In terms of extreme events and natural disasters, the World Bank Group mentioned that floods

started to occur more frequently in Nigeria (W. B. Group, 2021h). Also, Haider expressed that extreme events (especially droughts and floods) started to occur more frequently in Nigeria (Haider, 2019, p. 2).

In terms of projections, the World Bank Group expressed that the temperatures are expected to increase in Nigeria, especially in Nigeria's northern regions (W. B. Group, 2021i). The World Bank Group also explained that there could be more heatwaves in the northern regions of Nigeria (W. B. Group, 2021i). In terms of precipitation, the World Bank Group mentioned that they expect an increase in the annual precipitation, although this increase is small (W. B. Group, 2021i). However, the USAID report expressed that many projections had uncertainty on the future annual frequency and amount (USAID, 2019, p. 2). In terms of extreme events, the USAID report mentioned that there could be more extreme and more frequent extreme events in Nigeria (USAID, 2019, p. 2). Specifically, the USAID report also expressed that there could be more droughts in Nigeria, especially in northern Nigeria (USAID, 2019, p. 2).

In this paragraph, I will focus on the impact of the extreme events on the key sectors such as agriculture, water resources, food security and the economy in Nigeria. As Dunne mentioned, approximately 70% of Nigerians depend on agriculture as their main source of livelihoods (Dunne, 2020). Also, Haider mentioned that agriculture is mainly rain-fed in Nigeria (Haider, 2019, p. 2). Thus, agriculture was highly affected by extreme events and climate changes, as Dunne summarized (Dunne, 2020). Specifically, Haider explained that droughts, higher temperatures and rainfall variability affect agricultural production and crop yields (Haider, 2019, pp. 2-3). In the end, Dunne mentioned that there were livestock and crop losses due to the increased natural disasters and climate changes (Dunne, 2020). As different sources confirmed, these crop and livestock losses are worsening people's economic conditions because these people depend on agriculture as their main source of livelihoods (Dunne, 2020; Haider, 2019; USAID, 2019). Also, as the USAID report mentioned, agriculture is contributing to 20% of Nigeria's GDP (USAID, 2019, p. 2). Thus, the agricultural decline and crop losses are highly negative for the state economy and the people in Nigeria (USAID, 2019, p. 2). In terms of future projections, the USAID report mentioned that the climate

changes (higher temperatures) and extreme events would have a severe impact on agriculture in the future (USAID, 2019, p. 2).

In terms of food security, different sources confirmed that Nigeria had significant issues in food security (Dunne, 2020; Haider, 2019; USAID, 2019). The World Bank Group mentioned that the crop losses, livestock losses and livestock losses (caused by extreme events, higher temperatures, low rainfall) affecting food security highly negatively in Nigeria (W. B. Group, 2021j). In terms of future projections on food security, the USAID report expressed that climate change (changes in temperature and precipitation) may have a significant impact on food security due to its impact on agricultural production (USAID, 2019, pp. 2-3). In terms of water security, the USAID report mentioned that there were already significant issues in access to water resources in Nigeria, especially in northern Nigeria (USAID, 2019, p. 3). More importantly, Sayne expressed that the droughts (and different factors) decreased the number of water resources in northern Nigeria (Sayne, 2011, p. 5). Thus, different sources confirmed that there were already issue to access to water resources, and the water security was worsened due to the droughts and climate changes in northern Nigeria. In terms of fisheries, Haider mentioned that many Nigerian depend on fisheries as their main source of income in Nigeria, and climate change is affecting the freshwater in Nigeria (Haider, 2019, p. 3). Ebele and Emodi also expressed that the fisheries were affected negatively by the shrinking of lakes and rivers (Ebele & Emodi, 2016, p. 7). In terms of future projections on water security and fisheries, the USAID report expressed that the water resources were expected to be decreased due to the changes in rainfall and other issues (USAID, 2019, p. 3).

Consequently, there are different impacts of climate change and natural disasters in Nigeria. The previous discussion showed that agriculture, fisheries, water resources and food security were highly affected by the changes in climate and extreme events. Since that agriculture and fisheries are key for the state economy and the economic conditions of many farmers and fishers, the frequent and intense extreme events are significant and have a significant impact on the state economy and the economic conditions of many farmers and fisheries in Nigeria.

2.5.2) Peace and Conflict Dynamics in Malawi, Mozambique and Nigeria

2.5.2.1) Malawi

Malawi is one of the countries which keep the peace conditions for a long period. According to UCDP, there were no fatalities between 1989-2019 in Malawi (Program, 2020a). Thus, the numbers showed that Malawi was a peaceful country. There were different reasons for this peace, according to the different sources in the literature. Firstly, Brosché and Höglund expressed that the ethnic groups are not salient in terms of politics in Malawi (Brosché & Höglund, 2017). Also, Brosche and Höglund mentioned that although these ethnic groups had a strong group identity, these communities do not live together (Brosché & Höglund, 2017). Thus, there was less local conflict between these groups in Malawi, according to Brosche and Höglund (Brosché & Höglund, 2017). Secondly, UN Malawi explained that people respected dialogue and exchanges of ideas in Malawi (U. Malawi, 2020). Thus, this feature mainly decreased the opportunity to use violence and increased the chance of peaceful protests (U. Malawi, 2020). Thirdly, Brosché and Höglund explained that the political elite mainly gave importance to the status quo and avoided any movement, which can increase the tension in Malawi (Brosché & Höglund, 2017). Fourthly, Brosché and Höglund mentioned that the institutions played an important role in this peace (Brosché & Höglund, 2017). Brosché and Höglund expressed that the religious institutions did not increase the tension but decrease the tension by mediating both sides (Brosché & Höglund, 2017). Also, the army forces did not involve politics in Malawi (Brosché & Höglund, 2017). Consequently, these reasons played an important role in keeping the peace in Malawi between 1989-2019. It should also be noted that there were only a few researches that discusses the reasons for the peace conditions in Malawi. Thus, this issue (the reason for peace in Malawi) can be future research.

2.5.2.2) Mozambique

According to UCDP, 6,647 people lost their lives due to armed conflicts between 1989-2019 (Program, 2020b). Although the violence was mostly developed as state-based violence, there were also a considerable amount of one-sided violence and a low number of non-state violence in this period (Program, 2020b). UCDP also confirmed that the 1977-1992 RENAMO-FRELIMO conflict, 2013-2019 RENAMO-FRELIMO

conflict and 2017 Ansar al-Sunna Insurgency conflict were the three main conflict after the independence of Mozambique in 1975 (Program, 2020b). This chapter will briefly discuss the 1977-1992 RENAMO-FRELIMO conflict and the 2017 Ansar-al-Sunna Insurgency conflict. 2013-2019 RENAMO-FRELIMO conflict will be discussed in more detail due to the fact that this conflict is key for this thesis. Besides, since my thesis focuses on the beginning of the FRELIMO-RENAMO conflict in 2013, this chapter will mainly examine the main reasons for the 2013 FREMLIMO-RENAMO conflict.

In the context of the 1977-1992 FRELIMO-RENAMO conflict, different sources confirmed that Mozambique was a colony of Portuguese until 1975 (BBC, 2019a; Program, 2020b). Marxist-Leninist FRELIMO (which was founded by Dr Eduardo Mondlande) started to attack to Portuguese government and achieved control of northern provinces through mainly using guerrilla tactics (BBC, 2019a; Program, 2020b). After the military coup in Portugal in mid-1974, the new Portuguese government agreed to the independence of Mozambique (BBC, 2019a; Program, 2020b). In 1975, FRELIMO became the government with President Samora Mache. However, as UCDP, Mozambique entered a civil war in 1977 (Program, 2020b). RENAMO emerged as a rebel group, and they took crucial support from the Rhodesia and apartheid South Africa against the socialist FRELIMO supported by South Africa and Rhodesia's anti-apartheid movements (BBC, 2019a; Faleg, 2019; Program, 2020b). Thus, Stewart expressed that the war was mainly "ideological and geo-political, with the socialist FRELIMO government being attacked by the more conservative forces of RENAMO (with strong support from South Africa and some from the U.S.)…" (Stewart, 2009b, p. 22). However, Stewart also expressed that there were significant ethnic/regional horizontal inequalities since the RENAMO's represented areas were in relative deprivation (Stewart, 2009b, pp. 22-25). In terms of the impact of the civil war on people, Faleg expressed that the results of the war were devastating for the people due to the fact that millions of people died or displaced (Faleg, 2019, pp. 1-2). Also, Faleg expressed that many infrastructure, natural resources, agriculture, health care system were damaged severely due to the civil war (Faleg, 2019, pp. 1-2). Bowker, Kamm and Sambo explained that the civil war was ended by the peace agreement in

1992 (Bowker, Kamm, & Sambo, 2016). Bowker et al. expressed that after the peace agreement, there were elections and FRELIMO won the elections, and Renamo became the second party in the elections (Bowker et al., 2016).

According to UCDP, Mozambique did not experience any armed conflict between 1992 to 2013 (Program, 2020b). Also, Faleg expressed that there was significant economic growth between 1993 to 2013 (Faleg, 2019, p. 1). However, different sources reported that the conflict between RENAMO and FRELIMO restarted in 2013, and the conflict continued until 2019, although there were different short-term ceasefires and peace agreements (BBC, 2019a; Faleg, 2019; Program, 2020b). According to the UCDP, there were 141 deaths related to the conflict of the 2013-2019 RENAMO-FRELIMO conflict (Program, 2020b). In the literature, there were different reasons for this conflict (2013 FRELIMO-RENAMO conflict), such as weak government, political exclusion of FRELIMO, economic issues/inequalities, ineffective implementation of the DDR (disarmament, demobilization and reintegration) proecess. This section will examine these reasons for the 2013 FRELIMO-RENAMO conflict in detail. Before focusing on this conflict in more detail, it is important to note that that there was another significant conflict situation after 2017 in Mozambique. According to UCDP, there were 703 total deaths related to the Ansur al-Sunnah insurgency in Mozambique between the years of 2017-2019 (Program, 2020b). In the literature, there are different reasons for the creation of the Ansur al-Sunnah in Mozambique. Bukarti and Munasinge expressed that the main reasons for the creation of the Ansur al-Sunnah were political exclusion, unemployment and high poverty in the northern Muslim region (Bukarti & Munasinghe, 2020, p. 5). Specifically, Mukwakwa expressed that the economic marginalization of the northern regions is one of the reasons for the creation of Ansur al-Sunnah in Mozambique (Mukwakwa, 2020, p. 7). In a similar argument, Swart expressed that the Cabo Delgado region was quite poor compare to southern Maputo (Swart, 2019, p. 9). Also, Swart expressed that the region felt political exclusion for a long time (Swart, 2019, p. 9). To sum up, economic marginalization and political exclusion played an important for the creation of Ansur-al Sunnah. Similar to the Ansur-al Sunnah conflict, the RENAMO-FRELIMO conflict also was affected by the economic marginalization

and the political exclusion issue, as mentioned previously. The next paragraph will discuss the main reasons for the FRELIMO-RENAMO conflict, which started in 2013.

As mentioned previously, there were different causes of the Renamo-Frelimo conflict in 2013-2016. Firstly, the weak government is one of the causes of the RENAMO-FRELIMO conflict in 2013-2016, according to Mukwakwa (Mukwakwa, 2020, p. 4). Mukwakwa expressed both FRELIMO and RENAMO have different strongholds in the country (Mukwakwa, 2020, p. 4). As Stewart expressed, while the RENAMO mainly took support from the central regions, FRELIMO has mainly taken support from the southern regions (Stewart, 2009b, p. 22). Thus, Mukwakwa expressed that the government could not apply its jurisdiction in these regions properly (Mukwakwa, 2020, p. 4). This situation contributed to the weak central governance (Mukwakwa, 2020, p. 4). As Mukwakwa expressed, RENAMO's rebel group was active in this region (Mukwakwa, 2020, p. 4). This situation also an indicator and the result of this weak government.

Secondly, different sources expressed that the political exclusion of the RENAMO and the debated elections are some of the most important contributors to this conflict between RENAMO-FRELIMO in 2013. In this context, Mukwakwa expressed that the RENAMO party was mainly excluded from the political power in Mozambique (Mukwakwa, 2020, pp. 4-5). Specifically, Manning explained that the government purposely put the southern officials in the central and northern areas (Manning, 2002, p. 44). Also, Stewart expressed that the government eliminate the officials who support the RENAMO (Stewart, 2009b, pp. 22-23). Also, Regalia explained that the RENAMO's representatives were mainly excluded from the political life, and FRELIMO dominated the political life in Mozambique (Regalia, 2017, pp. 14-21). Regarding this issue, Stewart explained that many RENAMO representative excluded from political life purposely, and this situation threatens the stability in Mozambique (Stewart, 2009b, pp. 22-25). In addition to this political exclusion, different sources express that the unfair and debated elections and the electoral system were the main contributors to the RENAMO-FRELIMO conflict (Kleinfeld, 2019; Regalia, 2017; SAPA, 2013). Kleinfield expressed unfair and unjust elections were was one of the reasons for the

tension between FRELIMO and RENAMO (Kleinfeld, 2019). Related to this issue, Regalia expressed that RENAMO mainly criticized FRELIMO for the unfair elections in Mozambique (Regalia, 2017, pp. 14-15). Also, SAPA mentioned that RENAMO demanded changes in the electoral system in Mozambique (SAPA, 2013). To sum up, the political exclusion of RENAMO, the political dominance of FRELIMO and the debated elections were considered as the main reasons for the 2013 RENAMO-FRELIMO conflict.

Thirdly, one of the most important components of the 1992 peace process was to implement disarmament, demobilization and reintegration (DDR Process). This process was supervised by ONUMOZ. (Darch, 2018; Mukwakwa, 2020). However, this process was not finished due to several reasons such as failure of the ONOMUZ, mistrust between the government-Renamo, weak government and the complexity of the situation (Faleg, 2019; Pearce, 2019). For instance, Pearce explained that there was a lack of information on the number of armed men or the number of weapon stocks (Pearce, 2019). Faleg also expressed that RENAMO kept its important weapons and delivered only their old weaponry due to the mistrust between the two sides (Faleg, 2019, p. 2). Consequently, the lack of implementation of the DDR process was one of the root causes of the FRELIMO-RENAMO conflict.

Fourthly, the economic marginalization of the central areas was discussed as one of the main reasons for the conflict between RENAMO and FRELIMO in 2013 (Mukwakwa, 2020; Stewart, 2009b). Mukwakwa expressed that the northern and central regions did not receive the benefits in economic development in Mozambique (Mukwakwa, 2020, p. 4). Furthermore, Mukwakwa expressed that these central and northern regions had low economic development compared to the southern region (Mukwakwa, 2020, p. 4). Therefore, Mukwakwa expressed that this situation maintained the tension between the RENAMO and FRELIMO (Mukwakwa, 2020, p. 4). Regarding this issue, Stewart also warned the economic inequality between the RENAMO's represented northern/central areas and the FRELIMO's represented southern was severe in Mozambique in 2005 (Stewart, 2009b, p. 25). Thus, Stewart expressed that this situation may damage the stability of Mozambique in the coming years (Stewart, 2009b, p. 25). Consequently,

there were different reliable sources that expressed that the low economic development and the economic horizontal inequality (between southern and central/northern) were considered as the main reasons for this war in 2013-2016.

Consequently, the weak governance, political exclusion of RENAMO, economic marginalization of the central/northern region, economic inequality and unsuccessful DDR Process were the main reasons for the starting of the RENAMO-FRELIMO conflict in 2013. Between 2013-2019, there were different ceasefires and renewed conflicts between FRELIMO-RENAMO due to different triggers (BBC, 2019a; Program, 2020b). However, these issues (economic marginalization, political exclusion, weak governance and unsuccessful DDR process) continued to be the main underlying factors of the FRELIMO-RENAMO conflicts.

2.5.2.3) Nigeria

According to UCDP, the total number of death reached to 57.045 between the years 1989-2019 (Program, 2020c). As the number shows, Nigeria has a history of conflict. UCDP also shows that there have been different types of conflict in Nigeria, such as state-based conflict, non-state violence and one-sided conflict (Program, 2020c). It is important to begin with the year 1960 since Nigeria gained its independence from the British Empire (BBC, 2019b). Starting from 1966, the country started to experience various coup d'etat, according to the BBC (BBC, 2019b). Bahgat and his colleagues expressed that there were two coups in 1966 (Bahgat et al., 2017, p. 123). The first one was initiated by the Igbo Ethnic group, and a countercoup was initiated by the ethnic group of Hausa-Fulani ethnic group (BBC, 2019b; Program, 2020c). The Biafra War (1967-1979) was important in the history of Nigeria (BBC, 2019b; Program, 2020c). In the context of the Biafra War, different sources explained that Igbo ethnic groups declared independence in the southeast of Nigeria, and over one million people lost their lives in the Biafra War (BBC, 2019b; Program, 2020c). In the end, Nigerian forces won the war (BBC, 2019b). Also, Biafra was reintegrated into Nigeria (BBC, 2019b; Program, 2020c). There were also different coups and changes in the government in Nigeria between 1979-1999 (BBC, 2019b; Program, 2020c).

Niger Delta conflicts are also significant in the history of Nigeria. Langer and Ukiwo expressed that the Niger Delta is highly rich in terms of oil and gas, and these resources are important for the Nigerian economy (Arnim Langer & Ukiwo, 2011, p. 232). Bahgat expressed that the Niger Delta conflict was mainly related to the distribution and the sharing of the revenues of the oil (Bahgat et al., 2017, p. 125). Also, Babatunde expressed that these oil companies created environmental degradation (on water sources, especially) in the area, which in turn increased the risk of conflict (Babatunde, 2020, pp. 278-279). In a different approach, Langer and Ukiwo also expressed that inequalities (on the unfair distribution of oil) are significant causes of the Niger Delta conflict (Arnim Langer & Ukiwo, 2011). They found that more than %80 of the people think that the horizontal inequalities are significant in the Niger Delta conflict (Arnim Langer & Ukiwo, 2011, p. 238). Contrary to this research, Bahgat and his colleagues expressed that there are no significant inequalities for the region since the people in these regions have better conditions than the rest of the country (Bahgat et al., 2017, pp. 126-131). Ukiwo also focused on the communal violence in the Nigerian cities of Warri and Calabar in the Niger Delta (Ukiwo, 2008). Ukiwo found that while there were both political, economic and social horizontal inequalities in Warri, the groups in Calabar mainly thinks that they have equal treatment with the other groups in terms of socio-economically (although that some groups feel politically excluded) (Ukiwo, 2008, pp. 193-203). Thus, while the Calabar were mainly peaceful, Warri experienced violence (Ukiwo, 2008, pp. 193-203). Consequently, there are different research focus on the Niger Delta conflict through horizontal inequalities, environmental degradation and conflict.

In the context of the conflicts in the Middle Belt, different sources expressed that there is different communal violence related to the climate and natural disasters in the area (Abugu & Onuba, 2015; Bahgat et al., 2017; Caldwell, 2012; Flamik, 2018; Gänsler, 2018). Also, it was explained that these communal fightings are mainly occurring among the Fulani nomads and the farmers, herders and nomads (Bahgat et al., 2017; Caldwell, 2012; Gänsler, 2018). Also, Flamik expressed that the number of these communal fightings were increased due to the impact of climate change and natural disasters (Flamik, 2018). In this context, Flamik expressed the herders needs water

resources and rangelands/grazing land for their cattle (Flamik, 2018). However, Abugu and Onuba expressed that droughts (more constant droughts due to climate change) and desertification especially put pressure on these resources (Abugu & Onuba, 2015, p. 44). Thus, Abugu and Onuba expressed that the herders (in the north) were forced to move to the central farmland (Middle Belt) areas due to loss of resources caused by climate change and natural disasters (Abugu & Onuba, 2015, p. 44). In the end, Abugu and Onuba expressed that the farmlands and the crops in the central (Middle Belt) region were damaged by the livestock of the northern herders (Abugu & Onuba, 2015, p. 47). Thus, this situation caused violence between the farmers and the herders, according to different sources (Abugu & Onuba, 2015; Flamik, 2018). International Crisis explained that over 300,000 people were affected by the farmers-herders conflict (I. C. Group, 2018, p. 1). Also, 1.300 people lost their lives only between January-July 2018 (I. C. Group, 2018, p. 1). Therefore, these numbers show the significance of the farmers-herders conflict. As mentioned previously, climate change is expected to increase the numbers of droughts and intensify the droughts in Nigeria. Therefore, there could be more movement of the herders to the farmer's areas and more conflicts in these regions.

In the context of Boko Haram, Boko Haram (official name is Jamaatu Ahlis Sunna Liddaawati Wal-Jihad) was founded in 2002 in Borno State of Nigeria (BBC, 2019b; Program, 2020c). Although the group is mainly peaceful until 2009, the group started its attack against the government forces and the civilians in Nigeria after 2009 (BBC, 2019b; Program, 2020c). Meagher expressed that the death of the group's leader Mohammed Yusuf and the brutal state suppression during the 2009 uprising was one of the main reasons for Boko Haram's switch to terrorism (Meagher, 2014, p. 2). From 2009, Boko Haram attacked both civilians and military-state forces (BBC, 2019b; Program, 2020c). Falode expressed that Boko Haram mainly attacked military camps, military staffs, market places, religious places (Falode, 2016, p. 47). Also, Falode expressed that they bombed many places and killed many people and soldiers in many times (Falode, 2016, p. 47). According to Falode, Boko Haram also used guerilla tactics (such as hit and run tactics, suicide bombings) at different times (mainly before 2010) (Falode, 2016, p. 43). In terms of their aim, Bahgat said that the "major goals of the

group are to have a Muslim president and to implement Sharia law in all of Nigeria" (Bahgat et al., 2017, p. 126). In terms of the intensity of the conflict, UCDP shows that the Boko Haram conflict is especially intensified in the years 2014 and 2015 (Program, 2020c). After 2015, Stephens expressed that Boko Haram was weakened (Stephens, 2018). They lost many territories, and the numbers of Boko Haram's attacks declined (Stephens, 2018). However, UCDP confirms that Boko Haram was not defeated completely (Program, 2020c). Their attacks continued in the next years, according to different sources (BBC, 2019b; John Campbell, 2021; Program, 2020c). In terms of the general fatalities, according to the UCDP, 24.037 people (civilian, non-state groups and state actors) lost their lives due to the Boko Haram attacks between the years 2009-2019 (Program, 2020c). Among them, 9,824 were civilians, according to UCDP (Program, 2020c). Therefore, the numbers show that Boko Haram is an important threat to the civilians and Nigeria's main security. There is a vast literature that focuses on the root causes of the Boko Haram conflict. In the next chapter, I will focus on the root causes of the Boko Haram insurgency.

The literature shows that the high level of poverty and unemployment rates in northern Nigeria are among the root causes of the Boko Haram conflict. As explained by different sources, unemployment and poverty are significant issues in northern Nigeria, especially in Nigeria's northeast (Evans & Kelikume, 2019; Meagher, 2014; Nett & Rüttinger, 2016). As explained by different sources, the northern states have quite high unemployment in a very long time period (Evans & Kelikume, 2019; Meagher, 2014; Nett & Rüttinger, 2016). This high level of unemployment and poverty is linked to the Boko Haram insurgency, according to different sources (Evans & Kelikume, 2019). Evans and Kelikumea found that unemployment and poverty are important causes of the Boko Haram conflict in Nigeria (Evans & Kelikume, 2019, p. 58). More specifically, Nett and Rüttinger expressed that Boko Haram provide food, marriage and income to the poor and unemployed young people (Nett & Rüttinger, 2016, p. 17). These benefits make Boko Haram a rational choice to join (Nett & Rüttinger, 2016, p. 17). In this context, Meagher also expressed that Boko Haram mainly offers food and income to poor people in Nigeria (Meagher, 2014, p. 2). Basically, Meagher said that Boko Haram was "offering basic social dignity to the poor and unemployed" in northern Nigeria

(Meagher, 2014, p. 2). Onuoha also investigates the reasons for joining a violent group such as Boko Haram and found that unemployment and poverty were some of the most important factors of youth engagement in religious-based violence (Onuoha, 2014, pp. 5-6). Consequently, these studies show that high poverty rates and unemployment rates are one of the root causes of the Boko Haram conflict.

In the literature, the low level of literacy and lack of adequate parental guidance (lack a protective social environment) was also discussed as the contributing factor of the Boko Haram insurgency. The literacy level and education conditions were highly problematic in northern Nigeria (Meagher, 2014, p. 2). Low levels of literacy are connected to a Boko Haram insurgency in Nigeria, according to different sources (Afzal, 2020; Meagher, 2014; Onuoha, 2014). In this issue, Onuoha mentioned that illiterate people could be easily manipulated by extreme groups due to their lack of capacity for critical thinking (Onuoha, 2014, pp. 6-7). Also, Afzal expressed that northern people were not familiar (in terms of their beliefs and ideologically) with the western education system (Afzal, 2020, p. 1). Thus, the outcomes of this education were mainly not good in the northern region (Afzal, 2020, p. 1). Furthermore, the northern people blamed the western educational system when they could not find a job in Nigeria (Afzal, 2020, p. 1). In the issue of lack of adequate parental guidance, Onuoha expressed that if there would not be a protective environment for the children, the extreme groups can manipulate these vulnerable children to join them (Onuoha, 2014, p. 6). Consequently, low levels of literacy rate, western education systems and lack of parental guidance are some of the causes of the Boko Haram insurgency.

The poor governance, corruption and inappropriate security responses of the government and the military were also discussed as the main causes of the Boko Haram insurgency in Nigeria(John Campbell, 2021; Kulungu, 2019; Meagher, 2014; Suleiman & Aminul Karim, 2015; Watch, 2009). Meagher expressed that Boko Haram's members initially made many protests (before they switched to terrorism) against corruption and bad governance (Meagher, 2014, pp. 1-2). Therefore, corruption and bad governance are key indicators for the creation of Boko Haram in the first place. Also, Forest expressed that the trust between the people and the government was declined due to corruption

(Forest, 2012, pp. 5-7). Nett and Rüttinger mentioned that Boko Haram highly used the government's corruption to gain the support of young people (Nett & Rüttinger, 2016, pp. 17-18). In a different argument, Suleiman and Karim expressed that poverty was also created by bad governance (since the government could not provide good employment opportunities) (Suleiman & Aminul Karim, 2015, p. 1). In terms of the inappropriate security responses, Walker expressed that the heavy, brutal and extrajudicial executions contributed to the creation and the expansion of Boko Haram (Walker, 2012, p. 1). As Campbell expressed, the relationship between the security forces and Boko Haram was extremely worsened after the extrajudicial killing of their leader Muhammed Yusuf (John Campbell, 2014, p. 2). Campbell also expresses that many of the followers were also extrajudicially killed (John Campbell, 2014, p. 2). In the end, Campbell expressed that the newly constructed Boko Haram had feelings of revenge against the security forces, and they aimed to overthrow the government by using violence (John Campbell, 2014, p. 2). Also, Human Rights Watch reported that Nigerian security forces killed civilians when they suspect that they can be a supporter of Boko Haram (Watch, 2009). Consequently, Kulungu expressed that these brutal responses are responsible for the joining of Boko Haram (Kulungu, 2019, pp. 1-3). Thus, the brutal and heavy security responses tackled the efforts to fight against Boko Haram and even increased the support for Boko Haram.

There is also an approach that discusses the creation and evolution of Boko Haram in the context of climate change and natural disasters. As mentioned previously, there is increasing desert encroachment in many parts of the northern region. According to the survey research of Nwokeoma and Chinedu, this desert encroachment highly impacted the agricultural output of the people living in northern regions (Nwokeoma & Chinedu, 2017, p. 176). Also, Nwokeoma and Chinedu expressed that there are excessive droughts and heatwaves due to climate change (Nwokeoma & Chinedu, 2017, p. 171). Many agricultural outputs and crops were mainly lost in the northern regions due to these disasters, according to their results (Nwokeoma & Chinedu, 2017, p. 176). Nwokeoma and Chinedu explained that 60% of respondents in Borno mentioned that declined agricultural practices made these people vulnerable, and this was an important reason why they join to Boko Haram (Nwokeoma & Chinedu, 2017, pp. 176-177).

Thus, the declined agricultural output, destroyed crops and livelihoods (resulted from climate change or climate-related natural disasters) are important contributors to joining illegal organizations such as Boko Haram.

In a more specific approach in the context of Boko Haram-Climate Change relation, Pham-Duc, Sylvestre, Papa, Frappart, Bouchez, and Crétaux expressed that Lake Chad shrank over the 1970s and 1980s, and this shrinking was discussed as the impact of climate change (Pham-Duc et al., 2020, p. 1). Indeed, Vivekananda, Wall, Sylvestre, Nagarajan and Brown expressed that while the lake was 25000 km2 in the 1960s, it decreased to 2500 km2 in 1987 (Vivekananda et al., 2019, pp. 38-40). Also, Birkett has expressed that those persistent droughts contributed to the shrinking of Lake Chad in this period (Birkett, 2000, p. 218). Gao also expressed that severe droughts contributed to the split of Lake Chad in 1972 (Gao, Bohn, Podest, McDonald, & Lettenmaier, 2011, p. 1). Therefore, the literature mainly agrees that Lake Chad is shrunk over the 1970s and 1980s. Also, Vivekananda, Wall, Sylvestre, Nagarajan and Brown expressed that the size of Lake Chad is not shrinking since the 1990s (Vivekananda et al., 2019, pp. 38-40). Indeed, they express that while the lake was 2500 km2 in 1987, it increased to 14000 km2 in 2013 (Vivekananda et al., 2019, pp. 38-40). Nevertheless, Vivekananda, Wall, Sylvestre, Nagarajan and Brown expressed that there were still significant impacts of climate change on the region and Lake Chad (Vivekananda et al., 2019, pp. 46-47). They expressed that climate change is still highly affecting the livelihoods due to the fact that people do not know (predict) the timing and amount of the rainfall and the location of the availability of Lake Chad's water (Vivekananda et al., 2019, pp. 10-12). In addition, these people were mainly could not move to other places due to military restrictions (Vivekananda et al., 2019, pp. 10-12). Lastly, Vivekananda, Wall, Sylvestre, Nagarajan and Brown expressed that there was a high level of unemployment and poverty around the Lake (contributed by climate), and these factors are contributing to the joining to the groups such as Boko Haram (Vivekananda et al., 2019, pp. 9-14).

There are also studies that explain the creation and the recruitment of Boko Haram through the inequalities (on different dimensions) between the regions, religions, ethnic groups (Bahgat et al., 2017; Arnim Langer, Mustapha, & Stewart, 2007; Meagher,

2014). In order to explain, firstly, Meagher expressed that the poverty and unemployment rate was quite high in northern regions compared to southern regions of Nigeria (Meagher, 2014, pp. 1-2). In this issue, Dapel expressed that while the poverty rate of the north was equal to the poverty rate to the south in 1980, the poverty rate was 73.9% for the north and 53,9% for the south in 2010 (Dapel, 2018). Therefore, Dapel expressed the there is a widening in the poverty rate between the South and North since the 1980s (Dapel, 2018). In terms of unemployment, Meagher expressed that the unemployment rate in the northeast and northwest regions were three times higher than in the southwest regions (Meagher, 2014, p. 2).

In terms of inequalities, there are also different social indicators such as education, health and public services. In terms of education, Bahgat expressed that there are important differences between the northern and the southern regions in terms of education (Bahgat et al., 2017, pp. 126-131). They explained that less than 20% of the women completed primary education in 1990 in Borno (northern region) (Bahgat et al., 2017, pp. 128-129). On the other side, Bahgat expressed that more than 80% of the woman completed their primary education in 1990 in Lagos (capital state) (Bahgat et al., 2017, pp. 128-129). More broadly, Meagher expressed that there is a significant gap in illiteracy between the southern and the northern regions (Meagher, 2014, p. 2). In terms of health, Langer, Mustapha, and Stewart expressed that while 25% of pregnant women access clinics in the northwest region, 85% the pregnant woman use the clinics in the southeast of Nigeria (Arnim Langer et al., 2007, p. 7). In terms of housing, Langer, Mustapha and Stewart expressed that 78.3% of the household do not have electricity in northeast Nigeria in 1995/1996 (Arnim Langer et al., 2007, p. 33). On the other hand, 30.4% of the households have access to electricity in the southwest of Nigeria in 1995/1996 (Arnim Langer et al., 2007, p. 33). Therefore, there were also considerable differences in terms of housing between the North and South, according to this research (Arnim Langer et al., 2007).

3) THEORETICAL FRAMEWORK

In this chapter, I will explain my hypotheses which explains how climate-related natural disasters affect the conflict dynamics by affecting the horizontal inequalities in Malawi, Mozambique and Nigeria. Before I explain my hypotheses, firstly, I will express why this issue is relevant and significant in the literature of disaster-conflict. Secondly, I also examine why did I select the cases of Malawi, Mozambique and Nigeria? After I express these details, thirdly, I highlight the theory that I follow in this thesis. Lastly, I will explain my hypotheses related to cases of Malawi, Mozambique and Nigeria.

Firstly, I think that this research is relevant and significant in the context of climate-conflict literature. A natural disaster does not affect every region at a similar level. Due to the different vulnerabilities, exposure levels and hazard risk, the disasters have a discriminative impact in the countries. As examined previously, vulnerability plays a major role in these disaster risks. Thus, natural disasters can worsen the conditions in deprived region and less affect the conditions in the advantaged region. Therefore, natural disasters can worsen the horizontal inequalities in the countries. As mentioned previously, horizontal inequalities can be an important contributor to the conflict since they can contribute to the feeling of injustice, collective motivation and the creation of the mobilization among the deprived groups in countries. Considering the connection of the natural disasters-horizontal inequality and their importance on the conflict dynamics, I think that it is relevant to examine the natural disaster-horizontal inequality relationship in the climate conflict. In terms of significance, as examined previously, natural disasters have a significant impact on the economic and social assets in different regions of many countries. Also, the literature review showed that horizontal inequalities played an important part in many conflicts in the world. Therefore, considering the significant and discriminative impact of natural disasters, the importance of the horizontal inequalities and their connections, I argue that the natural disasters-horizontal inequality relationship is significant in the context of climate and conflict literature. More importantly, it should be expressed that I found many studies which examine the impact of natural disasters on the conflict by causing scarcity, competition, greed, poverty, weak state capacity, vertical inequality, regional inequality and relative deprivation. However, I could not find a study that examines the impact of

natural disasters on the conflict by affecting the horizontal inequalities (through the contributor factors that this thesis follows). Thus, I think that this thesis is trying fulfilling a gap in the literature of climate-conflict. Therefore, I think that this thesis is important in the climate-conflict literature.

Secondly, I want to explain why did I select Malawi, Mozambique and Nigeria in the context of natural disasters-horizontal inequality-conflict. I selected these countries due to the fact that these countries experienced similar climate-related disasters in terms of frequency, magnitude and severity in their examined periods, according to the EM-DAT database (EM-DAT, 2021). Also, while Mozambique and Nigeria experienced conflict, Malawi did not experience conflict in their examined periods, according to UCDP (Program, 2020a, 2020b, 2020c; U. C. D. Program, 2021). Thus, it is interesting to examine these countries in the context of natural disasters-horizontal inequalities-conflict. Specifically, according to the EM-DAT database, Malawi, Mozambique, and Nigeria experienced 43, 45 and 38 climate-related disasters (droughts, floods, storms) respectively in their examined period (EM-DAT, 2021). Also, according to the EM-DAT database and the different sources, the number of affected people is around 16 million, 13 million and 24 million and in Malawi, Mozambique and Nigeria in their examined periods (EM-DAT, 2021). Thus, the number of affected people is also similar in the three countries in their examined periods. It should be also noted that there are only 8 country (Gabon, Malawi, Namibia, Zambia, Botswana, Equatorial Guinea, Swaziland) that did not experinced conflict according to UCDP (U. C. D. Program, 2021). Among them, Malawi was the country that experinced most frequent and intense climate-related natural disasters (EM-DAT, 2021). Also, as mentioned previously, the frequency and the severity of these disasters are highly similar to Mozambique and Nigeria. To sum up, the number of affected people and the frequency of the climate-related disasters are similar in Mozambique, Nigeria and Malawi. It should be also expressed that their population dynamics are different but I think that this situation is not highly relevant for my study. The reason is that I am focusing on the impact of the disasters on the different regions and ethnic groups. Therefore, the dynamics of these regions and ethnic groups are more important than the overall population comparison. It should be also noted that the ethnic groups and regions are matching in these countries

which means that the ethnic groups are mainly divided by the regions in these countries. This situation is especially effective when focus on the HIs. In the context of conflict, while Mozambique and Nigeria experienced the conflicts of the 2013 RENAMO-FRELIMO war, Boko Haram conflict and various conflicts, Malawi did not experience any conflict, according to the UCDP Dataset (Program, 2020a, 2020b, 2020c; U. C. D. Program, 2021). Thus, it is important to examine these three countries in the context of natural disasters-horizontal inequalities-conflict. To sum up, I selected these countries since they have similar frequent and severe disaster but different conflict dynamics.

In terms of time periods, I selected different periods for each country. For Malawi, I selected the time period of 1994-2019 due to the fact that Malawi's transition to multiparty democracy in 1994. This was one of the key events of Malawi history, and it is important in the context of political horizontal inequality. The conflict and disasters data is available until 2019. Therefore, it is relevant to discuss Malawi in the periods of 1994-2019. For Mozambique, I selected the time periods of 1992-2013 due to the fact that the civil war ended in 1992 and the FRELIMO-RENAMO conflict reemerged in 2013. Also, there were many large scale disasters in this period. For Nigeria, I selected the time periods of 1970-2009. There are two interlinked reasons behind this decision. First of all, Nigeria experienced devastating natural disasters in 1970&1980s which impacted the economic and social conditions of the northern regions (Derrick, 1977; Vivekananda et al., 2019). Also, Boko Haram evolved around the 1990s and conducted its first attack in 2009 (in terms of organized attacks) (Program, 2020c). Thus, it is relevant to select the time period of 1970-2009 for Nigeria. In the end, this thesis will focus on how natural disasters affect the conflict dynamics by affecting the horizontal inequalities in the cases of Malawi, Mozambique and Nigeria.

Thirdly, I want to express the main theories that I follow in this thesis. As examined in the literature review, I could not find a study that connects the natural disaster to conflict through its impact on horizontal inequalities. Still, there are theories that can be connected with each other easily. As examined in the literature review, the impact of natural disasters can be discriminative due to the three elements of the disaster risk; vulnerability, exposure and hazard risk. Among these elements, vulnerability is

particularly playing a major role in this context. In the context of natural disasters, people or groups can be considered as vulnerable if they have a high dependency on agriculture and bad economic and social conditions. As examined in the literature review, natural disasters can affect the disadvantaged and vulnerable groups more severely compared to the advantaged groups in the country. In this context, Islam and Winkel explained that these disadvantaged groups could be affected more severely compared to the advantaged groups due to the fact that they have bad conditions and less coping mechanisms against natural disasters (Islam & Winkel, 2017, pp. 4-7). As a result, these disadvantaged groups can lose more financial and social assets compare to the advantaged groups in the country (Islam & Winkel, 2017, p. 7). Thus, horizontal inequality can be increase due to the fact that the disadvantaged regions had more economic and social losses compare to the advantaged groups in the country.

As examined in the literature review, horizontal inequalities play an important part in the conflict and peace dynamics. In this context, as Hillesund and her colleagues expressed, the horizontal inequality-conflict relationship is shaping under the three elements, which are *group identity, motive and opportunity* (Hillesund et al., 2018, p. 464). In this context, different sources expressed that people tend to risk their lives if there are *strong group identification and group identity* (same ethnic, religious and language marks) (Hillesund et al., 2018; Østby, 2008b). Thus, Hillesund and her colleagues expressed that the inequalities between groups (HIs) are more likely to cause rebellion or violence (Hillesund et al., 2018, pp. 464-466). In addition to the strong group identity, Hillesund and her colleagues mentioned a high number of people needs to be motivated to participate in the conflict under the group (Hillesund et al., 2018, p. 465). In this context, it was expressed that *the motivation (collective)* can be created among the deprived groups if the deprived groups feel that there is an injustice or inequality between their conditions and the other group's conditions (Cederman et al., 2013, pp. 32-46; Cederman et al., 2011, p. 482; Hillesund et al., 2018, p. 466; Stewart, 2008). In other words, the feeling of injustice/inequality can create collective motivation among the deprived group. Due to the fact that the horizontal inequalities (inequalities between groups) can increase the feelings of injustice/inequality among the deprived people, it contributes to the creation of collective motivation (Hillesund et al., 2018, pp.

465-466). As a result of this collective motivation caused by feelings of inequality/injustice, Hillesund and her colleagues express that the groups (have a strong identity) can find an *opportunity* to solve the collective action dilemma and mobilize in the country (Hillesund et al., 2018, p. 466). Therefore, these groups can start a rebel in the country (Hillesund et al., 2018, p. 466). Considering these discussions, it can be argued that natural disasters, by worsening the HIs, seemes to contribute to the feeling of injustice and the creation of the collective motivation, which in turn seems to contribute to the mobilization and increase the risk of conflict.

Considering the theoretical framework above, I argue that natural disasters, by worsening the HIs, seemed to contributed to the creation of feelings of injustice and the collective motivation, which in turn seemed to contributed to the mobilization of the deprived groups and increased the risk of conflict in Malawi, Mozambique and Nigeria. In Figure 1, I present a mechanism (based on contributing factors) to express how natural disasters increase the risk of conflict by worsening the horizontal inequalities in three countries. It should be express that this mechanism is weak and should not understand as a strong relationship. In other words, my arguments are mainly week and do not show a strong mechanism. Still, I am observing this relationship through this mechanism.

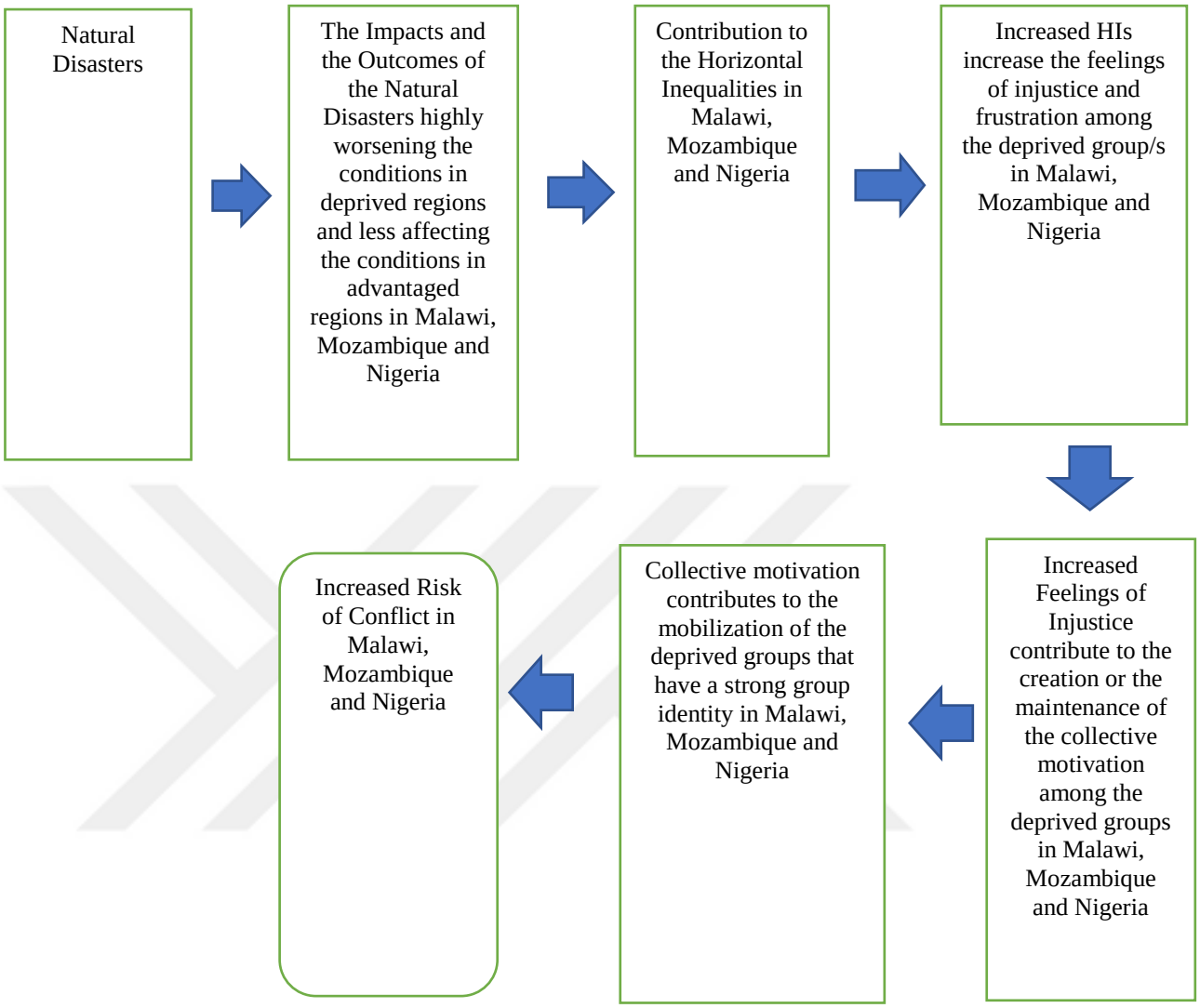

Figure 1: How the Natural Disasters Increased the Risk of Conflict by Worsening Horizontal Inequalities in Malawi, Mozambique and Nigeria?

To explain this relationship, I argue that natural disasters increase the horizontal inequalities by highly worsening the economic and social conditions in the deprived region and less affecting advantaged regions in Malawi, Nigeria and Mozambique. In turn, I claim that these increased horizontal inequalities (contributed by natural disasters) seems to increase the feelings of injustice/inequality and frustration among the deprived groups in these countries. I argue that these feelings of injustice seemed to contributed to the creation or the maintenance of collective motivation among the

deprived groups in these countries. As expressed previously, collective motivation can be created as a result of the increased feelings of injustice caused by horizontal inequalities. This collective motivation can solve the collective action dilemma and enable mobilization if the deprived group has a strong group identity. Thus, I claim that this collective motivation (caused by feelings of injustice and inequality) contributes to the mobilization of the deprived groups and gave them the opportunity to rebel in these three countries. Therefore, I suggest that the risk of conflict was increased in these countries. Thus, my main hypothesis is;

Hypothesis 1: By worsening the HIs, natural disasters contributed to the creation or the maintenance of the feelings of injustice and collective motivation among the deprived groups, which in turn contributed to the mobilization and increased the risk of conflict in Malawi, Mozambique and Nigeria.

In addition to my main hypothesis, I would like to express my other hypotheses specifically to the countries of Malawi, Mozambique and Nigeria. In the context of Malawi, the southern groups were the most disadvantaged groups in Malawi, according to different sources (Family, 2020; Girardin, Hunziker, Cederman, Bormann, & Vogt, 2015; I. W. Index, 2021; S. H. D. Index, 2021a, 2021b, 2021c; Platform, 2020; Vogt et al., 2015). The northern group and the central groups were considered as more advantaged groups, according to the different sources (Family, 2020; Girardin et al., 2015; I. W. Index, 2021; S. H. D. Index, 2021a, 2021b, 2021c; Platform, 2020; Vogt et al., 2015). Thus, I claim that natural disasters highly worsened the conditions in the southern region and less worsened the conditions in the central and northern region. Therefore, I argue that natural disasters increased the horizontal inequalities by highly worsening the conditions of the southern region and less affecting the conditions of the northern and central region. I claim that these increased horizontal inequalities seemed to increased the feelings of injustice among the deprived southern groups. As a result, I claim that these feelings of injustice contributed to the creation of collective motivation among the deprived southern groups, which in turn contributed to the mobilization and increased the risk of conflict;

Hypothesis 2: By worsening the HIs, natural disasters contributed to the creation of feelings of injustice and collective motivation among the deprived southern groups, which in turn contributed to the mobilization and increased the risk of conflict in Malawi between 1994-2019.

Also, I expressed that Malawi had no conflict between 1994-2019. In this context, I argue that despite natural disasters worsened the horizontal inequalities, there were still low-level horizontal inequalities in Malawi. Therefore, I claim that these low-level horizontal inequalities played an important part in preventing the creation of high-level feelings of injustice and the collective motivation among the deprived southern people. In the end, this situation prevented the southern people from mobilizing in Malawi. Therefore, my third hypothesis is;

Hypothesis 3: There were low-level horizontal inequalities, and this situation prevented the creation of feelings of injustice and collective motivation, which prevented the mobilization and the conflict in Malawi.

It should also be noted that *Hypothesis 2* and *Hypothesis 3* do not conflict with each other. In *Hypothesis 2*, I only argue that natural disasters *increased* the *risk of conflict* by increasing HIs and increasing the feeling of injustice among the deprived people. In *Hypothesis 3*, I explain *why there* is *no conflict* in Malawi. In general, I suggest that natural disasters, by worsening the horizontal inequalities, contributed to the feelings of injustice and collective motivation, which in turn increased the risk of mobilization and conflict. Still, I suggest that the low-level of horizontal inequalities prevented the conflict by preventing the creation of the high-level of feelings of injustice and collective motivation. Thus, I think that there is no conflict between *Hypothesis 2* and *Hypothesis 3.*

In the context of Mozambique, central and northern groups were the most disadvantaged groups in Mozambique. The southern groups were considered as more advantaged groups, according to different sources. (W. B. Group, 2018; Stewart, 2009b). It should also be noted that the 1977-1992 RENAMO-FRELIMO war was

shaped by different factors, including horizontal inequalities (Stewart, 2009b, pp. 22-25). Thus, there was already a feeling of injustice, and collective motivation among the deprived RENAMO's represented central and northern areas. In this context, I claim that the natural disasters highly worsened the conditions in the deprived central and northern and less worsened the conditions in the advantaged southern region. Therefore, I argue that natural disasters seemed to increased the horizontal inequalities by highly worsening the conditions of the northern and central region and less affecting the conditions of the southern region. Therefore, these horizontal inequalities (increased by natural disasters) maintained the feelings of injustice among the deprived central and northern people. Thus, I argue that these feelings of injustice maintained collective motivation among the central and northern people. As a result, I suggest that the collective motivation seemed to contributed to the mobilization of the deprived central and northern people under the RENAMO rebel groups. Thus, the natural disaster seemed to contributed to the creation of the RENAMO rebel group and increased the risk of conflict. Thus, my fourth hypothesis is;

Hypothesis 4: By worsening the HIs, natural disasters contributed to the maintenance of the feelings of injustice and the collective motivation among the deprived central and northern groups, which in turn contributed to the mobilization of the central and northern people under the RENAMO rebel group and increased the risk of conflict between 1992-2013.

In the context of Nigeria, the northern groups were the most disadvantaged groups in Nigeria (Family, 2020; Girardin et al., 2015; I. W. Index, 2021; S. H. D. Index, 2021a, 2021b, 2021c; Platform, 2020; Vogt et al., 2015). Southern groups were considered as more advantaged groups, according to different sources (Dapel, 2018; Arnim Langer et al., 2007; Meagher, 2014; Nett & Rüttinger, 2016). Thus, I claim that the natural disasters highly worsened the conditions in the northern region and less worsened the conditions in the southern region between 1970-2009. Therefore, I argue that natural disasters increased the horizontal inequalities by highly worsening the conditions of the northern region and less affecting the conditions of the southern region between 1970-2009. Therefore, I argue that these horizontal inequalities (increased by HIs) increased

the feelings of injustice among the deprived northern groups. Thus, I think that these feelings of injustice contributed to the creation of collective motivation among the northern groups. As a result, I claim that the collective motivation contributed to the mobilization of the northern people under Boko Haram. Thus, the natural disaster seemed to contributed to the creation of Boko Haram and increased the risk of conflict. Thus, my fifth hypothesis is:

Hypothesis 5: By worsening the HIs, natural disasters contributed to the creation of feelings of injustice and collective motivation among the deprived northern groups, which in turn contributed to the mobilization of the northern people under Boko Haram and increased the risk of conflict between 1970-2009.

In the next chapter, I examine the method that I will use to explain these hypotheses. Also, I explain my data which I will use to show the evidence to support these hypotheses.

4) RESEARCH DESIGN

In this thesis, my research question is “do the climate-related natural disasters affected the conflict dynamics through affecting the horizontal inequalities in Malawi, Mozambique and Nigeria?”. As examined in the theoretical framework, I argued that natural disasters, by worsening the horizontal inequalities, seemed to increased the risk of conflict in Malawi, Mozambique and Nigeria. Thus, I presented contributing factors that expresses how natural disasters increased the risk of conflict by worsening the horizontal inequalities in Malawi, Mozambique and Nigeria. It is important to note that my mechanism does not explain the causal mechanism, but mainly explain the contributoring factors that link the natural disaster to conflict through horizontal inequalities. Besides, my research should be understand as a strong mechanism, but rather observing this relationship in a weak way. Also, I will explain my country specific-hypotheses based on the mechanism created by contributor factors.

4.1) Methodology: Contributor Factors and Mechanism

As expressed previously, my main theory is the natural disasters-horizontal inequality-conflict relationship. In this theory, I argued that natural disasters, by worsening the HIs, seemes to contribute to the creation of the feeling of injustice and the collective motivation, which in turn seemed to contributed to the mobilization and the risk of conflict. Considering this theory, in Figure 2, I also presented every step of this mechanism based on the contributor factors. Briefly, this mechanism argues that natural disasters, by worsening the HIs, seemed to contributed to the creation of feelings of injustice and collective motivation, which in turn seemed to contributed to the mobilization and increased the risk of conflict in Malawi, Mozambique and Nigeria.

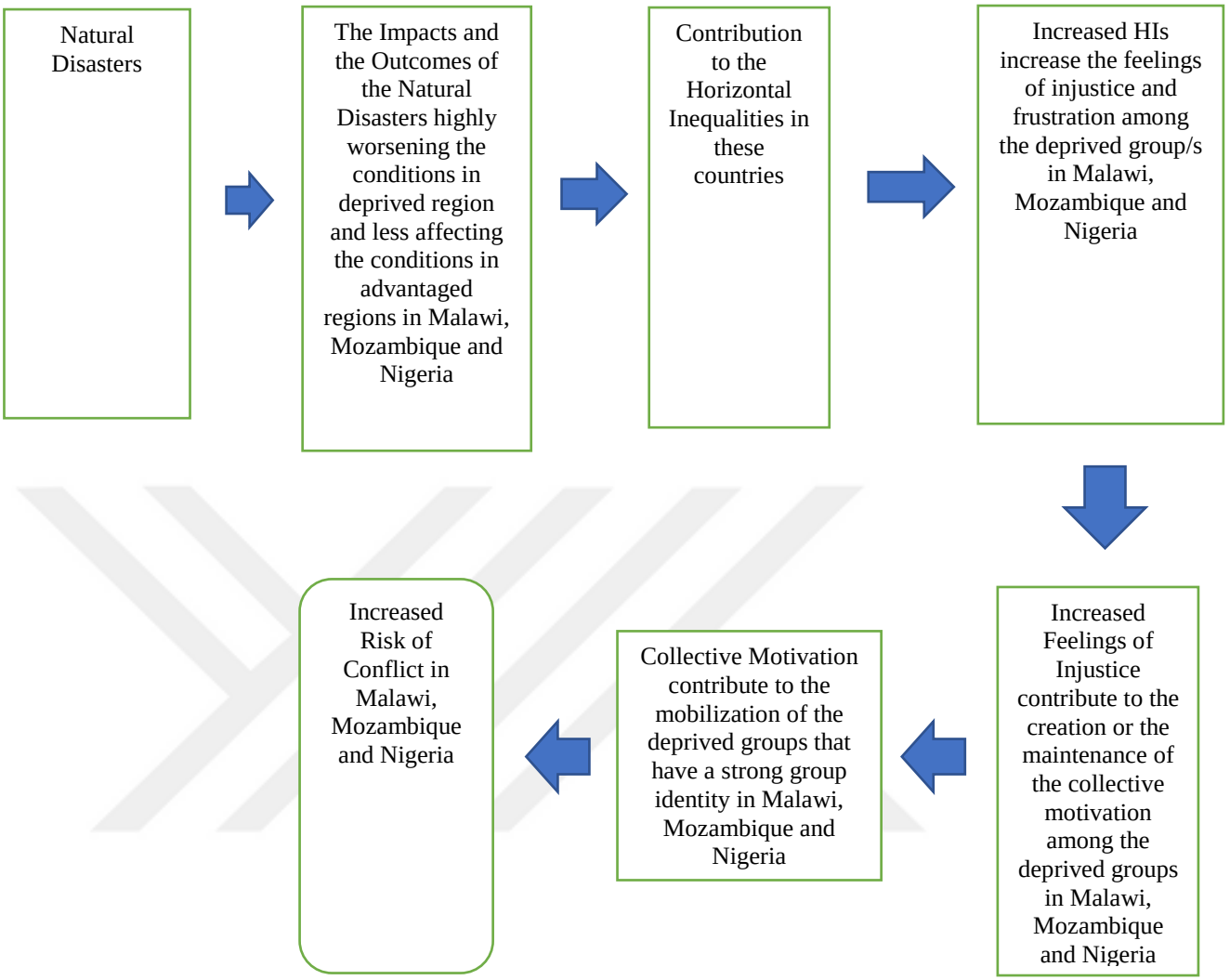

Figure 2: How did Natural Disasters Increase the Risk of Conflict by Worsening HIs in Malawi, Mozambique and Nigeria?

As mentioned previously, I also had country-specific hypotheses based on the mechanism above (based on the contributor factors). In the context of Malawi, I argued that natural disasters increased the risk of conflict by worsening the horizontal inequalities. In the first step of the mechanism, I express how natural disasters highly worsened the conditions of the deprived southern region and less worsened the conditions in the advantaged central and northern region. In the second step of the mechanism, I express that this discriminative impact of natural disasters increased the

horizontal inequalities in Malawi. In other words, I explain that natural disasters increase HIs by worsening the conditions in the deprived southern region and less worsening the conditions in other advantaged central and northern regions. In the third step of the mechanism, I explain how these increased HIs increased feelings of injustice among the deprived southern groups in Malawi. In the fourth step of the mechanism, I explain how these increased feeling of injustice contributed to the creation of the collective motivation among the deprived southern groups. In the fifth step of the mechanism, I explain how the collective motivation contributed to the mobilization and increased the risk of conflict in Malawi.

I also claimed that despite the natural disasters increased the horizontal inequalities, there were low-level horizontal inequalities, and this situation prevented the creation of the collective motivation, mobilization and conflict in Malawi. Considering the mechanism above, I will explain how the low-level horizontal inequalities prevented the creation of feelings of inequality and the collective motivation among the southern people.

In the case of Mozambique, I argued that natural disasters increased the risk of conflict by affecting the horizontal inequalities. More specifically, as expressed in the theoretical framework, I argued that the natural disasters, by worsening the HIs, contributed to the maintenance of the collective motivation, which in turn contributed to the mobilization of the central/northern people under the RENAMO rebel movement and increased the risk of conflict in Mozambique. In the first step of this mechanism, I express how natural disasters highly worsened the conditions of the deprived central and northern region and less worsened the conditions in the advantaged southern region. In the second step of the mechanism, I explain how this discriminative impact of the natural disasters worsened the horizontal inequalities in Mozambique. In the third step of the mechanism, I express that these increased HIs increased the feelings of injustice among the deprived central and northern groups in Mozambique. In the fourth step of the mechanism, I express that these increased feelings of injustice contributed to the maintenance of the collective motivation among the deprived central and northern groups. In the fifth step of the mechanism, I express that this collective motivation

contributed to the mobilization of the central and northern people under the RENAMO rebel movement and increased the risk of conflict in Mozambique.

In the case of Nigeria, I argued that natural disasters increased the risk of conflict by affecting the horizontal inequalities. More specifically, as expressed in the theoretical framework, I argued that the natural disasters, by worsening the HIs, contributed to the creation of the collective motivation, which in turn contributed to the mobilization of the northern people under the Boko Haram and increased the risk of conflict in Nigeria. In the first step of the mechanism, I claim that natural disasters highly worsened the conditions of the deprived central and northern region and less worsened the conditions in the advantaged southern region. In the second step of the mechanism, I argue that the horizontal inequalities were increased due to the fact that the economic and social conditions of the northern region were worsened more severely compared to the conditions of the southern region. In the third step of the mechanism, I express how these increased HIs contributed to the creation of feelings of injustice among the deprived northern groups in Nigeria. In the fourth step of the mechanism, I explain that these increased feelings of injustice contributed to the creation of the collective motivation among the deprived northern groups. In the fifth step of the mechanism, I express that this collective motivation contributed to the mobilization of the northern people under Boko Haram and increased the risk of conflict in Nigeria. In the next section, I explain the data that I used to support these parts of the mechanism based on contributor factors

4.2) Data Gathering and Analysis

In this section, I explain my data gathering and analysis process. In this research, I used data, reports, indexes, newspaper articles, surveys, and journal articles for findings evidence for my mechanism. Considering the mechanism expressed above, it is important to find data and evidences on a) pre-disaster vulnerabilities and pre/post-disaster responses in three countries; b) the impact of natural disasters on economic and social conditions for the different regions in three countries; c) the main level of the horizontal inequalities of three countries; d) the feelings of injustice among the deprived groups in three countries; e) collective motivation and collective mobilization among the deprived groups in three countries; f) the number of conflict and deaths in three

countries. Therefore, I collected and analyzed data and material on these significant issues, which consist of the different parts of the mechanism. In the next paragraph, I give information on the data. Also, I explain how and why I used this data.

Firstly, I used the International Wealth Index (IWI), Subnational Human Development Index (SHDI) and different reports to understand the pre-disaster vulnerabilities. The International Wealth Index is an important index to assess the wealth of households in many countries (Lab, 2021a; Smits & Steendijk, 2015). IWI has values that start from 0 to 100 (Lab, 2021a; Smits & Steendijk, 2015). The value of "0" means that the households had the lowest quality and no assets (Lab, 2021a; Smits & Steendijk, 2015). The value of "100" means that the households have the highest quality and have all of the assets (Lab, 2021a; Smits & Steendijk, 2015). The index provides data on different levels, such as regional, sub-regional, urban-rural, and national (Lab, 2021a; Smits & Steendijk, 2015). Therefore, the index provides significant details for the wealth conditions of the different households in different regions of the countries. Subnational Human Development Index is an important index to assess human development in many regions in countries (Lab, 2021b; Smits & Permanyer, 2019). Smits and Permanyer explained that the database includes the years of 1990-2018 and consist of 1625 region worldwide (Smits & Permanyer, 2019). As Smits and Permanyer mentioned, the index consists of three elements which are education, health and standard of living (Smits & Permanyer, 2019). The SHDI Index also have separate indexes named "Health Index" and "Education Index" (Lab, 2021b; Smits & Permanyer, 2019). These indexes also have different levels such as regional, subregional and national (Lab, 2021b; Smits & Permanyer, 2019). As explained by Smits and Permanyer, if the value is close to 0.001, the region has a bad quality in human development (Smits & Permanyer, 2019). On the other hand, if the value is close to 0.999, the region has a very good quality in human development (Smits & Permanyer, 2019).

In my research, I used IWI and examined the pre-disaster economic conditions of the people in the affected region. For this, I examine the economic conditions of the region one year before the disasters occurred. To understand the economic conditions, I focus on one of the IWI indicators, which is "% poorest households (with IWI value under

35)" for the three countries. This indicator shows the households who have an IWI score under 35. Therefore, the indicator shows the poorest households at the sub-regional level. Also, I used health index values and education index values to understand the pre-disaster social conditions of the affected areas. For this, I examine the health and education conditions of the region that one year before the disaster occurred. To understand the dependency on agriculture, I used different reports which express the main livelihoods of the affected region. In the context of pre/post-disaster responses, I used different reports and journal articles to assess whether the responses are weak or not.

Secondly, I used the EM-DAT database, Relief Web, journal articles, and government reports to find the impact and the outcome of the natural disasters on the economic and the social conditions of the different regions of Malawi, Mozambique and Nigeria. These data and sources enable me to understand how natural disasters affected the horizontal inequalities by worsening the conditions in the deprived region and less worsening the conditions of advantaged regions. The EM-DAT database is an important database to identify the numbers of disasters, affected people, dead people, displaced people and the affected areas (EM-DAT, 2021). Also, the database is an international database that includes geophysical, meteorological, hydrological, climatological, biological, extraterrestrial and technological disasters (EM-DAT, 2021). Thus, the database consists of many disasters such as droughts, storms, floods, landslides, extreme temperature, fog, earthquake, epidemic, space weather, oil spill, and radiation (EM-DAT, 2021). Also, the database includes data on the affected people, dead people, affected areas and displaced people for almost every disaster in the world (EM-DAT, 2021). The database includes disasters in many countries, including Malawi, Mozambique and Nigeria (EM-DAT, 2021). To carry an effective research, I only focused on large-scale natural disasters, which affects more than 100 000 people. Also, I only focused on the hydrological and climatological disaster group since that I interested in climate-related natural disasters.

In the context of impact and the outcomes of natural disasters, I used the portal of Relief Web (ReliefWeb, 2021). Relief Web is a humanitarian information portal that includes

reports, press releases, assessments, maps and infographics (ReliefWeb, 2021). It is a reliable portal supported by UN OCHA (ReliefWeb, 2021). The Relief Web is a highly useful portal due to the fact that it includes old-dated many reports and press releases (ReliefWeb, 2021). Thus, it is an important place to find old-dated reports and press releases. In my research, the Relief Web highly played an important part because I need to examine many old-dated reports related to the disasters in Malawi, Mozambique and Nigeria. As mentioned previously, I also used many government reports, journal articles and newspaper articles to understand the outcomes of the disasters on the economic and social conditions in Malawi, Mozambique and Nigeria. In the context of government reports, many of these reports were written in collaboration with respective international institutions such as the World Bank or UNDP. Therefore, I think that many of these reports are reliable sources.

Thirdly, I mainly used EPR Atlas/EPR Data, Demographic and Health Surveys (DHS), International Wealth Index (IWI) and Subnational Human Development Index, government surveys, and reports to understand the level of horizontal inequalities in these three countries. In the context of political horizontal inequality, the EPR Atlas and EPR Dataset explain the ethnic groups that are politically relevant (Family, 2020; Girardin et al., 2015; Platform, 2020; Vogt et al., 2015). It provides information on the political participation and influence of the ethnic groups in many countries, including Malawi, Mozambique and Nigeria (Family, 2020; Girardin et al., 2015; Platform, 2020; Vogt et al., 2015). According to their database and atlas, there are different levels of political inclusion and exclusion, which are the monopoly, dominant, senior partner, junior partner, self-exclusion, powerless and discriminated (Family, 2020; Girardin et al., 2015; Platform, 2020; Vogt et al., 2015). Also, thanks to their database and sources, I was able to understand the ethnic situation in their countries such as the number of ethnic groups, diverstiy of the ethnic groups, and their locations. For three-country, I discussed the ethnic groups' political inclusion and exclusion, considering these different levels of political inclusion and exclusion. It should be also noted that I also checked the Historical Index of Ethnic Fractionalization Dataset (HIEF) data to understand the ethnic fractionalization the countries (Drazanova, 2019; Fractionalization, 2019). The dataset includes the years of 1945-2013 and focusing on

165 countries in the world (Drazanova, 2019; Fractionalization, 2019). It calculate the ethnic fractionalization in the countries which is helpful for me to understand the understand the ethnic fractionalization in Malawi and Nigeria. In this dataset, if the index is close to 0, then the individuals mainly are in the same ethnic groups (Drazanova, 2019; Fractionalization, 2019). If the index is close to 1, then the individuals mainly are in the different ethnic groups (Drazanova, 2019; Fractionalization, 2019). The dataset does not include Mozamibique. For this reason, I also check the data by Alberto Alesina, Arnaud Devleeschauwer, William Easterly, Sergio Kurlat and Romain Wacziarg (Alesina, Devleeschauwer, Easterly, Kurlat, & Wacziarg, 2003). Their database also include the Mozambique along with Malawi and Nigeria (Alesina et al., 2003).

In the context of economic horizontal inequality, I could not use one database but rather a different database due to the data insufficiency or the quality. For Malawi, I used "Integrated Household Surveys (IHS)" reports (or other reports based on IHS findings) to understand the economic horizontal inequality in Malawi (IFPRI, 2019; M. N. S. Office, 2012; System, 2000). In these reports, I examined the poverty rates of different regions to compare these different regions (IFPRI, 2019; M. N. S. Office, 2012; System, 2000). For Mozambique, I used the IWI index and examined the criteria "% poorest households (with IWI value under 35)" to compare the economic situation of the different regions. For Nigeria, I used the poverty reports of the Nigerian National Bureau of Statistics (N. B. o. Statistics, 2005, 2012). In these reports, I examined the poverty rates to understand the economic conditions of the different regions.

In the context of social horizontal inequality, I also used different databases and reports because there is no one database or report which express the social horizontal inequality of all of these countries. For Malawi, I used Demographic and Health Surveys (DHS) to assess the health conditions of the different regions in Malawi (M. N. S. Office & ICF, 2017; M. N. S. Office & Macro, 2011; M. N. S. Office & Macro, 2001, 2005). Specifically, I focused on the child mortality rates of the different regions of Malawi (M. N. S. Office & ICF, 2017; M. N. S. Office & Macro, 2011; M. N. S. Office & Macro, 2001, 2005). In the context of education condition in Malawi, I focused on the

primary enrolment rate by using IHS surveys for Malawi (M. N. S. Office, 2000, 2005, 2012, 2017). For Mozambique, I used "Health Index", "Education Index", and "International Wealth Index" to assess the social conditions of the different regions. By focusing on the health index, I consider the health index values to compare to the health conditions of the different regions of Mozambique. In the context of education, I focused on the education index values to compare the education conditions of the different regions. Specifically to Mozambique, I also compared the electricity conditions by using the Global Data Lab (Database, 2021b). In this index, I focused on the criteria entitled "% households with electricity" and compare the different regions (Database, 2021b). For Nigeria, I focus on DHS Surveys to understand education and health conditions (N. N. P. Commission, 2000; N. N. P. Commission & Macro, 2009; N. N. P. Commission & Macro, 2004; F. O. o. Statistics & Inc., 1992). In DHS Surveys, I examined the child mortality rate and the persons who receive no education in Nigeria. By focusing on these data, I compare the different regions of Nigeria. DHS surveys are reliable household surveys that were used by different well-known academic works and reports. These surveys mainly focus on the health, population and nutrition conditions of different regions of many countries.

Fourthly, I used Afrobarometer, journal articles and reports to understand the feeling of injustice among the deprived groups. Afrobarometer is an important network that carries surveys across Africa, including Malawi, Mozambique and Nigeria (Afrobarometer, 2021). They conduct surveys for understanding the political, economic and social conditions of the country (Afrobarometer, 2021). Specifically, the surveys include the question of "how often are [your identity or ethnic group] treated unfairly by the government?" (Afrobarometer, 2021; Data, 2006, 2009, 2013, 2015, 2018). There are four types of answer to this question; Never, Often, Sometimes and Always (Afrobarometer, 2021; Data, 2006, 2009, 2013, 2015, 2018). I mainly accepted the answers of "Often," "Sometimes," and "Always" as an expression of unfairness (by the government) in some levels (Afrobarometer, 2021; Data, 2006, 2009, 2013, 2015, 2018). Also, I was able to analyze the answer to this question at the regional level (Afrobarometer, 2021; Data, 2006, 2009, 2013, 2015, 2018). Thus, this question gives important evidence on the feeling of injustice among the ethnic groups in Mozambique,

Malawi and Nigeria. I examined this question (at the regional level) to understand the feelings of injustice among the deprived groups in Nigeria, Mozambique and Malawi. For Nigeria, I also consider reports and articles to understand the feeling of injustice since these reports and articles give effective answers and evidences.

Fifthly, I used different journal articles, newspaper articles and reports to understand the collective motivation and collective mobilization of the deprived groups in Malawi, Mozambique and Nigeria. Lastly, I used the Uppsala Conflict Data Program (UCDP) to understand the conflict and peace situations in Malawi, Mozambique and Nigeria (Program, 2020a, 2020b, 2020c; U. C. D. Program, 2021). The Uppsala Conflict Data Program (UCDP) Portal consist of data on state-based violence, non-state violence and one-sided violence (Program, 2020a, 2020b, 2020c; U. C. D. Program, 2021). Also, UCDP Portal consist of data for many countries in the world, including Malawi, Mozambique and Nigeria (Program, 2020a, 2020b, 2020c; U. C. D. Program, 2021). The UCDP portal explains the number of deaths specifically for state-based violence, non-state violence and one-sided violence (Program, 2020a, 2020b, 2020c; U. C. D. Program, 2021). Also, UCDP Portal give brief information on the conflict and peace dynamics of the countries (Program, 2020a, 2020b, 2020c; U. C. D. Program, 2021). In the context of Malawi, Mozambique and Nigeria, I examined the number of deaths to understand the conflicts in these countries. Also, I examined UCDP's information section on the conflict dynamics for Malawi, Mozambique and Nigeria. As a result, I use and analyze these data for finding evidence for the parts of the mechanism expressed above.

5) ANALYSIS

In this analysis, I will examine do climate-related natural disasters affected the conflict dynamics through affecting the horizontal inequalities in Malawi, Mozambique and Nigeria. In the theoretical framework, I argued that the natural disasters, by worsening the HIs, seems to contribute to the creation of feelings of injustice and the collective motivation, which in turn seems to contribute to the mobilization and increase the risk of conflict in Malawi, Mozambique and Nigeria. Also, I had country-specific arguments considering this mechanism based on the contributor factors. In the context of Mozambique, I specifically argued that the natural disasters, by worsening the HIs, seems to contribute to the maintenance of the feeling of injustice and collective motivation, which in turn seems to contribute to the mobilization of the central/northern people under the RENAMO rebel group and increase the risk of conflict in Mozambique. In the context of Nigeria, I argued that the natural disasters, by worsening the HIs, seems to contribute to the creation of the feeling of injustice and collective motivation, which in turn seems to contribute to the mobilization of the northern groups under the Boko Haram group and increase the risk of conflict in Nigeria. In the context of Malawi, I argued that natural disasters, by worsening the HIs, seems to contribute to the creation of the feeling of injustice and collective motivation, which in turn seems to contribute to the mobilization and increased the risk of conflict in Malawi. Also, I argued that despite that natural disasters increased HIs, there were low-level horizontal inequalities, and this situation prevented the creation of the collective motivation and the mobilization of the deprived southern group. In this analysis, I examine these cases considering the mechanism expressed above.

The first chapter will examine the impact of disasters on the economic and social conditions of each region of the three countries. This chapter is significant to understand whether natural disasters had significant impacts on the affected regions of the three countries. Thus, this chapter will give evidence regarding the first step of the mechanism. The second chapter will examine the horizontal inequalities in Malawi, Mozambique and Nigeria. This section is significant since this chapter will focus on the political, economic and social horizontal inequalities in three countries. This section enables us to understand the level of political, social and economic horizontal

inequalities in three countries. Therefore, this section will give evidences for the second and the third step of the mechanism. The third chapter is the most important chapter, which will examine the relationship on how natural disasters seems to increase the risk of conflict by worsening the horizontal inequalities in Malawi, Mozambique and Nigeria. Also, I will discuss the country-specific results based on the mechanism based on contributor factors. Therefore, the third chapter will include my main results specifically for each country. It should be express that I am mainly observing the relationship between disasters-horizontal inequalities-conflict with rather weak linkages. My mechanism should not be understand as a strong mechanim but rahter a mechanism contains weak linkages.

5.1) The Impact of the Outcomes of the Natural Disaster on the Economic and Social Conditions of the Regions of Malawi, Mozambique and Nigeria

In this chapter, I will focus on the impacts and the outcomes of the large-scale natural disasters (affected more than 100,000 people) on the economic and social conditions of the regions of Malawi, Mozambique and Nigeria in their respective periods. I express that natural disaster had significant impacts on the economic and social conditions of particular regions in the three countries. To assess these impacts and the outcomes, this chapter will consider pre-disaster vulnerabilities, disaster preparedness, pre-disaster response, the impact of the disasters, post-disaster responses and the outcomes of the disasters. Thus, it is important to explain these sections very briefly.

Firstly, as expressed in the literature review, there were three elements of the disaster risks, which are vulnerability, exposure and hazard risk. Also, I explained that vulnerability plays a major in disaster risk. Therefore, I mainly examine the pre-disaster vulnerabilities of the affected regions. The vulnerability of the regions is significant due to the fact that natural disasters had severe impacts on the regions which depend on agriculture and have bad economic and social conditions. Therefore, I will examine the dependency on agriculture, economic conditions and social conditions to understand the pre-disaster vulnerability. Specifically, I will focus on the pre-disaster vulnerabilities one year before the disaster to assess the vulnerability-disasters relation effectively.

Secondly, the disaster preparedness and pre-disaster responses were significant since effective disaster preparedness and pre-disaster responses had a mitigating effect on the impact of the disasters. In terms of disaster preparedness and pre-disaster responses, I will examine the strategies, plans, programs, systems, equipment and departments on disaster preparedness and focus on specific responses to the disasters. For the sake of clarity, I will focus on the developments in disaster preparedness at least one year before the disasters. Thirdly, I will focus on the casualties, affected people, displaced people, crop losses, livestock losses, infrastructure damages, damaged houses and asset losses to understand the impact of the disasters in the affected regions. As an important note, the section of "the impact of the natural disaster" will be only available for the sudden onset disasters, which are cyclones and floods. For the slow-onset disasters such as drought, the section of "the impact of the natural disaster" will be integrated with the section of "outcomes of the natural disasters". Fourthly, the post-disaster responses will be examined. As expressed in the literature review, post-disasters responses include the attention of the government/international community, distribution of goods/materials, rescue operations and long-term solutions. Fifthly, the last section (the outcomes of the disasters) focuses on the question of how the disasters affected the economic conditions and the social conditions in Malawi, Mozambique and Nigeria.

In terms of limitations, a very low amount of large-scale natural disasters could not be examined due to the fact that I could not find adequate sources to discuss the impact and the outcomes of these disasters. Still, they will be considered in the overall assessment despite that this paper could not focus on these disasters. Also, the pre-disaster responses and post-disaster responses of a very low amount of disasters could not be examined due to the fact that I could not find adequate resources on these issues. Still, these limitations did not cause a significant problem in this research since the number of unexamined disasters/sections are highly low, and they will be considered at the overall assessment based on the limited information.

5.1.1) Malawi

In this section, I will focus on the impact and the outcomes of the natural disasters in Malawi in the period of 1994-2019. According to the EM-DAT Database, there were 11 large-scale natural disasters in Malawi (EM-DAT, 2021). I will assess the impact and

the outcome of these disasters for the affected regions and Malawi. To evaluate these impacts and the outcomes, this chapter will consider the pre-disaster vulnerabilities, disaster preparedness, pre-disaster response, the impact of the disasters, post-disaster responses and the outcomes of the disasters.

5.1.1.1) 1997 Floods

Malawi experienced massive floods in 1997 (EM-DAT, 2021). As different sources confirmed, the floods started in mid-February, and it primarily affected the regions of Chikwawa & Nsauje Districts (ACT, 1997; CWS, 1997; DHA, 1997a; EM-DAT, 2021; Misomali, 2011; Vision, 1997). In terms of pre-disaster vulnerability of the affected areas, firstly, the International Wealth Index (IWI) shows that 97.4% of the households in Chikwawa and Nsanje had an IWI score of under 35 means that more than almost all of the households (in Maputo) were living with a bad economic situation in 1996 (I. W. Index, 2021). Secondly, different sources confirmed that many people depend on agriculture as their main source of livelihoods in Chikwawa and Nsanje (ACT, 1997; Database, 2021d, 2021e; DHA, 1997a; Vision, 1997). Thus, Chikwawa and Nsanje were quite vulnerable to the impacts of natural disasters. Thirdly, in terms of social and public services, Chikwawa and Nsanje had 0.395 health value in 1996, according to the health index (S. H. D. Index, 2021b). In terms of education, Chikwawa and Nsanje had 0.347 education value in 1996 (S. H. D. Index, 2021a). For health and educational conditions, these findings indicate that Chikwawa and Nsanje had bad health and education conditions in 1996 (S. H. D. Index, 2021a, 2021b). Consequently, Chikwawa and Nsanje were quite vulnerable areas considering their bad economy, health and education situation and their dependency on agriculture as their primary source of livelihoods.

In terms of disaster preparedness and pre-disaster responses, Misomali expressed that there was no official disaster program until 1991 in Malawi (Misomali, 2011, p. 6). In 1991, the Disaster Preparedness and Relief Act of 1991 were created after a massive flood in 1991 in Malawi, according to Misomali (Misomali, 2011, p. 6). Misomali summarized that the Office of Commissioner for Disaster Preparedness, Relief and Rehabilitation and National Disaster Preparedness and Relief Committee was created by

this act in 1991 (Misomali, 2011, pp. 6-7). More importantly, UNECA confirmed that the Department of Disaster Management Affairs was created in 1991 (UNECA, 2015, p. 6). Also, Misomali expressed that a common fund was created for disaster preparedness, and the local mechanisms were created to prepare and respond to the disasters effectively (Misomali, 2011, p. 7). These developments show that there were different improvements in disaster preparedness.

The immediate impact of the 1997 floods was devastating for the affected areas. According to the EM-DAT database, around 400,000 people were affected by the floods in 1997 in the districts of Chikwawa and Nsanje (EM-DAT, 2021). Specifically, UN DHA expressed that 30,000 families and 50,000 families were affected by the floods in Chikwawa (DHA, 1997a). Also, World Vision expressed that more than 100,000 people became homeless due to the impact of the 1997 Floods in the affected regions (Vision, 1997). Furthermore, CWS expressed that floods damaged infrastructure by damaging a considerable amount of roads and bridges (CWS, 1997). Also, the farmlands were severely affected by the impact of the floods, according to the UN DHA (DHA, 1997a). Due to this impact, ACT reported that 9,000 maize, cotton, rice and sorghum were destroyed in the flood-affected farmlands (ACT, 1997). Thus, considering the number of affecting/homeless people, destroyed farmlands, crops, and infrastructures, the impact of the disaster was devastating for the affected areas in Malawi.

In terms of post-disaster responses to the 1997 Floods, there were significant post-disaster national and international responses and efforts in the disaster. To explain the national responses, UN DHA expressed that The Cabinet Committee on Disaster Management, National Disaster Preparedness, Relief, and Rehabilitation Committee of Malawi made immediate meetings immediately after the disaster (DHA, 1997a). In addition, UN DHA expressed that The MRRA sent tons of rice, beans, salt and 1,360 blankets to thousands of households (DHA, 1997a). Besides, many blankets, tents and sheets were provided by The Malawi Red Cross Society and Christian Council of Malawi (DHA, 1997a). Furthermore, UN DHA expressed that the Government of Malawi appealed for international assistance immediately after the floods (DHA, 1997a). Due to this request, the UNDAC team went to Malawi immediately and

involved the assistance efforts and examined the damage caused by floods (DHA, 1997a). ACT expressed that ACT also provide food relief, and they mainly targeted children in the regions (ACT, 1997). Also, Japan, Austria, Denmark, Norway and the USA made important efforts such as providing tents, relief goods, medical supplies and emergency grant, as UN DHA confirmed (DHA, 1997a). Consequently, these post-disaster responses show that the Malawi Government and the international community made significant post-disaster response by conducting immediate assessments and providing considerable relief foods and materials to the affected people.

In terms of the outcomes of the 1997 Floods, firstly, I suggest that food security was worsened in the affected areas. The findings show that many farmlands and crops were damaged or destroyed. Thus, these crop losses and destroyed farmlands caused further problems for the food availability/security of the affected areas. Secondly, I express that the economic conditions of the affected-households were deteriorated due to natural disasters. The findings show that many people relied on agriculture as their main source of livelihoods in these areas. Thus, these crop losses and destroyed farmlands highly affected the economic conditions of many farmers and their families. Thirdly, I express that the health conditions were affected negatively by the impact of natural disasters. According to ACT, children's morbidity and mortality rates were negatively affected due to food insecurity, which is contributed by the floods in mid-February 1997 (ACT, 1997). Therefore, bad food security, economic conditions, morbidity/mortality rates and destroyed infrastructures show that the economic and social conditions of the affected areas were negatively affected in 1997.

5.1.1.2) 2001 Floods

Malawi experienced devastating floods in February 2001 (EM-DAT, 2021). It was confirmed that the floods mainly hit the southern areas of Malawi, which are Nsanje, Chikwawa, Phalombe and Blantyre and the central areas, which are Salima and Nkhotakota (EM-DAT, 2021; IFRC, 2001; Vision, 2001). In terms of pre-disaster vulnerability of the affected areas, firstly, the International Wealth Index (IWI) shows that 98.0% of the households in Nsanje, Chikwawa and Phalombe had an IWI score of under 35 means that more than almost all of the households were living with a bad

economic situation in these districts in 2000 (I. W. Index, 2021). In Salima and Nkhotakota, approximately 97.9% of the households had an IWI score of under 35 in 2000 (I. W. Index, 2021). The situation is still highly negative for Blantyre due to the fact that approximately 70.0% of the households had an IWI score of under 35 in 2000 (I. W. Index, 2021). The other affected southern provinces also had a bad economic situation since that more than approximately 95% of the households had an IWI score of under 35 in 2000 (I. W. Index, 2021). Secondly, many people depend on agriculture as their main source of livelihoods in the affected areas (Database, 2021d, 2021e; IFRC, 2001). Thus, these areas were highly vulnerable to the effects of natural disasters. Thirdly, in terms of social and public services, according to the Health Index, Nsanje, Chikwawa and Phalombe had 0.377 scores in 2000 (S. H. D. Index, 2021b). In terms of education, Nsanje, Chikwawa and Phalombe had 0.337 scores in 2000 (S. H. D. Index, 2021a). In Salima and Nkhotakota, the health index was 0.369 and 0.387 respectively in 2000 (S. H. D. Index, 2021b). The education index also shows that Salima and Nkhotakota had 0.320 and 0.353 scores, respectively, in 2000 (S. H. D. Index, 2021a). Thus, these districts had significant problems in health and education in 2000. For Blantyre, the educational situation was not quite bad in 2000 since the education index was 0.498 in 2000 (S. H. D. Index, 2021a). However, the health situations were highly problematic since the health index was 0.394 in Blantyre in 2000 (S. H. D. Index, 2021b). Thus, these districts had significant problems in health and education in 2000. Consequently, although that the situation is better in Blantyre, all of the affected areas had high vulnerabilities since that they have bad economic, health and education situation and depend on agriculture as their primary source of livelihoods.

In terms of pre-disaster responses and preparedness against the floods in 2001, Aubrey Banda (the National Society's disaster preparedness, relief and response officer) mentioned that the Malawi Red Cross provided pieces of training on the issue of distributing food and avoided flood-related disasters such as cholera (IFRC, 2001). Also, Banda expressed that Malawi had the experience and human resources in disaster preparedness and management (IFRC, 2001). However, there were still problems in disaster preparedness and pre-disaster responses in Malawi in 2001. Aubrey Banda expressed that Malawi needs a fund to help vulnerable people (IFRC, 2001). Similar to

this argument, Federation's Harare Regional Delegation's relief coordination Peter Buchanan also underlined the poverty of Malawi as a serious issue in disaster situation according to IFRC (IFRC, 2001). In addition to these economic issues, TNH also expressed that pre-disaster food stocks were not enough due to the fact that the food stock was finished quickly in the 2001 floods (TNH, 2001). Thus, IFRC expressed that there were problems with the general disaster preparedness/pre-disaster responses, and there was a need for effective disaster preparedness in Malawi in 2001 (IFRC, 2001).

The impact of the 2001 floods was devastating for Malawi. In terms of affected areas, EM-DAT shows that districts of Nsanje, Chikwawa, Phalombe, Blantyre, Salima and Nkhotakota were the affected areas (EM-DAT, 2021). Among these areas, World Vision expressed that Nsanje were severely affected by the floods due to the fact that 22,400 families lost their homes and five people lost their lives (Vision, 2001). According to the EM-DAT database, 500,000 were affected by the disaster, and 59 people lost their lives in total (EM-DAT, 2021). Also, according to IFRC, 60,000 people were lost their homes in flood-affected areas (IFRC, 2001). Also, IFRC expressed that many crops and farmlands were destroyed, and many places became inaccessible due to the heavy rains in these areas (IFRC, 2001). To sum up, many people were affected by the 2001 floods since they lost their homes, incomes, farmlands in Nsanje, Chikwawa, Phalombe, Blantyre, Salima and Nkhotakota.

In terms of post-disaster responses, different sources expressed that there were significant national and international responses in the 2001 floods. As a national response, World Vision expressed that there were food distributions by the government in the flood-affected regions (Vision, 2001). However, different sources mentioned that the food stock of the government was finished fastly (IFRC, 2001; UNRC, 2001a; Vision, 2001). Also, relief goods, blankets, tents and different materials were distributed by Malawi Red Cross according to the TNH (TNH, 2001). In addition to these efforts, TNH expressed that Malawi demanded around the US $6.5 million from the donors and the international community (TNH, 2001). As an international response, TNH expressed that the World Food Programme distributed foods to 60,000 flood-affected people, and they also took important steps for dealing with the impact of floods in the medium-term

(TNH, 2001). Consequently, these findings show that there were considerable national and international efforts in 2001 Floods despite the weaknesses expressed above.

In terms of outcomes of the 2001 floods, firstly, I express that food security was worsened affected in the affected areas. My findings show that there were a significant amount of crop losses in the affected areas. Thus, these crop losses had a significant impact on the food security of the affected areas. According to IFRC, Buchanan (Relief coordinator from the Federation's Harare Regional Delegation) mentioned that many people were already had issues on food insecurity in these areas, and the 2001 flood contributed to this situation by destroying the crops (IFRC, 2001). Also, according to World Vision, Paul Jere (a World Vision project officer) expressed that there were no enough crops and the people had no food in the affected areas (Vision, 2001). Secondly, I demonstrate that the economic conditions of the people were affected negatively by the 2001 floods. The findings show that there was a significant amount of crop losses in the affected areas. Since there are many farmers in the areas, these crop losses highly affected their income and their economic situation. Also, findings show that many people lost their homes and their possessions. Consequently, the economic and social conditions were worsened due to the impact of the 2001 Floods in Malawi.

5.1.1.3) 2002-2003 Floods

In 2002/2003, there were heavy rains in Malawi which resulted in floods in different areas of Malawi (OCHA, 2003a, 2003b; Reuters, 2003). Similar to previous floods episodes, 2002/03 floods hit the districts of Salima, Balaka, Dedza, Machinga, Ntcheu, Dowa and Phalombe and Rumphi severely (OCHA, 2003a, 2003b; Reuters, 2003).

In terms of the pre-disaster vulnerability of the affected areas, firstly, the International Wealth Index (IWI) shows that approximately more than 96.5% of the households in Balaka, Machinga Phalombe, Salima had an IWI score of under 35 means that almost all of the households were living with a bad economic situation in these southern districts in 2001 (I. W. Index, 2021). For the affected central regions, more than 97.0% of the households in Dedza, Dowa, and Ntcheu had an IWI score of under 35 (I. W. Index, 2021). The situation was also still highly negative for Rumphi since approximately 94.0% of the households had an IWI score of under 35 in 2001 (I. W.

Index, 2021). Secondly, many people depend on agriculture as their main source of livelihoods in Salima, Balaka, Dedza, Machinga, Ntcheu, Dowa and Phalombe and Rumphi (Database, 2021d, 2021e; OCHA, 2003a, 2003b; Reuters, 2003). Thus, these affected areas were quite vulnerable to the impact of natural disasters. Thirdly, in terms of social and public services, according to the health index, the value was 0.381 in Balaka and Phalombe in 2001 (S. H. D. Index, 2021b). Salima and Machinga had 0.376 and 0.394 values in the health index (S. H. D. Index, 2021b). In the central areas, the situation was also negative since the value was 0.386 in the health index in Dedza, Dowa and Ntcheu in 2001 (S. H. D. Index, 2021b). In Rumphi, although the situation was better compare to the central and southern areas, the situation was also not good due to their low value, which was 0.420 (S. H. D. Index, 2021b). Fourthly, in terms of education, the value was 0.350 in Balaka and Phalombe in 2001 (S. H. D. Index, 2021a). Machinga had a 0.322 value in the education index (S. H. D. Index, 2021a). In the central areas, the situation was also negative since the value was 0.361 in the education index for Dedza, Dowa and Ntcheu (S. H. D. Index, 2021a). Also, the value was 0.330 in Salima in 2001 (S. H. D. Index, 2021a). In Rumphi, the situation was better because of their average value of 0.485 (S. H. D. Index, 2021a). However, its average value shows that the educational situation was also not very good in Rumphi. Consequently, all of the affected areas were quite vulnerable since all of them had bad economic, education and health conditions and depended on agriculture.

As mentioned previously, there were significant developments in disaster management, preparedness and responses since 1991 in Malawi. As mentioned previously, the creation of the Disaster Preparedness and Relief Act of 1991 and the Department of Disaster Management Affairs in 1991 were significant developments in disaster preparedness in Malawi. These institutions were developed over the years in Malawi. However, some of the significant issues remained in Malawi. For instance, as mentioned previously, Malawi had still high poverty, and this poverty affected the disaster management, preparedness and responses in Malawi. In 2001 (one year before the disaster), the poverty headcount rate was approximately 70% in Malawi (M. C. Team & Region, 2018, p. ix). Thus, poverty was still an important issue in Malawi. As expressed in the previous section, high poverty had a significant impact on disaster

management and disaster preparedness in Malawi. It should also be noted that I could not find a source that expresses the pre-disaster responses to 2002/2003. This issue was one of the limitations of this section and a future research topic.

The 2002/03 floods affected every region of Malawi (EM-DAT, 2021). Different sources confirmed that Salima, Balaka, Dedza, Machinga, Ntcheu, Dowa and Phalombe and Rumphi were the most affected areas in Malawi (EM-DAT, 2021; OCHA, 2003a, 2003b; Reuters, 2003). According to the different sources, around 200,000 people were affected by the 2002-2003 Floods (EM-DAT, 2021; OCHA, 2003a, 2003b; Reuters, 2003). In this issue, OCHA also expressed that the floods affected more than 50,000 households and affected their livelihoods (farmlands and crops) highly negatively (OCHA, 2003a). Many crops (such as maize, tobacco, rice) were lost in the affected areas, according to OCHA (OCHA, 2003a). In total, OCHA confirms that more than 49,000 households lost their crops due to the flood (OCHA, 2003a). Specifically, OCHA expressed that while 24,566 households lost their crops in Salima (OCHA, 2003a). Also, 7,983 households lost their crops in Ntcheu (OCHA, 2003a). Different also confirmed that there was an important amount of crop losses in the other flood-affected districts such as Balaka, Rumphi and Machinga (OCHA, 2003a, 2003b; Reuters, 2003). In addition to these crop losses, many people lost their lives and homes in the affected areas. Reuters confirms that the number of displaced people was 30,000, and seven people lost their lives due to the floods (Reuters, 2003). Specifically, more than 3,000 houses damaged, and 24,000 households were affected by the floods in Salima alone, according to OCHA (OCHA, 2003a). Furthermıre, Reuters expressed that the 3,000 homes were damaged or destroyed in Rumphi alone (Reuters, 2003). In terms of infrastructure, OCHA also reported that many roads, railway and bridges were damaged (OCHA, 2003b). Also, Reuters reported that there were also damages in the electricity lines in the areas (Reuters, 2003). (IFRC, 2001). To sum up, many people were affected by the 2002/03 floods since that they lost their lives, homes and their incomes in Salima, Balaka, Dedza, Machinga, Ntcheu, Dowa and Phalombe and Rumphi.

In terms of post-disaster responses, there were different international and national responses in the 2002-2003 floods. In the context of national responses, firstly, Reuters expressed that the flood-affected areas were immediately declared a state of disaster by the President (Reuters, 2003). Secondly, OCHA reported that the people who lost their assets and houses were closely monitored by the government to ensure their safety while they were moving to other places (OCHA, 2003a). Thirdly, OCHA reported that the government (Department Disaster Preparedness Relief and Rehabilitation) sent relief packages to over 900 households (mostly in Salima, Balaka and Ntcheu (OCHA, 2003a). These packages contained maize, beans, blankets, salt and other emergency relief materials (OCHA, 2003a). In terms of international responses, OCHA confirmed that there was a high level of cooperation with the government and the UN agencies, and there were important international efforts (OCHA, 2003a). Also, OCHA expressed that WFP and UNICEF distributed food and chlorine (OCHA, 2003a). Also, many agencies also gave considerable assistance to the people who are affected by the floods. Consequently, I suggest that there were considerable national and international responses in the 2002/03 floods.

In terms of outcomes of the 2002/2003 floods, firstly, I suggest that food security was worsened in the affected areas. Different sources confirm food insecurity was already a serious issue in these affected areas, and these crop losses (caused by the 2002/2003 Flood) even worsened the food security in these areas. Secondly, I express that the economic conditions of affected households were worsened. As mentioned previously, the floods affected the many farmlands in affected areas. Due to this impact, many crops (such as maize, tobacco, rice) were lost in the region, as mentioned previously. Since these crops are a crucial source of livelihoods in these areas of Malawi, many household's economic situations were affected negatively. Besides, many people lost their homes and assets. Thus, this situation affected their economic conditions negatively. Thirdly, I suggest that the social conditions and the quality of the public services were affected negatively in the affected areas. In this issue, OCHA expressed that the services and goods could not be reached to the areas due to the fact that bridges, railway and roads were damaged (OCHA, 2003a, 2003b). Also, electricity lines were damaged. Also, there were significant power cuts in the affected regions, according to

Reuters (Reuters, 2003). To sum up, the findings show the economic and social conditions of the affected areas were affected negatively by the 2002/03 floods.

5.1.1.4) 2005-2006 Droughts

The 2005/2006 droughts affected millions of people in the southern and central districts of Malawi (EM-DAT, 2021). The droughts created severe consequences for the people in areas in Malawi (EM-DAT, 2021). In terms of the pre-disaster vulnerability of the affected areas, firstly, the International Wealth Index (IWI) shows that approximately more than 90.0% of the households in Balaka, Phalombe, Chikwawa, Mwanza, Chiradzulu, Njsanje, Neno, Zomba, Mangochi, Thyolo and Mulanje (southern districts) had an IWI score of under 35 means that almost all of the households were living with a bad economic situation in these southern districts in 2004 (I. W. Index, 2021). The situation was also highly bad for Blantyre due to the fact that more than 80% of the households had an IWI score under 35 in 2004 (I. W. Index, 2021). For central districts, the situation was also highly negative due to the fact that more than 95% of the households in the Nkhotakota, Ntcheu, Dedza, Salima, Dowa, Kasungu, Mchinji, Dowa (central districts) had an IWI score of under 35 in 2004 (I. W. Index, 2021). For Lilongwe, the situation was also highly negative since more than around 82% of the households in Lilongwe had an IWI score of under 35 in 2004 (I. W. Index, 2021).

Secondly, since many people depend on agriculture as their primary source of livelihoods in Balaka, Phalombe, Chikwawa, Mwanza, Chiradzulu, Njsanje, Neno, Zomba, Mangochi, Thyolo, Nkhotakota, Ntcheu, Dedza, Salima, Dowa, Kasungu, Mchinji and Dowa, these affected areas were quite vulnerable to the impact of the natural disasters (BBC, 2005; Chabvungma, Mawenda, & Kambauwa, 2014; Oxfam, 2006). Thirdly, in terms of social and public services, the health index value was 0.413 in Balaka, Phalombe, Chikwawa, Mwanza, Chiradzulu, Njsanje and Neno (S. H. D. Index, 2021b). In Zomba, Mangochi, Thyolo, Mulanje and Lilongwe, the health index values were 0.426, 0.404, 0.387, 0.367 and 0.426, respectively, in Malawi in 2004 (S. H. D. Index, 2021b). For Ntcheu, Dedza, Salima, Dowa, Kasungu, Mchinji and Dowa, the health index value was 0.403 in 2004 (S. H. D. Index, 2021b). Thus, it can be suggested that the health situation was not good in all of the affected areas. In terms of

education, the education index value was 0.347 in Balaka, Phalombe, Chikwawa, Mwanza, Chiradzulu, Njsanje and Neno in 2004 (S. H. D. Index, 2021a). In Zomba, Mangochi, Thyolo, Mulanje and Lilongwe, the education index values were 0.399, 0.281, 0.355, 0.353 and 0.391, respectively, in Malawi in 2004 (S. H. D. Index, 2021a). For Ntcheu, Dedza, Salima, Dowa, Kasungu, Mchinji and Dowa, the education index value was 0.341 in 2004 (S. H. D. Index, 2021a). Consequently, all of the affected areas are highly vulnerable due to their bad economic, health and education situation and their dependency on agriculture.

In terms of disaster preparedness and pre-disaster response, there was a new development in Malawi. As expressed by UNECA, Hyogo Framework was signed by Malawi in 2005 (UNECA, 2015, p. 13). The Hyogo Framework was essential for disaster preparedness since the framework aims to monitor disaster preparedness and develop effective strategies (UNECA, 2015, pp. 13-14). There were also still issues in Malawi on disaster management and preparedness. As one of the most important issue, poverty was still high in Malawi in 2004. The poverty headcount rate was approximately 75% in 2004, according to the World Bank report (M. C. Team & Region, 2018, p. ix). In specific to the 2005/2006 drought, BBC expressed that there were no adequate relief goods/materials in 2005/2006 drought (BBC, 2005). Also, BBC explained that there was a lack of appropriate coping strategies in the 2005/2006 drought (BBC, 2005). Consequently, although that there were new improvements, high poverty, lack of goods/materials, and lack of appropriate coping strategies were the main weaknesses in disaster preparedness and pre-disaster responses in the 2005/2007 drought.

The impact and the consequences of the 2005/2006 drought were severe in Malawi. EM-DAT database shows that most southern and the central regions were the most affected regions by the drought (EM-DAT, 2021). According to the EM-DAT Database, more than 5 million people were affected by the droughts (EM-DAT, 2021). In terms of outcomes, firstly, I suggest that the 2005/2006 drought worsened the food security in many districts of Malawi. BBC confirmed that there were significant crop losses in all of the districts of Malawi due to the drought (BBC, 2005). As a result of these crop

losses, Chabvungma, Mawenda, and Kambauwa expressed that 30% of the population (around 5 million people) needed food assistance due to this drought and the crop losses (Chabvungma et al., 2014, p. 2). Also, OXFAM reported that crop prices such as maize are even further increased during and after the drought (Oxfam, 2006). Secondly, I suggest that the economic conditions of the affected areas were worsened. To explain, since crops were the primary source of livelihoods of many people in the affected areas, the livelihoods were highly deteriorated due to these crop losses. Also, World Bank report expressed that the agricultural GDP was decreased by around 10% (M. C. Team & Region, 2018, pp. 61-62). To sum up, the food security and the economic conditions of the affected households were affected negatively by the impact and the outcomes of the 2005/2006 drought.

In terms of post-disaster responses to the 2005/2006 drought, there were different international and national responses. BBC mentioned that the President of Malawi gave importance to the country-wide food shortages and demanded international assistance (food assistance) during the drought (BBC, 2005). As different sources confirmed, international food assistance's demand of President of Malawi was tried to be compensated by WFP and Oxfam (BBC, 2005; Oxfam, 2006). However, Oxfam also reported that there was a lack of funds to provide enough food to vulnerable people in Malawi (Oxfam, 2006). In addition to the lack of donors and funds, BBC reported that there were critics against the President for not explaining deaths caused by hunger-related issues and diseases (BBC, 2005). To sum up, since Malawi was a poor country, the government could not show proper response to this severe disaster. In terms of international responses, although there were considerable efforts of WFP, Oxfam and other agencies, the lack of funds and donors was a critical problem during and after the drought.

5.1.1.5) 2011-2012 Droughts

In 2011/2012, there were droughts that occurred in the agricultural season in Malawi (EM-DAT, 2021). As different sources confirmed, these droughts affected millions of people and caused severe consequences for the region and Malawi (OCHA, 2012; Seppo, 2012; TNH, 2012). As various sources confirmed, the southern region and

central region provinces were affected regions from 2011/2012 droughts in Malawi (OCHA, 2012; Seppo, 2012; TNH, 2012). In terms of the most affected area, Balaka, Chikwawa, and Nsanje were the most affected provinces from the 2011/2012 droughts (OCHA, 2012; Seppo, 2012; TNH, 2012).

In terms of the pre-disaster vulnerability of the affected areas, firstly, the International Wealth Index (IWI) shows that around 93.5% of the households had an IWI score of under 35 in Balaka, Chikwawa and Nsanje in 2010 (I. W. Index, 2021). For other affected southern regions, 93.5% of the households in Mwanza, Neno, Phalombe had an IWI score of under 35 in 2010 (I. W. Index, 2021). Machinga, Mangochi, Mulanje, Thyolo, Zomba also had a bad IWI average due to the fact that approximately more than 87% of the households had an IWI score under 35 in 2010 (I. W. Index, 2021). For Blantyre, the situation was slightly better compare to these other southern regions (I. W. Index, 2021). However, the economic condition was also highly negative due to the fact that appormixaetly 65% of the households had an IWI score under 35 in 2010 in Blantyre (I. W. Index, 2021). For other affected central regions, more than 90% of the households had an IWI score under 35 means that these districts had a bad economic situation in 2010 (I. W. Index, 2021). Secondly, many people depend on agriculture as their primary source of livelihoods in Balaka, Blantyre, Chikwawa, Machinga, Mangochi, Mulanje, Mwanza, Neno, Nsanje, Phalombe, Thyolo, Zomba, Dedza, Ntcheu and Salima(Database, 2021d, 2021e; OCHA, 2012; Seppo, 2012; TNH, 2012). Thus, these people were quite vulnerable to the impacts of natural disasters. Thirdly, in terms of social and public services, the health index value was 0.538 in the health index in Balaka, Chikwawa and Nsanje in 2010 (S. H. D. Index, 2021b). Also, Mangochi, Mulanje, Thyolo, Zomba, and Blantyre had bad health values since the health index value range from 0.510 to 0.580 in these districts in 2010 (S. H. D. Index, 2021b). Dedza, Ntcheu, Salima also had bad health condition since their health index value range from 0.518 to 0.552 in 2010 (S. H. D. Index, 2021b). In terms of education, the value was 0.406 in the education index in Balaka, Chikwawa and Nsanje in 2010 (S. H. D. Index, 2021a). Also, the education index values were 0. 543, 0.462, 0.433, 0.415 and 0.328 in Blantyre, Zomba, Thyolo, Mulanje and Mangochi, respectively, in 2010 (S. H. D. Index, 2021a). In Dedza, Ntcheu, Salima, the education index value was around

0.395 in 2010 (S. H. D. Index, 2021a). Consequently, southern and central areas had high vulnerability considering their bad economic, health and education situation and their dependency on agriculture.

In terms of disaster preparedness and pre-disaster responses, as mentioned previously, there were significant developments in disaster management and preparedness since 1991 in Malawi. In addition to developments in the previous years, this chapter expresses three more significant developments in Malawi. Firstly, NAPA was created in Malawi in 2006 (G. o. Malawi, 2015b, p. 3). NAPA mainly focused on disaster events and climate change according to the National Disaster Risk Management Policy of the Government of Malawi (G. o. Malawi, 2015b, p. 2). Secondly, the Malawi Growth and Development Strategy for 2006 – 2011 report shows that disaster risks and mitigating the impact of the disaster were some of the most important issues in the report (G. o. Malawi, 2006, pp. 61-68). Thirdly, the disaster reduction and preparedness were highlighted in the 2008-2011 Country Programme Action Plan according to Misomali (Misomali, 2011, p. 7). Consequently, there were significant developments in disaster preparedness in Malawi before the 2011/12 droughts. It should also be noted that I could not find a source that expresses the pre-disaster responses to the 2011/12 droughts. This issue was one of the limitations of this section and a future research topic.

In terms of the impact and the outcomes of the 2011/12 drought, the EM-DAT database explained that 1.900.000 people were affected by the drought (EM-DAT, 2021). In terms of the impact and the outcomes of the drought, firstly, I express that the drought worsened the food security in the affected areas in Malawi. In this context, Seppo expressed that there were significant crop losses in the affected areas (especially in the southern areas) due to the drought (Seppo, 2012, pp. 3-4). For instance, maize production reduced by 7% per cent in Malawi, as Seppo expressed (Seppo, 2012, p. 4). Also, Seppo expressed that the food prices were increased in the southern region (Seppo, 2012, p. 4). Also, TNH expressed that there were already increasing high inflation and lack of opportunity to work in casual jobs and devaluation of the Malawi kwacha (TNH, 2012). As a result, different sources confirm that the poor harvest/crop

losses (caused by drought), high inflation (affected by drought), devaluation of the Malawi kwacha and lack of casual job opportunities worsened the food security in Malawi, especially in the southern region (OCHA, 2012; Seppo, 2012; TNH, 2012). As Seppo expressed, 1.63 million people required food assistance by June 2012 (Seppo, 2012, p. 3). Secondly, I suggest that the economic conditions of the affected areas were worsened due to the drought. As explained by different sources, small-holder farmers highly depend on these crops as the main source of their livelihoods. Thus, these crop losses highly affected their economic conditions.

In terms of post-disaster responses to the 2011/2012 droughts, OCHA reported that two plans were released in November 2012 by the Government of Malawi to decrease the food insecurity in Malawi (OCHA, 2012, p. 1). However, OCHA reported that there was a lack of funds in these plans. In terms of specific responses to the 2011/12 droughts, OCHA expressed that 25,000 metric tons of maize were distributed by the Government thanks to their reserve (OCHA, 2012, p. 2). OCHA also confirms that UKAID, UNICEF, Norway, USAID and WFP also made considerable efforts to support the vulnerable people in the region (OCHA, 2012, p. 2). Also, OCHA also expressed that around 2 million people have accessed to food thanks to the WFP food distribution (OCHA, 2012, p. 2). However, OCHA still reported that there was a lack of funding to deal with food issues (OCHA, 2012, p. 2). Also, TNH confirms that there were issues in humanitarian assistance (TNH, 2012). In general, considering the two plans and the main responses, there were considerable national and international efforts to manage the consequences of the droughts. However, the lack of funding and the poor government remained as main problems.

5.1.1.6) 2014-2015 Floods

Starting from December 2014, Malawi experienced severe floods, which affected mostly the southern districts but also some of the northern and central districts of Malawi. As different sources confirmed, Nsanje, Chikwawa, Blantyre, Zomba and Phalombe, Rumphi, Karonga, and Salima were the affected areas (E. Commission, 2015; G. o. Malawi, 2015a, 2015c). It should also be noted that the southern districts of

Nsanje, Chikwawa, Blantyre, Zomba and Phalombe were the most affected areas from the 2014/15 Floods (E. Commission, 2015; G. o. Malawi, 2015a, 2015c).

In terms of the pre-disaster vulnerability of the affected areas, firstly, the International Wealth Index (IWI) shows that around 90.0% of the households had an IWI score of under 35 in Nsanje, Chikwawa and Phalombe in 2013 (I. W. Index, 2021). For other affected southern regions, more than 83.0% of the households in Zomba and around 57.6% of the households in Blantyre had an IWI score under 35 in 2013 (I. W. Index, 2021). Thus, although the economic conditions were better in Blantyre compared to the other southern regions, all of the affected southern areas had a bad economic situation in 2013. For other affected northern and central areas, the situation was highly negative due to the fact that approximately more than 80% of the households in Rumphi, Karonga and Salima had an IWI score under 35 in 2010 (I. W. Index, 2021). Secondly, since many people depend on agriculture as their main source of livelihoods in Nsanje, Chikwawa and Phalombe, Zomba, Rumphi, Karonga and Salima (E. Commission, 2015; Database, 2021d, 2021e; G. o. Malawi, 2015a, 2015c). Thus, these people were quite vulnerable to the impacts of natural disasters. Thirdly, in terms of social and public services, the health index values were 0.609 in Nsanje, Chikwawa and Phalombe in 2013 (S. H. D. Index, 2021b). Also, Rumphi and Karonga bad health values since the health index value were 0.661 in 2013 (S. H. D. Index, 2021b). For Salima, the health index value was 0.594 in 2013 (S. H. D. Index, 2021b). For Zomba and Blantyre, the health values were 0.630 and 0.634, respectively, in 2013 (S. H. D. Index, 2021b). In terms of education, the value was 0.426 in the education index in Nsanje, Chikwawa and Phalombe in 2013 (S. H. D. Index, 2021a). The education index value was 0.471 and 0.555 in Zomba and Blantyre in 2013 (S. H. D. Index, 2021a). Also, the education index value was 0.521 in Rumphi and Karonga (S. H. D. Index, 2021a). In Salima, the education index value was 0.397 in 2013 (S. H. D. Index, 2021a). Consequently, although the conditions were better in Blantyre, all of the affected areas had high vulnerabilities since they have bad economic, health and education situation and depend on agriculture.

In terms of disaster preparedness and pre-disaster responses, Malawi Growth and Development Strategy II 2011-2016 highly gave attention to disaster management and

preparedness in Malawi (G. o. Malawi, 2012, pp. 12-19). In this important report, the disaster risks were the priority issues in Malawi (G. o. Malawi, 2012, pp. 12-19). Thus, this was a significant development since the disaster risk had paid attention to this significant report. However, there were significant issues in response to the 2014/2015 floods and despite the developments. According to the Malawi 2015 Floods Post Disaster Needs Assessment Report, there were problems in contingency planning in Malawi (G. o. Malawi, 2015a, pp. 11-12). Thus, the report expressed that contingency planning needs to be improved to prepare and respond to floods more effectively (G. o. Malawi, 2015a, pp. 11-12). In addition to this issue, the report also stated that the early warning system also was not effective and needed to be developed (G. o. Malawi, 2015a, pp. 11-13). The report stated that this early warning system does not work effectively country-wide (G. o. Malawi, 2015a, pp. 11-13). Also, there should be more coordination with the development and climate change agencies and stakeholders in addition to the agencies regarding the humanitarian responses, according to the report (G. o. Malawi, 2015a, pp. 11-14). Lastly, the report expressed that there should be more Emergency Response Operations Centers, and ineffective information management should be developed to prepare and respond to the floods (G. o. Malawi, 2015a, pp. 11-14). In addition to these issues, poverty was still an important issue in 2013 and had impacts on disaster management, as expressed previously. To sum up, there were different problems and ineffective management in terms of preparedness and response in 2014/15 floods.

The impact of the 2014/15 floods was severe in Malawi. According to the European Commission, around 600,000 people were affected by the 2014/2015 Floods (E. Commission, 2015, p. 1). Also, the European Commission report mentioned that 175,000 displaced people in Malawi (E. Commission, 2015, p. 1). Different sources confirm that the most affected districts were Nsanje, Chikwawa, Blantyre, Zomba and Phalombe (southern districts), although there were flood-affected northern (Rumphi, Karonga) and central districts (Salima) (E. Commission, 2015; G. o. Malawi, 2015a). In the context of impact, according to the Malawi 2015 Floods Post Disaster Needs Assessment Report, 523,347 houses were destroyed or damaged (G. o. Malawi, 2015a, p. 2). Also, Malawi 2015 Floods Post Disaster Needs Assessment Report expressed that

while 89,110 cropland (Ha) were destroyed, 195,032 livestock and 38,223 fish were lost due to the floods (G. o. Malawi, 2015a, p. 64). The report also expressed that the worst affected crops were Maize (63% of them lost), rice and cassava (G. o. Malawi, 2015a, p. 20). Also, the report expressed that irrigation systems, water and sanitation systems, many infrastructures, transportation services, educational facilities, health facilities, roads, and bridges were damaged or destroyed in the affected areas (G. o. Malawi, 2015a, p. 2). Thus, the impact of the floods was severe for the affected districts.

In terms of post-disaster responses, there were different national and international responses. The Preliminary Response Plan report explained that the State of Emergency was declared by the President in 15 districts immediately (G. o. Malawi, 2015c, p. 3). Also, the government also distributed relief goods and materials (G. o. Malawi, 2015c, pp. 5-6). Also, the BBC confirms that the Government conducted rescue operation by using military helicopters and boats (BBC, 2015). However, there were also issues in terms of national responses to floods. For instance, since that national registration system is problematic, the quality of the response efforts was decreased, according to the Malawi 2015 Floods Post Disaster Needs Assessment Report (G. o. Malawi, 2015a, p. 8). Also, although that this international assistance played an important part in rescue and recovery, the Preliminary Response Plan report expressed that the coordination capacity was challenged in the districts and state (G. o. Malawi, 2015c, pp. 7-10). In terms of the international effort, different sources confirm that there was significant international assistance from the IOs, NGOs and other donors (BBC, 2015; E. Commission, 2015; G. o. Malawi, 2015a, 2015c). For instance, different sources confirm that WFP, UNDP, UNICEF, UNDAC actively work in rescue and recovery efforts (BBC, 2015; E. Commission, 2015; G. o. Malawi, 2015a, 2015c). However, Flood List confirms that there was a significant lack of funding in terms of international assistance (Floodlist, 2015). Thus, the Preliminary Response Plan report and Malawi 2015 Floods Post Disaster Needs Assessment Report confirmed that the international efforts were limited and could not reach the vulnerable people more effectively (G. o. Malawi, 2015a, 2015c). To sum up, there were significant problems such as lack of funding, low coordination capacity and an ineffective national registration system. Due

to these issues, many vulnerable and poor people could not be reached in the districts of Nsanje, Chikwawa, Blantyre, Zomba and Phalombe.

In terms of outcomes of the 2014/15 Floods, firstly, I express that the food insecurity was worsened in the affected areas in Malawi. Preliminary Response Plan report expressed that crop losses and food losses affected the flood-affected areas, and it worsened food insecurity in the districts (G. o. Malawi, 2015c, p. 16). Secondly, the economic conditions of the affected areas were affected negatively by the floods. The findings show that floods destroyed many houses, crops, livestock and other significant economic and social assets. Since there were many poor farmers who depend on agriculture as their main source of livelihoods, these crop and livestock losses had significant on the economic conditions of these farmer-households. Also, since there were many destroyed houses, the economic conditions of many poor people were affected negatively. As Malawi 2015 Floods Post Disaster Needs Assessment Report expressed, the flood-affected areas Nsanje, Chikwawa, Zomba and Phalombe were already highly poor and vulnerable areas that have a less coping strategy (G. o. Malawi, 2015a, p. 1). Therefore, the report expressed that the floods were even created further poverty in these regions due to the fact that many households lost their assets and their livelihoods (G. o. Malawi, 2015a, p. 1). Thirdly, I express that the literacy rates and health conditions of the affected districts were affected negatively by the impact of floods. Since that many education facilities were damaged or destroyed, the report expressed that many people could not go to the school, which can create low literacy rates in the long term (G. o. Malawi, 2015a, p. 23). Also, different sources confirmed that the risk of flood-related water diseases increased in these districts in the medium and long term (G. o. Malawi, 2015a, 2015c). Consequently, worsened food security, economic and social conditions show that the outcomes were severe for the affected areas in Malawi.

5.1.1.7) 2015/17 Droughts

Malawi experienced severe droughts in the years of 2015, 2016 and 2017 (EM-DAT, 2021). These droughts mainly affected the southern and central districts of Malawi (EM-DAT, 2021). In terms of pre-disaster vulnerability of the affected areas, firstly, the

International Wealth Index (IWI) shows that appormixaetly 85.0% of the households in Balaka, Phalombe, Chikwawa, Mwanza, Chiradzulu, Njsanje, Neno, Zomba, Mangochi, Thyolo and Mulanje (southern districts) had an IWI score of under 35 means that almost all of the households were living with a bad economic situation in these southern districts in 2014 (I. W. Index, 2021). The situation was also bad for Blantyre due to the fact that more than 55.0% of the households had an IWI score under 35 in 2014 (I. W. Index, 2021). For central districts, the situation was also highly negative since approximately 87% of the households in the Nkhotakota, Ntcheu, Dedza, Salima, Dowa, Kasungu, Mchinji, Dowa (central districts) had an IWI score of under 35 in 2014 (I. W. Index, 2021). For Lilongwe, the situation was also highly negative since that more than around 75.4% of the households in Lilongwe had an IWI score of under 35 in 2014 (I. W. Index, 2021). Secondly, many people depend on agriculture as their primary source of livelihoods in Balaka, Phalombe, Chikwawa, Mwanza, Chiradzulu, Njsanje, Neno, Zomba, Mangochi, Thyolo, Mulanje Nkhotakota, Ntcheu, Dedza, Salima, Dowa, Kasungu, Mchinji and Dowa (Database, 2021d, 2021e; Hamel, 2016; G. o. Malawi, 2016). Thus, these people were quite vulnerable to the impacts of the natural disasters. Thirdly, in terms of social and public services, the health index value was 0.627 in Balaka, Phalombe, Chikwawa, Mwanza, Chiradzulu, Njsanje and Neno in 2014 (S. H. D. Index, 2021b). For Zomba, Mangochi, Thyolo, Salima and Mulanje, the health index values were 0.656, 0.629, 0.655, 0.614 and 0.586, respectively, in 2014 (S. H. D. Index, 2021b). In the central districts Nkhotakota, Ntcheu, Dedza, Dowa and Mchinji, the health index value was 0.622 in 2014 (S. H. D. Index, 2021b). Kasungu and Lilongwe had 0.667 and 0.630 health index values in 2014 (S. H. D. Index, 2021b). Thus, the health condition was quite similar and bad in all of the affected areas in 2014. In terms of education, the education index value was 0.431 in Balaka, Phalombe, Chikwawa, Mwanza, Chiradzulu, Njsanje and Neno in 2014 (S. H. D. Index, 2021a). For Zomba, Mangochi, Thyolo, Salima and Mulanje, the education index values were 0.473, 0.367, 0.449, 0.396 and 0.445, respectively, in 2014 (S. H. D. Index, 2021a). Kasungu and Lilongwe had 0.487 and 0.475 education index values in 2014 (S. H. D. Index, 2021a). Consequently, all of the affected areas were quite vulnerable considering their bad economic, health and education situation and their dependency on agriculture as their primary source of livelihoods.

In terms of disaster preparedness and pre-disaster responses, Malawi had significant steps in developing better disaster management and disaster preparedness structure and strategies. However, as mentioned previously, there were still significant issues in Malawi. To summarize all of the problems, National Disaster Risk Management Communication Strategy (2014 – 2018) report summarized that high poverty, lack of knowledge on disasters and diseases, inadequate early warning system, poorly designed urban and agricultural systems were classified as some of the most important issues in disaster preparedness, management and pre-disaster and post-disaster response in Malawi (G. o. Malawi, 2014). Thus, the report shows that Malawi had significant issues in disaster preparedness, pre-disaster response and management before the 2015/2017 droughts.

The impact and the consequences of the 2015/17 droughts were severe in Malawi. As different sources expressed, the droughts mainly affected the southern and central areas (EM-DAT, 2021; Hamel, 2016; G. o. Malawi, 2016). EM-DAT database expressed that around 6.5 million were affected in Malawi (EM-DAT, 2021). In terms of outcomes, firstly, I express that food security was worsened in Malawi due to the crop failures, declining food production and increasing food (mostly maize) prices. In this context, there were a significant amount of crops losses due to the drought, according to PDNA (G. o. Malawi, 2016, p. xxii). Due to these crop failures, PDNA expressed that the maize prices were also increased considerably in Malawi (G. o. Malawi, 2016, p. 98). Also, the 2019 Flood Response Plan and Appeal report mentioned that the maize production was decreased considerably (G. o. Malawi, 2019a, p. 6). Also, PDNA expressed that there was a 12,4% decline in food production compared to 2014/15 (G. o. Malawi, 2016, p. 1). Consequently, Hamel expressed that more than 6 million people were needed for food assistance in Malawi in the drought situation (Hamel, 2016). Secondly, I suggest that the economic conditions of the affected households were worsened due to the 2015/2017 droughts. PDNA expressed that the people who depend on the farmlands for their livelihoods lost many economic assets due to their crop losses (G. o. Malawi, 2016, p. xxii). The already poor people were affected by crop losses severely. As the World Bank state: "the average annual level of consumption of the

bottom 40 per cent may have declined by 11.8 per cent in Malawi" (M. C. Team & Region, 2018, p. 62). Also, PDNA mentioned that the poverty rate was expected to increase around 17% due to this drought (G. o. Malawi, 2016, p. 20). Thus, these findings show droughts worsened the economic conditions of the affected areas in Malawi.

In terms of post-disaster responses to 2015/17 droughts, as PDNA expressed, a state of disaster was declared by the government in April 2016 (G. o. Malawi, 2016, p. xvii). Also, the government launched the Post Disaster Needs Assessment (PDNA) to understand the impact of drought and long-term recovery (G. o. Malawi, 2016, pp. 1-2). Furthermore, PDNA expressed that Recovery Strategy for the 2015/2016 droughts was created by PDNA for dealing with the effect of the drought (G. o. Malawi, 2016, pp. 1-2). In addition to these plans and strategies, Hamel expressed that Malawi Government distributed goods such as cereal and pulses to the affected people in districts (Hamel, 2016). In terms of international responses, FAO, WFP, UNICEF, WHO, USAID and UNHCR played an important role in international assistance (Hamel, 2016; G. o. Malawi, 2016). Consequently, although there was a significant national and international response, the impact and outcomes of these droughts were severe in the affected areas in Malawi.

5.1.1.8) 2019 Floods

Malawi experienced massive floods in 2019 (EM-DAT, 2021). As different sources show, Balaka, Blantyre, Chickwawa, Dedza, Machinga, Mangochi, Mulanje, Mwanza, Neno, Nsanje, Ntcheu, Phalombe, Thyiolo, Zomba and Chiradzulu were affected by the 2019 floods (EM-DAT, 2021; G. o. Malawi, 2019a, 2019b; OCHA, 2019). Also, it should be noted that Nsjanje, Phalombe, Chikwawa, Balaka, Zomba districts were the most affected districts from the 2019 floods (EM-DAT, 2021; G. o. Malawi, 2019a, 2019b; OCHA, 2019).

In terms of pre-disaster vulnerability of the affected areas, firstly, the International Wealth Index (IWI) shows that 84.1% of the households in Nsanje, Phalombe, Chikwawa, Balaka had an IWI score of under 35 means that almost all of the

households lived in high poverty in 2018 (I. W. Index, 2021). The households in Zomba also had a bad economic situation since that 77.9% of them had an IWI score of under 35 (I. W. Index, 2021). In terms of other affected districts, more than 85% of the households had an IWI score under 35 in Dedza, Mwanza, Neno, Ntcheu, Thyiolo and Chiradzulu 2018 (I. W. Index, 2021). For Machinga, Mangochi, Mulanje, more than 85% of the households had an IWI score of under 35 in 2018 (I. W. Index, 2021). For Blantyre, 48,5% of the household had n IWI score of under 35 in 2018 (I. W. Index, 2021). Considering IWI, it can be assessed that almost every households lived in a highly bad economic situation in Nsanje, Zomba, Phalombe, Chikwawa, Balaka, Machinga, Mangochi, Chiradzulu, Mulanje, Dedza and Ntcheu in 2018. For Blantyre, since half of the households lived in a highly bad economic situation, the economic situation was also bad in Blantyre. Still, the district had better economic performance compared to other affected districts in 2018.

Secondly, many people depend on agriculture as their primary source of livelihoods in Balaka, Blantyre, Chickwawa, Dedza, Machinga, Mangochi, Mulanje, Mwanza, Neno, Nsanje, Ntcheu, Phalombe, Thyiolo, Zomba and Chiradzulu (Database, 2021d, 2021e; EM-DAT, 2021; G. o. Malawi, 2019a, 2019b; OCHA, 2019). Thus, these people were quite vulnerable to the impacts of natural disasters. Thirdly, in terms of social and public services, the health index value was 0.672 in Nsanje, Phalombe, Chikwawa, Balaka in 2018 (S. H. D. Index, 2021b). In Zomba, the heath index value was 0.716 in 2018 (S. H. D. Index, 2021b). For other affected areas, the health index values were ranges from 0.656 to 0.705 in Dedza, Mwanza, Neno, Ntcheu, Thyiolo, Blantyre, Chiradzulu, Machinga, Mangochi and Mulanje in 2018 (S. H. D. Index, 2021b). In terms of education, the education index value was 0.431 in Nsanje, Phalombe, Chikwawa, Balaka in 2018 (S. H. D. Index, 2021a). In Zomba, the education index value was 0.466 in 2018 (S. H. D. Index, 2021a). For other affected areas, the education index value was 0.423 in Dedza, Mwanza and Ntcheu in 2018 (S. H. D. Index, 2021a). For Machinga, Mangochi and Mulanje, the education index values were 0.398, 0.374 and 0.446, respectively, in 2018 (S. H. D. Index, 2021a). For Neno, Chiradzulu, Thyolo, the education index values are ranges from 0.430 to 0.441 in 2018 (S. H. D. Index, 2021a). In Blantyre, the education index was 0.556 in 2008 (S. H. D. Index, 2021a).

Consequently, all of the affected areas were vulnerable considering their bad economic, health and education conditions and their dependency on agriculture as their primary source of livelihoods.

In terms of disaster preparedness and pre-disaster response, there were still significant issues in Malawi. Firstly, National Disaster Risk Management Policy 2015 expressed that the preparedness and responses were not effective since the early warning systems were not working effectively (G. o. Malawi, 2015b, p. 7). Secondly, the knowledge and trainings were not enough to create awareness at the local and national level, according to the report (G. o. Malawi, 2015b, p. 7). Thirdly, the systems are not quite comprehensive to manage pre-disaster and post-disaster responses, and the low budget is one of the reasons for this issue, according to the report (G. o. Malawi, 2015b, p. 6). Fourthly, there were inadequate/outdated equipment and tools, and this inadequate equipment was a big problem in disaster preparedness and response, according to the National Disaster Risk Management Policy 2015 (G. o. Malawi, 2015b, p. 7). Considering these issues, it can be argued that there were different problems in disaster risk management in Malawi. Still, there were also positive developments in Malawi. Malawi Floods Emergency Recovery Project Capacity Development Plan 2017/2018-2019/2020 for the Malawi Department of Disaster Management Affairs expressed that the staffs were highly trained and experienced, and the teamwork was mainly well in disaster situations (G. o. Malawi, 2017, p. 14). Also, despite that there is a low budget, the report expressed that there were significant donors such as the World Bank and UNDP (G. o. Malawi, 2017, p. 15). In terms of specific pre-disaster responses in 2019 Floods, Flood List expressed that there were repeated significant warnings (against the 2019 Floods) from the Department of Climate Change and Meteorological Services (FloodList, 2019). In addition, the government also sent constant warnings to the people living in flood-affected regions, according to Flood List (FloodList, 2019). Thus, the government and the departments did an important job by determining the floods and sending the early warning to the people in danger. Consequently, there were significant improvements and pre-disaster responses despite the weaknesses and the problems on disaster preparedness and pre-disaster responses in 2019 Floods.

The impact of the 2019 Floods was severe in Malawi (EM-DAT, 2021). To explain this, according to the EM-DAT database, around 1,000,000 people were affected by the floods (EM-DAT, 2021). Also, the EM-DAT database expressed that 60 people lost their lives in the 2019 floods (EM-DAT, 2021). In terms of the affected districts, according to OCHA, the southern districts of Nsjanje, Phalombe, Chikwawa, Balaka, Zomba were the most affected districts in Malawi (OCHA, 2019, p. 1). According to the 2019 Flood Plan and Appeal report, crops, livestock and fisheries were highly affected by the floods. Also, there were significant crop losses in these districts, especially in Nsanje and Phalombe (G. o. Malawi, 2019a, p. 6). For instance, Malawi 2019 Floods Post Disaster Needs Assessment Report explained that around 90,000 hectares of crops were destroyed (partially or totally) in the flood-affected areas (G. o. Malawi, 2019b, p. 23). These crops belonged to 308,702 farm families, according to the report (G. o. Malawi, 2019b, p. 23). In addition, 47,504 livestock (partially or totally) were destroyed, according to the report (G. o. Malawi, 2019b, p. 25). The report also expressed that there were significant crop losses in Nsanje and Phalombe (G. o. Malawi, 2019b, p. 16). Chikwawa also was severely affected by the floods in terms of crop and livestock, according to the report (G. o. Malawi, 2019b, p. 16). In terms of infrastructure and buildings, the report also expressed that many schools, health services, houses, roads, bridges, irrigation and water systems were highly affected by the 2019 floods (G. o. Malawi, 2019b, p. 43).

In terms of post-disaster responses, according to OCHA, a state of disaster was declared immediately in the flood-affected areas (on 8 March 2019) (OCHA, 2019, p. 1). Malawi 2019 Floods Post Disaster Needs Assessment Report also stated that there were immediate response and reaction from the government (G. o. Malawi, 2019b, p. viii). Also, OCHA reported the government immediately provide relief services or rescue missions in the affected areas (OCHA, 2019, p. 1). For instance, OCHA reported that a considerable amount of goods such as maize, rice, blankets, tents, sheets were distributed immediately by DODMA in the 2019 floods (OCHA, 2019, p. 1). In terms of international responses, similar to previous floods, UN agencies especially put a considerable amount of effort, according to OCHA (OCHA, 2019, p. 1). However, there were still different issues in the 2019 Floods. 2019 Flood Response Plan and Appeal

Report expressed that many vulnerable displaced people could not take their needs (G. o. Malawi, 2019a, pp. 1-8). Also, the report showed that there was a significant lack of resources and gaps in funds, recovery and reconstruction process in affected areas in Malawi (G. o. Malawi, 2019a, pp. 1-15).

In terms of outcomes of the 2019 Floods, firstly, I suggest that the economic conditions of the affected areas were worsened due to the 2019 Floods. In order to explain, since many households depend on agriculture as their main source of livelihoods, crop losses and livestock losses highly affected the people in the flood-affected districts, especially in Nsanje and Phalombe. Also, many houses were damaged or destroyed, as expressed previously. These issues (crop losses, livestock losses and house damages) affected the income of the people in these districts. As Malawi 2019 Floods Post Disaster Needs Assessment Report expressed, moderate and ultra-poverty were expected to worsen in these districts (G. o. Malawi, 2019b, p. 16). Secondly, I express that food security was worsened in the affected areas in Malawi. Different sources confirmed that these crop losses worsened the food security in these districts, especially in Nsanje and Phalombe (G. o. Malawi, 2019a, 2019b). For instance, according to the Malawi 2019 Floods, Post Disaster Needs Assessment Report, food consumption was expected to decrease by around 5% Nsanje and Phalombe (G. o. Malawi, 2019b, p. 16). Furthermore, the report expressed that food consumption was expected to decline in the other flood-affected districts (G. o. Malawi, 2019b, p. 16). Besides, Malawi 2019 Floods Post Disaster Needs Report expressed that there was an increase in commodity prices by around 20 per cent. (G. o. Malawi, 2019b, p. xv). Thus, these findings show that food security was affected negatively in the affected areas. Thirdly, I suggest that the education and health conditions were worsened in the affected districts. As explained previously, lots of educational facilities were partially or destroyed in the affected areas. This situation had a negative impact on the current and future education condition/quality in the affected districts. It should also be noted that there were already displaced people in the schools, according to the Malawi 2019 Floods Post Disaster Needs Assessment Report (G. o. Malawi, 2019b, p. 36). The report explained that these floods even increased the population of the displaced people in the school (G. o. Malawi, 2019b, p. vii). Thus, the report expressed that many children could not take their daily education (G. o. Malawi,

2019b, p. vii). Also, it should be noted that this situation can affect the long-term literacy rate in the flood-affected region. In terms of the health conditions, as mentioned previously, some of the health facilities were affected by the floods. More importantly, the 2019 Floods Post Disaster Needs Assessment Report expressed that the floods damaged or destroyed some key medical equipment and supplies in the flood-affected districts (G. o. Malawi, 2019b, p. 21). The report expressed that people in the affected areas could not receive health services due to the damaged infrastructure (destroyed roads, bridges), electricity cuts or water issues (G. o. Malawi, 2019b, p. vii). Consequently, considering the worsening food security, increasing poverty and worsening education and health conditions, the outcomes of the 2019 floods were devastating for the people in the affected areas.

5.1.2) Mozambique

In this section, I will focus on the impact and the outcomes of the natural disasters in Mozambique in the period of 1992-2013. According to the EM-DAT Database, there were 10 large-scale natural disasters in the period of 1992-2013 in Mozambique (EM-DAT, 2021). I will assess the impact and the outcome of these disasters for the affected regions and Mozambique. To evaluate these impacts and the outcomes, this chapter will consider pre-disaster vulnerabilities, disaster preparedness, pre-disaster response, the impact of the disasters, post-disaster responses and the outcomes of the disasters.

5.1.2.1) 1994 Cyclone Nadia

In 1994, Cyclone Nadia hit the central areas of Mozambique (EM-DAT, 2021). As the EM-DAT database confirmed, Nampula, Zambezia, Manica and Sofola were the affected regions (EM-DAT, 2021). Also, it should be noted that the main impacts of the cyclone were experienced in Nampula; thereby, Nampula was the most affected region (DHA, 1994a).

In terms of pre-disaster vulnerability of the affected areas, firstly, since the IWI index started in 1994, it is not possible to examine the IWI index in this section. Thus, this section will rely on the Income Index, which is another reliable source to assess the economic conditions of the affected areas. According to Income Index, the income

index values were 0.173, 0.170, 0.185 and 0.193 in Nampula, Zambezia, Manica and Sofola, respectively, in 1993 (S. H. D. Index, 2021c). Considering these low-income index values, the economic conditions of the people were not good in 1993. Secondly, many people depend on agriculture as their primary source of livelihoods in Nampula, Zambezia, Manica and Sofola (Database, 2021d, 2021e; DHA, 1994a). Thus, these people were quite vulnerable to the impacts of natural disasters. Thirdly, in terms of social and public services, Nampula, Zambezia, Sofala, and Manica had 0.397, 0.430, 0.396 and 0.453 health index values respectively in 1993 (S. H. D. Index, 2021b). Thus, it can be argued that all of the regions (especially Nampula and Sofala) had significant issues in terms of health in 1993. In terms of education, Nampula, Zambezia, Sofala and Manica had 0.112, 0.143, 0.118 and 0.130 education index values, respectively, in 1993 (S. H. D. Index, 2021a). Therefore, it can be argued that all of the regions have significant problems in terms of education. Consequently, all of the affected areas were vulnerable considering their bad economic, health and education conditions and their dependency on agriculture as their primary source of livelihoods.

In terms of disaster preparedness and pre-disaster responses, WMO explained that the Department for Combating Natural Disasters was established in 1977 (WMO, 2013, p. 3). This department aimed to decrease the impacts of natural disasters (WMO, 2013, p. 3). Thus, the creation of this department was a significant development in Mozambique. Also, the Department for Prevention and Control of Natural Disasters was created to cope with the disasters in Mozambique (WMO, 2013, p. 3). In addition to these efforts, Langa explained that there were disaster relief stock and a 24-hour communication system to cope with the disasters (Langa, 1994, p. 63). However, there were significant issues in disaster preparedness in Mozambique before the 1994 Cyclone Nadia. To explain, Mozambique was at war for a long time, and the war was only ended a few years ago (Wiles, Selvester, & Fidalgo, 2005, pp. 3-4). Wiles, Selvester and Fidalgo expressed that there were post-war reconstruction and many displaced people in the 1990s (Wiles et al., 2005, pp. 3-4). Thus, Wiles, Selvester and Fidalgo expressed that there were mainly war-time reliefs and the development became the priority starting with 1993 (Wiles et al., 2005, p. 3). However, the disaster preparedness and management did not pay attention to the scope of the development, according to Wiles,

Selvester and Fidalgo (Wiles et al., 2005, pp. 3-7). Thus, although there were improvements in disaster preparedness, there were still significant issues in Mozambique in 1993. In terms of specific pre-disaster response to cyclone Nadia, Langa expressed that the 24 hours communication system and the existence of the relief stock helped to mitigate the impact of the cyclone Nadia (Langa, 1994, p. 63). However, as the UN DHA report shows, there were no enough equipment and food, and the quality of the rescue and delivery trucks were quite bad (DHA, 1994a). In addition to these specific problems in response, it should be expressed that there were significant post-war issues in Mozambique and these issues had a negative impact on the Cyclone Nadia. Consequently, although there were some improvements in disaster preparedness and efforts in pre-disaster responses, the overall disaster preparedness and pre-disaster responses was quite a week in Cyclone Nadia in 1994.

The impacts of Cyclone Nadia were severe in 1994 in Mozambique. EM-DAT database shows that around 2.5 million people were affected by Cyclone Nadia (EM-DAT, 2021). Also, Tinker and his colleagues explained that there were 1.5 million homeless due to Cyclone Nadia (Tinker et al., 1994, p. 6). Furthermore, the EM-DAT database shows that Cyclone Nadia took 240 lives in Mozambique (EM-DAT, 2021). In terms of affected districts, the UN DHA report shows that Nampula, Zambezia, Manica and Sofola were affected by Cyclone Nadia (DHA, 1994a). In terms of agriculture, the report expressed that agriculture (75% of the agricultural production) was severely affected by the cyclone (DHA, 1994a). Specifically, Tinker and his colleagues mentioned that the cyclone destroyed 80% of the cashew trees (Tinker et al., 1994, p. 6). Furthermore, the UN DHA report expressed that maize, sugar, beans were severely affected by the cyclone Nadia (DHA, 1994a). In terms of infrastructure, the UN DHA report confirms that many houses, all the schools, many health facilities and units, roads and bridges (DHA, 1994a). To explain, Tinker and his colleagues expressed that the cyclone destroyed 90% of the houses in Nampula (Tinker et al., 1994, p. 6). In addition, the OFDA report also expressed that almost all of the energy distribution was lost in Nacala (in Nampula) (OFDA, 1994, p. 28).

In terms of post-disaster responses, there were different national and international responses to the cyclone Nadia. Government teams went to the most affected province immediately (on 26 March), according to the UN DHA report (DHA, 1994a). In addition, tons of relief materials were distributed immediately according to the UN DHA (DHA, 1994a). Langa expressed that an intersectoral coordination body was created at different levels to respond to Nadia (Langa, 1994, p. 63). Also, Langa expressed that there were existing disaster relief items, and these relief items were distributed highly fast in cyclone Nadia (Langa, 1994, p. 63). UN DHA confirms that these existing food items were enough to feed the 300,000 people in 30 days (DHA, 1994a). However, Langa confirmed that there were 300 dead people (in the sixth months after the disaster in Nampula) due to the malnutrition caused by lack of food (Langa, 1994, p. 63). As a different problem, UN DHA expressed that many government trucks had no fuel or less fuel to deliver the food (DHA, 1994a). Also, the UN DHA report expressed that there were problems with finding building materials in the affected areas (DHA, 1994a). In terms of international responses, the UN DHA report confirmed that the helicopters were sent by UNOMOZ/UNOHAC to assess the situation and helped to respond (DHA, 1994a). Also, the UN DHA report expressed that DHA, UNDP, USA, Sasakawa Foundation, Norway, UK, Japan, Luxembourg, Germany, Spain, France, Italy, IFRC joined to efforts in international responses by sending funds, relief goods, materials and other reconstruction materials (DHA, 1994a). In terms of medium and long term efforts, UN DHA report also expressed that there were significant efforts such as preparing a better early warning system and disaster preparedness capacity improving the health and education systems, improving economic life, education and health systems (DHA, 1994a). Consequently, there were significant issues in the post-disaster responses, although there was a considerable effort from the government and the international community.

In terms of outcomes, I suggest that the economic conditions of the affected areas were worsened in Mozambique. As mentioned previously, many people depend on crops as their primary source of livelihoods. Thus, these crop losses had a significant impact on people's economic situation. In addition to this issue, many lost their houses and assets in the affected regions, especially in Nampula. Therefore, this situation also affected the

economic conditions of people negatively. Secondly, I claim that food security was worsened in the affected regions. The findings show that there were many crop losses, and the food availability and security was affected negatively in the affected areas. As different sources confirmed, while around 300,000 to 870,000 people were highly suffered from food insecurity, 300 people died due to the lack of food (DHA, 1994a; Langa, 1994; OFDA, 1994; Tinker et al., 1994). Thirdly, I express that the education and the health conditions were also worsened due to the cyclone Nadia. In this issue, the UN DHA report mentioned that many health units were lost in the affected region (DHA, 1994a). Also, the report noted that since the sanitary conditions were worsened, flood-related diseases (such as cholera) increased in the affected regions (DHA, 1994a). In terms of education, the UN DHA report mentioned that the cyclone destroyed many schools (DHA, 1994a). Consequently, the findings showed that the outcomes of the Cyclone Nadia were severe for Nampula, Zambezia, Manica and Sofola.

5.1.2.2) 1996 Cyclone Bonita

In 1996, Cyclone Bonita hit the northern, central and southern areas of Mozambique (EM-DAT, 2021). Specifically, according to the EM-DAT database, Zambezia, Cabo Delgado, Nampula, Gaza, Maputo, Inhambane were the affected regions from Cyclone Bonita (EM-DAT, 2021). Also, it should be noted that Zambezia was the most affected region (EM-DAT, 2021; FAO, 1996; Wiles et al., 2005). In terms of the pre-disaster vulnerability of the affected areas, firstly, the International Wealth Index (IWI) shows that 97.4% of the households in Zambezia had an IWI score under 35 means that almost every household was quite poor in Zambezia in 1995 (I. W. Index, 2021). Also, the IWI index explains that approximately 99% of the households had an IWI score under 35 in Nampula and Cabo Delgado in 1995 (I. W. Index, 2021). In Inhambane, Gaza and Maputo, 94.9%, 84.9% and 68,0% of the households had an IWI score under 35 respectively in 1995 (I. W. Index, 2021). Overall, considering the IWI, the people lived in high poverty in Zambezia, Nampula, Cabo Delgado and Inhambane in 1995. Furthermore, although the economic conditions were better in Gaza and Maputo, these regions also suffered from a significant level of poverty in 1995.

Secondly, different sources confirmed that many people depend on agriculture as their primary source of livelihoods Nampula, Zambezia, Manica and Sofola (Database, 2021d, 2021e; FAO, 1996). Thus, these people were highly vulnerable to the impact of natural disasters. Thirdly, in terms of social and public services, Zambezia had 0.441 value and 0.163 value in health index and education index in 1995 (S. H. D. Index, 2021b). In terms of health, Cabo Delgado, Nampula, Inhambane, Gaza and Maputo had 0.462, 0.408, 0.434, 0.423 and 0.478 respectively in 1995, according to Health Index (S. H. D. Index, 2021b). In terms of education, Cabo Delgado, Nampula, Inhambane, Gaza and Maputo had a score of 0.107, 0.127, 0.168, 0.154 and 0.228, respectively, in 1995 (S. H. D. Index, 2021a). For health and educational situation, all of the regions had bad health and education situation as their similar percentages show. Still, it should be noted that Maputo province was performed better in terms of health and education in 1995. Consequently, all of the affected areas were vulnerable considering their bad economic, health and education conditions and their dependency on agriculture as their primary source of livelihoods.

In terms of preparedness and pre-disaster responses, there were significant developments such as the creation of the Department for Combating Natural Disasters in 1977 or the existence of the communication and the early warning system in Mozambique. However, it should also be expressed that Mozambique was still had a bad economic condition in 1994-1996 (I. W. Index, 2021; S. H. D. Index, 2021c). In addition, the post-war issues still existed in 1995 and 1996 in Mozambique. For instance, Foley expressed that around 2 million people returned to Mozambique, and there were also around 4 million IDPs in Mozambique in 1995 (Foley, 2007, pp. 10-11). Also, Wiles, Selvester and Fidalgo expressed that the government mainly had a low amount of staff and vehicles primarily due to the war (Wiles et al., 2005, p. 3). Consequently, although that there are several new departments, plans, improved early warning systems, and communication systems, the poverty and post-war issues were significant problems in Mozambique and mainly dominated the agenda of Mozambique in 1994-1996.

In terms of the impact of Cyclone Bonita, the EM-DAT database expressed that around 200,000 people were affected by the cyclone (EM-DAT, 2021). Also, Wiles, Selvester and Fidalgo mentioned that the cyclone killed 11 people in Mozambique (Wiles et al., 2005, p. 29). In terms of affected areas, different sources confirmed that Zambezia, Cabo Delgado, Nampula, Gaza, Maputo, Inhambane were the affected areas (EM-DAT, 2021). Among them, according to FAO's statistics, Zambezia was the most affected province in Mozambique (FAO, 1996). In the affected regions, FAO expressed that there were 570 hectares of crop losses in the affected regions (FAO, 1996). Also, the report also expressed that the Bonita caused around 44,200 hectares of crop losses in the affected regions (FAO, 1996). As a specific and different argument, Wiles, Selvester and Fidalgo expressed that the cyclone destroyed 170,000 ha of crops only in Cabo Delgado and Nampula (Wiles et al., 2005, p. 29). As mentioned previously, the most affected region was Zambezia. In this issue, the FAO report stated that the total harvested area was declined by around 3% compared to the previous year in Zambezia (FAO, 1996). Also, the report expressed that Maganja da Costa (in Zambezia) experienced a devastating impact since that cyclone destroyed 10,000 hectares of crops (FAO, 1996). In Chinde alone (Zambezia), the cyclone and its floods also destroyed 2,000 hectares of crops (FAO, 1996). In addition to the crop losses, Tsiko also reported that there were significant livestock losses in the affected areas (Tsiko, 2019). In terms of infrastructure, Tsiko also expressed that many houses were damaged or destroyed due to the cyclone Bonita in 1996 (Tsiko, 2019). Lastly, Wiles, Selvester and Fidalgo expressed that some roads and railways also destroyed due to the impact of the cyclone Bonita (Wiles et al., 2005, p. 29). In general, the numbers show that the impact of the cyclone Bonita was significant, and it had significant outcomes for the affected regions. In terms of post-disaster responses to Cyclone Bonita, I could not find a resource that discusses the national and international post-disaster responses to Cyclone Bonita. Thus, this issue remained one of the limitations of this section and a future research topic.

In terms of the outcomes, firstly, I suggest that the economic conditions of the affected areas were worsened due to Cyclone Bonita. As mentioned previously, there were many farmers and herders in the affected areas. Thus, these crop and livestock losses had a significant impact on people's economic situation in the affected areas. In addition to

this issue, many people lost their houses and assets in the affected regions. This situation also affected the economic conditions of people negatively. Secondly, I express that food security was worsened in the affected areas. Since many crops were lost, food availability and security was affected negatively in the affected areas. For instance, FAO expressed that the total harvested areas were decreased considerably in the most affected region Zambezia (FAO, 1996). Consequently, findings show that the economic and social conditions of the affected areas were affected negatively by Cyclone Bonita.

5.1.2.3) 1997 Floods

In 1997, Mozambique experienced massive floods (EM-DAT, 2021). The floods hit the central areas of Mozambique (EM-DAT, 2021). As EM-DAT database expressed that Tete, Sofala, Zambezia and Manica were the affected regions from the 1997 Floods (EM-DAT, 2021). Also, it should also be noted that all of the provinces were affected by the floods similarly (IFRC, 1997; PANAPress, 1997; USAID, 1997).

In terms of the pre-disaster vulnerability of the affected areas, firstly, the International Wealth Index (IWI) shows that 98% of the households had an IWI score under 35 in Tete, Sofala, Zambezia and Manica in 1996 (I. W. Index, 2021). Secondly, different sources confirm that many people depend on agriculture as their primary source of livelihoods in Tete, Sofala, Zambezia and Manica (Database, 2021d, 2021e; IFRC, 1997; PANAPress, 1997; USAID, 1997). Therefore, these people were highly vulnerable to the impacts of natural disasters. Thirdly, in terms of social and public services, Tete, Sofala, Zambezia, and Manica had 0.407, 0.412, 0.447 and 0.470 health index values respectively in 1996 according to Health Index (S. H. D. Index, 2021b). In terms of education, Tete, Sofala, Zambezia and Manica had 0.153, 0.151, 0.182 and 0.167 education index values respectively in 1996 (S. H. D. Index, 2021a). For health and educational situation, all of the regions had bad health and education condition as their similar percentages show that. Still, it should be noted that Zambezia and Manica province were slightly performed better in terms of health and education in 1996. Still, it can be argued that all of the central regions had high vulnerabilities considering their dependency on agriculture and bad economic, education, health conditions in 1996.

In terms of disaster preparedness and pre-disaster responses, as mentioned previously, although there were some developments, there was a high level of poverty and post-war issues in Mozambique. Starting from 1996, WMO expressed that there was a significant development for the early warning system, data creation/collection and contingency planning in Mozambique (WMO, 2013, pp. 3-13). Thus, these developments were significant for disaster preparedness in Mozambique. Specifically to 1997 Floods, Langa expressed that there was an emergency relief stock before the disaster, according to PanaPress (PANAPress, 1997). Also, IFRC confirms that most of the people were fed by the government at the initial stage (IFRC, 1997). However, it should be noted that this emergency stock was not enough, as Langa confirmed, according to PanaPress (PANAPress, 1997). In a similar argument, different sources confirm that the pre-existing food stock was not enough to feed all people in the affected provinces (DHA, 1997b; IFRC, 1997). Consequently, there were several developments in disaster preparedness and pre-disaster responses in the 1997 Floods in Mozambique. However, there were also many issues in disaster preparedness and pre-disaster responses in the 1997 Floods in Mozambique.

The impact of the 1997 Floods was severe for the affected areas. According to the EM-DAT database, around 400,000 people were affected by the floods (EM-DAT, 2021). PanaPress also expressed that the floods affected around 350,000 families in Mozambique (PANAPress, 1997). EM-DAT database also shows that 35 people lost their life due to the floods (EM-DAT, 2021). In terms of affected districts, the EM-DAT database showed that Manica, Sofala, Tete and Zambezia, were the most affected provinces in Mozambique (EM-DAT, 2021). To explain specifically, crops (that year crops) of 25,400 families were destroyed by the 1997 floods in Mutarara (in Tete) district, according to PanaPress (PANAPress, 1997). Also, Pana Press expressed that around 3,700 families were affected by losing their homes in Caia (in Sofala) (PANAPress, 1997). In addition, IFRC mentioned that around 14,000 people were in need in the districts of Nhamatanda Buzi (Sofala) (IFRC, 1997). In total, USAID expressed that 100,000 people lost their entire possessions during and after the floods (USAID, 1997). Also, USAID expressed that 100,000 ha of crops were damaged or lost

by the floods in the affected areas in Mozambique (USAID, 1997). Furthermore, IFRC mentioned that there are lots of destroyed or damaged buildings and infrastructure in the affected regions (IFRC, 1997). Thus, considering the number of affected, displaced people, dead people, crops losses, destroyed houses and infrastructure, the impact of the 1997 floods were severe in the affected provinces of Tete, Sofala, Zambezia and Manica.

In terms of post-disaster responses to floods, different sources expressed that the government (with the help of different countries and agencies) made assessments to understand the effects of the floods and the number of people who are in need (DHA, 1997b, 1997c; IFRC, 1997; PANAPress, 1997). Also, as mentioned previously, different sources confirmed that there was initial food distribution thanks to the existence of the relief stock (DHA, 1997b, 1997c; PANAPress, 1997). In addition, UN DHA also confirmed that there were initial rescue operations that saved around 2,000 people, according to UN DHA (DHA, 1997c). Also, USAID expressed that the government also gave importance to responses in the long term (USAID, 1997). In terms of international assistance, the UN DHA report mentioned that DHA, FAO, UNICEF, UNDP, WFP and WHO provided food during the response (DHA, 1997b). Considering these efforts, it can be argued that there were significant national and international responses to the 1997 Floods in Mozambique. However, it should be mentioned that there were significant problems while responding to the 1997 floods. Firstly, there was a lack of materials to rebuild homes again, according to IFRC (IFRC, 1997). Secondly, as mentioned previously, although there was initial food distribution, there was no enough food to feed all the people. Thirdly, the speed of the responses was slow due to the fact that the MRCS program did not include the affected areas, according to the IFRC (IFRC, 1997). Thus, there were significant problems, although there was a considerable national and international post-disaster response.

In terms of outcomes, firstly, I express that the economic conditions of the affected households were worsened in Mozambique. As expressed in the previous section, many agricultural people lost their homes, assets and their crops. Thus, there were significant losses in economic assets in the affected areas. Secondly, I express that food security

was worsened in the affected areas due to these crop losses. In this issue, USAID explained that the central region is significant since they are the trade corridor between the northern region (have more food) and the southern region (have less food) in Mozambique. (USAID, 1997). Thus, the southern region was negatively affected by the impact of the 1997 Floods. As a result, USAID suggested that all of these issues worsened the food insecurity in both affected areas and the southern regions (USAID, 1997). Consequently, the findings indicated that economic condition and food security were worsened in the affected areas (and in the other areas) in Mozambique.

5.1.2.4) 2000 Floods

Mozambique experienced massive floods in 2000 (EM-DAT, 2021). The floods hit the southern and central areas of Mozambique (EM-DAT, 2021). As the EM-DAT database confirmed, Maputo, Inhambane, Sofala, Manica and Tete were the affected areas (EM-DAT, 2021). Also, the capital Maputo was the most affected area in the 2000 Floods (BBC, 2000a, 2000b; CEDRISA, 2009; Davies, 2013b; SARPN, 2005).

In terms of the pre-disaster vulnerability of the affected areas, firstly, the International Wealth Index (IWI) shows that 69.4% and 54.1% of the households in Maputo Province and Maputo Capital had an IWI score of under 35 means that more than half of the households (in Maputo) were living in high poverty in 1999 (I. W. Index, 2021). However, it should also be noted that the situation in Maputo (especially in the capital) was better compared to the other parts of the country since that almost every household in many northern and central regions were living in high poverty in 1999 (I. W. Index, 2021). In terms of other affected regions, the IWI index shows that more than 90% of the households in all of the affected regions (Inhambane, Sofala, Manica and Tete) had an IWI score of under 35 in 1999 (I. W. Index, 2021). Overall, it can be assessed that the households lived in highly bad economic conditions in Inhambane, Sofala, Manica and Tete in 1999. For Maputo, it can be argued that Maputo province and capital also had a bad economic condition, as their IWI index shows (I. W. Index, 2021). Still, the economic condition (in Maputo) was clearly better compared to the other affected regions, which are Inhambane, Sofala, Manica and Tete, in 1999. Secondly, many people depend on agriculture as their primary source of livelihoods in Inhambane,

Sofala, Manica and Tete (BBC, 2000a, 2000b; CEDRISA, 2009; Database, 2021d, 2021e; Davies, 2013b; SARPN, 2005). Thus. Thus, these people were highly vulnerable to the impacts of the natural disasters in these regions. Thirdly, in terms of social and public services, Maputo Province and Capital had 0.509 and 0.566 health index values respectively in 1999 (S. H. D. Index, 2021b). Also, Inhambane, Sofala, Manica, and Tete had 0.460, 0.426, 0.470 and 0.422 health index values respectively in 1999 according to Health Index (S. H. D. Index, 2021b). In terms of education, Maputo Province and Maputo Capital had 0.318 and 0.396 education index values, respectively, in 1999 (S. H. D. Index, 2021a). Also, Inhambane, Sofala, Manica and Tete had 0.230, 0.202, 0.222 and 0.188 education index values respectively in 1999 according to the education index (S. H. D. Index, 2021a). Overall, all of the regions had bad health and education condition. Still, the health and education conditions were better in Maputo Province, and Capital compare to the other regions. Consequently, many of the affected areas were vulnerable considering their bad economic, health and education conditions and their dependency on agriculture as their primary source of livelihoods.

In terms of disaster preparedness and pre-disaster responses to the 2000 floods, there were different arguments in the literature for 2000 Floods. To explain the weaknesses, the SARPN report expressed that the overall response to the 2000 floods was weak and ineffective (SARPN, 2005, pp. 3-7). SARPN expressed that Mozambique had a long-term civil war and instability and disaster preparedness and management were not the priority for a long time (SARPN, 2005, p. 4). Also, the report expressed that the government, many IOs and NGOs did not give importance to disaster preparedness, prevention and response, but they mainly give importance to the development issues (SARPN, 2005, p. 3). In addition, the responsible agencies and departments of the government also did not have the necessary equipment, according to SARPN (SARPN, 2005, pp. 3-4). Only after the late 1990s, disaster management and preparedness started to become an important issue in Mozambique, according to a report (SARPN, 2005, p. 3). However, the report expressed that the disaster response capabilities of the many agencies (in Mozambique) were gradually decreased due to financial reasons, even in the late 1990s (SARPN, 2005, p. 3).

On the contrary to the SARPN report, Hellmuth, Moorhead, Thomas, and Williams expressed that the overall pre-disaster preparedness, management and response was good in 2000 floods (Hellmuth, Moorhead, Thomas, & Williams, 2007, pp. 20-29). To explain, they expressed that the disaster management policy was changed, and the National Disaster Management Institute was created in 1999 (Hellmuth et al., 2007, p. 17). Also, they mentioned that the early warning system was developed in the preparedness processes (Hellmuth et al., 2007, p. 19). Since this early warning system is coordinated effectively, the floods were estimated more effectively and managed better (Hellmuth et al., 2007, pp. 19-21). Also, there was also an effective system meteorological data system, according to Hellmuth, Moorhead, Thomas and Williams (Hellmuth et al., 2007, pp. 19-21). This data collection also helped to predict the floods and cyclones and analyzing the disaster situation, according to Hellmuth, Moorhead, Thomas and Williams (Hellmuth et al., 2007, pp. 19-21). Specifically to 2000 floods, Mozambique weather and climate services estimated (mainly correctly) that there could be above average rainfall, according to Hellmuth, Moorhead, Thomas and Williams (Hellmuth et al., 2007, pp. 20-21). They warned that the flood risk was relatively high in Mozambique, according to Hellmuth, Moorhead, Thomas and Williams (Hellmuth et al., 2007, pp. 20-21). They further expressed that these warnings were listened to by the government, and they made assessments and plans to prepare against the possible floods in 1999/2000 (Hellmuth et al., 2007, pp. 20-21). However, they also mentioned that not all resources were mobilized in time (Hellmuth et al., 2007, p. 21). This was one of the weaknesses of the pre-disaster response, and this also affected the post-disaster response. In general, considering all the information, the policies, cooperation, early warning system and data collection was mainly good despite the weaknesses expressed above.

The impact of the 2000 floods was devastating in Mozambique. EM-DAT database expressed that 4.500.000 million people were affected by the 2000 floods in Mozambique (EM-DAT, 2021). Also, it was expressed that the floods killed more than 700 people in Mozambique (CEDRISA, 2009, p. 19). In addition, the SARPN report expressed that more than 600,000 people lost their homes and displaced (SARPN, 2005, p. 6). In terms of affected areas, the EM-DAT database expressed that Maputo, Inhambane, Sofala, Manica and Tete were the affected areas (EM-DAT, 2021). Still,

different sources confirm that Maputo (the capital province) were the most affected province among these provinces (BBC, 2000a, 2000b; CEDRISA, 2009; Davies, 2013b; SARPN, 2005). As BBC expressed, the poor people who live in Maputo were the most affected ones in the 2000 floods (BBC, 2000b). Thus, the poor people in Maputo was especially affected by the floods. In terms of agriculture, the SARPN report expressed that the floods destroyed more than 140,000 hectares of crops (SARPN, 2005, p. 7). Also, the report expressed that around the flood took more than 350,000 livestock in Mozambique (SARPN, 2005, p. 7). Also, different sources expressed that many building, roads, railways, bridges, educational and health facilities, electricity system, water and sanitation systems, irrigation systems were destroyed in Mozambique (BBC, 2000a, 2000b; CEDRISA, 2009; Davies, 2013b; SARPN, 2005).

In terms of post-disaster responses to the 2000 floods, SARPN expressed that there were a considerable amount of rescue operation and these rescue operations were mainly successful (SARPN, 2005, p. 7). Also, communication and data sharing was mainly successful, according to Sarpn (SARPN, 2005, p. 7). Besides, the SARPN report expressed that there were significant health measures that avoided many flood-related water diseases (SARPN, 2005, p. 7). In the issue of international assistance, Hellmuth, Moorhead, Thomas, and Williams confirmed that there was a considerable amount of international aid in the 2000 Floods (Hellmuth et al., 2007, pp. 22-23). To explain, SARDC expressed that 240,000 people took food from WFP (SARDC, 2000). Also, Sardc also expressed that WHO also send funds to manage the flood-related disaster in the affected areas (SARDC, 2000). Also, South Africa, France and Malawi also played an important role in the rescue operations, according to SARDC (SARDC, 2000). As a negative issue, SARDC expressed that the speed of international assistance/aid was highly slow in Mozambique (SARDC, 2000). Consequently, there were significant responses from the government and the international community. However, international assistance was highly slow in the 2000 Floods.

In terms of outcomes, firstly, I express that the economic condition of the affected areas was deteriorated due to the 2000 floods. As mentioned previously, many crops and livestock were lost, and the irrigation system was damaged in the affected areas. Also,

Davies expressed that the floods destroyed or damaged 50,000 square of land in the affected areas (Davies, 2013b). According to Davies, at least 100,000 farmer households' livelihoods were deteriorated due to the losses in agricultural lands and production (Davies, 2013b). In addition, as expressed before, many people lost their houses and possessions. Thus, their economic conditions were worsened since they lost their homes and assets. Secondly, I suggest that food security was worsened in the affected areas. As the findings showed, there were a significant amount of crop losses in the affected areas. Thus, this situation had a negative impact on food availability/security in the affected areas. BBC also confirmed that there were problems in the food issue after the floods (BBC, 2000a, 2000b). Thirdly, I express that the health conditions were worsened due to the 2000 Floods. In this context, the BBC reported that flood-related diseases (cholera and diarrhoeal) increased in the affected areas (BBC, 2000a). Also, Davies reported that Dysentery cases started to increase in the affected areas (Davies, 2013b). Thus, despite the measures, the health conditions were worsened in the affected areas. Consequently, the 2000 Floods worsened the economic condition, food security and health conditions in the affected areas.

5.1.2.5) 2001 Floods

One year after 2000, Mozambique experienced another massive flood in 2001 (EM-DAT, 2021). The 2001 floods hit the central areas (Zambezia, Tete, Manica and Sofala) of Mozambique (EM-DAT, 2021). Also, it should be noted that Zambezia were the most affected area from the 2001 floods in Mozambique (SARPN, 2005, p. 7).

In terms of pre-disaster vulnerability of the affected areas, firstly, the International Wealth Index (IWI) shows that 97.8% of the households in Zambezia had an IWI score of under 35 means that almost all of the households were living in high poverty in 2000 (I. W. Index, 2021). In terms of other affected regions, the IWI index shows that more than 90% of the households in all of the regions (Sofala, Manica and Tete) had an IWI score of under 35 in 2000 (I. W. Index, 2021). Considering the IWI, it can be assessed that almost every households lived in a highly bad economic situation in Zambezia, Sofala, Manica and Tete in 2000. Secondly, different sources confirmed that many people depend on agriculture as their primary source of livelihoods in Zambezia, Tete,

Manica and Sofala (Database, 2021d, 2021e; OCHA, 2001; SARPN, 2005; UNRC, 2001b). Thus, people were highly vulnerable to the impacts of natural disasters in these areas. Thirdly, in terms of social and public services, Zambezia had a 0.489 health index value in 2000, according to Health Index (S. H. D. Index, 2021b). Also, Tete, Manica, and Sofala had 0.427, 0.467, 0.430 health index values respectively in 2000 according to Health Index (S. H. D. Index, 2021b). In terms of education, Education Index shows that Zambezia had a 0.215 education index value in 2000 (S. H. D. Index, 2021a). Also, Education Index showed that Tete, Manica and Sofala had 0.201, 0.245, 0.224 education index values respectively in 2000 (S. H. D. Index, 2021a). For health and educational situation, all of the regions had bad health and education situation since their education index and health index was quite poor. Consequently, all of the affected areas had high vulnerability due to their bad economic and social conditions and their dependency on agriculture as the primary source of livelihoods.

In terms of disaster preparedness and pre-disaster responses, there were mainly positive arguments in the 2001 Floods. In this context, Hellmuth, Moorhead, Thomas and Williams expressed that the government prepared effectively and mobilized its resources in time and quickly (Hellmuth et al., 2007, p. 27). For instance, Hellmuth, Moorhead, Thomas and Williams expressed that both the boats and helicopters were prepared when there was an early warning against the 2001 floods (Hellmuth et al., 2007, p. 27). In addition to the Hellmuth, Moorhead, Thomas and Williams, the SARPN report also expressed that the preparedness for the 2001 floods was better than the preparedness in 2000 since many relief goods (such as food), rescue vehicles and materials were prepared before the floods (SARPN, 2005, p. 7). In a similar argument with different sources expressed that the disaster coordination and early warning system was better in the 2001 floods compared to the 2000 floods (SARPN, 2005; UNRC, 2001b). In addition to these report, UN RC Mozambique was also reported that there were significant preparation plans between the UN agencies and the government (UNRC, 2001b). Thanks to these plans and assessments, the WFP already prepared tonnes of food for the central region, according to UN RC Mozambique (UNRC, 2001b). Considering all the information above, it can be expressed that the government and the international agencies prepared well and acted in time. Also, the pre-disaster

response and preparedness were clearly better than the pre-disaster preparedness and response in 2000 floods, considering the sources above.

In terms of the impact of the 2001 Floods, the UN RC Mozambique report expressed that the floods affected around 500,000 people (UNRC, 2001b). Also, Hellmuth, Moorhead, Thomas and Williams expressed that 115 people lost their lives due to the flood (Hellmuth et al., 2007, p. 15). Furthermore, UN RC Mozambique also expressed that around 230,000 displaced due to the floods (UNRC, 2001b). In terms of affected districts, Tete, Manica, Zambezia and Sofala were the affected districts from the floods, according to OCHA (OCHA, 2001). In terms of the most affected region, SARPN expressed that Zambezia was the most affected region among them (SARPN, 2005, p. 7). In the affected regions, Wines explained that around 45,000 houses were damaged or destroyed due to the 2001 floods (Wines, 2007). Save the Children report also expressed that many roads and bridges were destroyed or damaged (Children, 2003). In terms of agriculture, the UN RC report expressed that around 80,000 hectares of crops were destroyed due to the 2001 Floods (UNRC, 2001b). In total, around 111,000 farmers were affected by these crop losses and the other impacts of the floods, according to the UN RC Mozambique report (UNRC, 2001b). Thus, as the numbers and situation show that the impact of the 2001 floods was devastating in the affected areas.

In terms of post-disaster response, different sources confirmed that the post-disaster response was more successful than the post-disaster response in 2000 floods. In this context, SARPN expressed that there was better communication between Mozambique and other countries/organizations in the 2001 floods compare to the 2000 floods (SARPN, 2005, p. 7). The lessons from the 2000 floods were important for creating a better communication system in Mozambique, as SARPN expressed. (SARPN, 2005, p. 7). In terms of response, UN RC expressed that the government immediately took measures and responses, and they mobilized their resources to the floods. (UNRC, 2001b). Also, UN RC expressed that the rescue operations conducted successfully with a great effort. Furthermore, UN RC expressed that the government also distributed relief goods and materials to the people in need (UNRC, 2001b). In terms of international assistance, WFP, UNICEF, UN RC, OCHA, WHO, Save the Children, FAO, UNDP,

USAID, Norway, Sweden, USA, Portugal, South Africa, Belgium, Canada, Germany Netherlands, UK and many other countries played an active role since that they provided funds, relief good, materials and joined to rescue operations, according to UN RC (UNRC, 2001b). Also, the SARPN report expressed that the international community had sent (93% of them) the cost that the government asked for (SARPN, 2005, p. 7). As the information shows that there was a good response from the international community and the government. However, there were also some weaknesses in response to the literature. To explain, as mentioned previously, many people were hosted in the centres and some of these people went back to their homes after a while. However, UN RC expressed that the number of returnees is not unknown due to the lack of a functional management information system (UNRC, 2001b). Despite these weaknesses, the overall post-disaster response was quite successful, considering the information above. It should be noted that good pre-disaster preparedness played an important role in this successful post-disaster response.

In terms of outcomes, firstly, I express that the economic condition of the affected households was worsened due to the 2001 Floods. As explained previously, many farmers were highly affected by the crop losses since that crops were the main source of livelihoods of the farmers. Also, many people lost their homes and their possessions. These situations affected their economic situation negatively. Secondly, I suggest that food security was affected negatively in the affected areas in Mozambique. As the findings showed, there were significant crop losses, and these losses affected food security negatively. Also, as different sources confirmed, food prices were increased in many places. Still, thanks to the pre-disaster relief stock and adequate responses, significant amounts of food needs were covered, as expressed above. Thirdly, I suggest that the health and education conditions were worsened in the affected region. In this context, around 105,000 children could not go the school in the affected regions, according to UN RC Mozambique (UNRC, 2001b). This can lead to dropouts and low literacy rates in the future. In terms of health conditions, UN RC expressed that the flood-related (such as cholera) disasters also increased in the affected regions (UNRC, 2001b). However, the report also expressed that this increase did not evolve to a pandemic according to the UN RC (UNRC, 2001b). Consequently, the findings suggest

that the economic, health, education and food conditions were worsened in the affected areas in Mozambique.

5.1.2.6) 2001-2002 Droughts

Mozambique experienced severe droughts in 2001 and 2002 (EM-DAT, 2021). These droughts mainly affected Maputo, Gaza, Inhambane, Sofala, Tete and Zambezia in Mozambique (EM-DAT, 2021). It should also be noted that the southern areas Maputo, Gaza and Inhambane were the most affected areas (USAID, 2002). In terms of the pre-disaster vulnerability of the affected areas, firstly, the International Wealth Index (IWI) shows that 69.8%, 50.1%, 89.6% and 94,3% of the households in Maputo Province, Maputo Capital, Gaza and Inhambane had an IWI score of under 35 (I. W. Index, 2021). In terms of other affected regions, the IWI index shows more than 93% of the households in all of the regions (Sofala, Zambezia and Tete) had an IWI score of under 35 in 2000 (I. W. Index, 2021). Considering the IWI, it can be assessed poverty was high in all of the provinces except for Maputo Capital. It should also be noted that poverty was especially quite high in Inhambane, Gaza, Zambezia, Tete and Sofala. Secondly, many people depend on agriculture as their primary source of livelihoods in Gaza, Inhambane, Sofala, Tete, Zambezia (Database, 2021d, 2021e; FAO, 2002; USAID, 2002). Thus, these people were highly vulnerable to the impacts of natural disasters. Thirdly, in terms of social and public services, Maputo Province, Maputo Capital, Gaza, Inhambane had 0.518, 0.569, 0.459 and 0.468 health index values respectively in 2000 according to Health Index (S. H. D. Index, 2021b). Also, Tete, Zambezia, and Sofala had 0.427, 0.489, 0.430 health index values respectively in 2000, according to Health Index (S. H. D. Index, 2021b). In terms of education, Education Index shows that Maputo Province, Maputo Capital, Gaza, Inhambane had 0.341, 0.420, 0.233 and 0.246 education index values respectively in 2000 (S. H. D. Index, 2021a). Also, the education index shows that Tete, Zambezia and Sofala had 0.201, 0.215, 0.224 education index values, respectively, in 2000 (S. H. D. Index, 2021a). As a result, all of the regions had significant issues in the economy, health and education. Still, Maputo capital had better economic, health and education conditions compare to the other regions. Consequently, many of the affected areas had high vulnerabilities due to their dependency on agriculture and their bad economic and social conditions.

In terms of disaster preparedness and pre-disaster responses, there were lessons from the 2000 and 2001 floods. However, disaster preparedness and management had still significant issues before 2001. As one of the most significant issue, the economic conditions were still not good in Mozambique in 2000 (Lab, 2021a). In terms of pre-disaster responses to the 2001/02 Drought, I could not find a resource that discusses the pre-disaster responses to the 2001/02 Drought. Thus, this is an important limitation and a future research topic.

In terms of impact and the outcomes of the 2001/2002 droughts, the EM-DAT database shows that around 600,000 people affected by the droughts in 2001/2002 (EM-DAT, 2021). Also, the EM-DAT database confirmed that 9 people died due to the lack of food in the affected areas (EM-DAT, 2021). In terms of affected areas, Maputo, Gaza, Inhambane, Sofala, Tete, Zambezia provinces were affected by the droughts (EM-DAT, 2021). However, the USAID report confirms that the southern regions (Maputo, Gaza, Inhambane) were the most affected provinces from the droughts (USAID, 2002). In terms of the outcomes of the 2001/2002 drought, firstly, I suggest that the economic conditions of the affected households were worsened due to the droughts. To explain, Selvester and Castro expressed that around 80,000 crops were lost by May 2002 because of the 2001/02 drought (Selvester & Castro, 2004, p. 5). Thus, many farmer households lost their income due to this significant amount of crop losses. Also, FAO expressed that there was a 38% decrease in maize production in the southern regions (FAO, 2002). Thus, the 2001/02 droughts affected the farmers in the southern regions more than the farmers in the central regions. Secondly, I suggest that food security was worsened according to different reports (FAO, 2002; Selvester & Castro, 2004). To explain, crop losses played an important in this worsening food security. Also, the price of the maize was also increased due to these losses, according to the different sources (FAO, 2002; Selvester & Castro, 2004). This increase in food price also increased food insecurity in the affected region. Also, the USAID report shows that the livestock was damaged, and problems occurred in irrigation systems (USAID, 2002). By the beginning of 2013, the number of food-insecure people reached around 1.5 million people in Mozambique, according to Selvester and Castro. (Selvester & Castro, 2004, p.

5). Thus, it can be argued that the 2001/2002 droughts affected the economic, health and education conditions of the affected areas highly negatively.

In terms of post-disaster responses, Selvester and Castro expressed that the government made important assessment and emergency plans for mitigating the impact of the 2001/02 droughts (Selvester & Castro, 2004, p. 5). Also, the government provided around 30,000 seeds to respond to the 2001/02 droughts, according to Selvester and Castro (Selvester & Castro, 2004, p. 5). Also, USAID expressed that the government solved the problems in irrigation (USAID, 2002). In terms of international assistance, different sources expressed that around 50,000 kt of food was provided by UN agencies (FAO, 2002; Selvester & Castro, 2004); However, different sources reported the international community and the government could not afford all of the food assistance needs, and there were dead people due to the lack of food in the affected areas. (FAO, 2002; Selvester & Castro, 2004). Thus, the efforts were not adequate in Mozambique. Overall, there were significant issues on post-disaster responses in Mozambique.

5.1.2.7) 2005/07 Droughts

Between the years 2005-2007, Mozambique experienced severe droughts in the southern and central areas (EM-DAT, 2021). These droughts mainly affected the southern and central areas of Mozambique (EM-DAT, 2021). It should also be noted that the southern areas Maputo, Gaza, Inhambane were the most affected areas (Baez, Caruso, & Niu, 2019; USAID, 2007b).

In terms of the pre-disaster vulnerability of the affected areas, firstly, the International Wealth Index (IWI) shows that the index indicates that 68.1%, 36.1%, 90.6% and 93.2% of the households in Maputo Province, Maputo Capital, Gaza and Inhambane had an IWI score of under 35 (I. W. Index, 2021). In terms of other affected regions, the IWI index shows that more than 87% of the households in Sofala, Zambezia, Manica and Tete had an IWI score of under 35 in 2004 (I. W. Index, 2021). Considering the IWI, it can be assessed that poverty was quite high in all of the provinces except for Maputo Capital. It should also be noted that poverty was especially quite high in Inhambane, Gaza, Zambezia, Tete, Manica and Sofala. Secondly, different sources

confirmed that many people depend on agriculture as their primary source of livelihoods in Gaza, Inhambane, Sofala, Tete, Zambezia (Baez et al., 2019; Database, 2021d, 2021e; USAID, 2007b). Thus, people were highly vulnerable to the impact of natural disasters in these regions. Thirdly, in terms of social and public services, Maputo Province, Maputo Capital, Gaza, Inhambane had 0.539, 0.569, 0.482 and 0.500 health index values respectively in 2004, according to Health Index (S. H. D. Index, 2021b). Also, Tete, Zambezia, Sofala, and Manica had 0.442, 0.513, 0.446 and 0.458 health index values respectively in 2004, according to Health Index (S. H. D. Index, 2021b). In terms of education, the education index shows that Maputo Province, Maputo Capital, Gaza, Inhambane had 0.427, 0.511, 0.297 and 0.307 education index value respectively in 2004 (S. H. D. Index, 2021a). Also, the education index shows that Tete, Zambezia, Sofala and Manica had 0.252, 0.249, 0.307 and 0.334 education index values respectively in 2004 (S. H. D. Index, 2021a). Consequently, considering these facts, it can be argued that both the central and southern regions had high vulnerabilities.

In terms of disaster preparedness and pre-disaster responses, there were different developments in previous years. As a new development, the Recovery from Recurrent Floods 2000-2013 report expressed that the government decreased its dependency and created a national capacity for funding on disaster management from 2005 (GFDRR, 2014, p. 4). As another argument, the Recovery from Recurrent Floods 2000-2013 report expressed that INGC increased its capacity and its response mechanisms (GFDRR, 2014, p. 6). Besides, Recovery from Recurrent Floods 2000-2013 report expressed that the Ministry of Planning and Development (MPD) was created in 2005, and this ministry also was significant for better funding, coordination and disaster mitigation (GFDRR, 2014, p. 9). As a negative issue, Santos and Salvucci expressed that poverty was 52.8% in 2002 in Mozambique (Santos & Salvucci, 2016, p. 1). As expressed before, this high poverty affected the local and national disaster preparedness negatively in Mozambique. Consequently, before the 2005-2007 droughts, Mozambique had still significant issues, although there were new developments in disaster preparedness and response.

In terms of impacts and outcomes, the EM-DAT database expressed that droughts affected around 2 million people in Mozambique (EM-DAT, 2021). In terms of affected areas, the EM-DAT database expressed that Maputo, Gaza, Inhambane, Manica, Sofala, Zambezia and Tete provinces were the affected areas due to the droughts in 2005-2007 (EM-DAT, 2021). In terms of outcomes of the droughts, firstly, I express that the economic conditions of the affected households were worsened due to the droughts. To explain, Baez, Caruso, and Niu expressed that there were significant crop and livestock losses in the 2005 drought (Baez et al., 2019, p. 10). Also, Baez and his colleagues expressed that the 2005 drought increased poverty by 12% in affected households (Baez et al., 2019, p. 4). In addition to poverty, Baez also expressed that there were a significant amount of asset losses in the affected household (Baez et al., 2019, pp. 3-4). Also, Baez expressed that this did not happen due to the direct/physical impact of the droughts, but it is more likely that the affected households had to sell some of their assets to maintain their consumption in the 2005 drought (Baez et al., 2019, p. 4). Secondly, I explain that food security was affected negatively from the 2005-2007 droughts. As mentioned previously, there were a significant amount of crop losses in 2005, 2006 and 2007 droughts. Thus, Baez expressed that these significant amounts of crop losses contributed to food insecurity in the affected areas (Baez et al., 2019, p. 20). For instance, Baez expressed that food consumption was highly decreased in the affected areas due to the drought in 2005 (Baez et al., 2019, p. 12). In terms of the number of the meal which is eaten by ordinary people, they expressed that there was an 0.13 decrease (for 2005 drought) in the number of meals "by an increase of one standard deviation in the intensity of the shock" (Baez et al., 2019, p. 12). In terms of the general level of consumption of the affected houses, there was a 21% decrease due to the drought, according to Baez (Baez et al., 2019, p. 20). In terms of food prices, Baez also expressed that the food prices especially rose after the 2005-2006 drought, and prices remained high for a longer time (Baez et al., 2019, p. 20). Also, it should be expressed that the decline in agricultural production was especially higher in the southern regions, according to USAID (USAID, 2007b). Consequently, findings suggest that the southern regions were affected from the 2005-2007 drought considering their worsening economic and food conditions.

5.1.2.8) 2007 Floods and 2007 Cyclone Favio

In 2007, Cyclone Favio hit Mozambique, and Mozambique also had experienced severe floods in 2007 (EM-DAT, 2021). Tete, Manica, Sofala, and Zambezia were the affected regions by the cyclone and the floods in Mozambique (EM-DAT, 2021).

In terms of the pre-disaster vulnerability of the affected areas, firstly, the International Wealth Index (IWI) shows that 93.7%, 94.9%, 83.9% and 87.9% of the households in Tete, Zambezia, Sofala and Manica had an IWI score of under 35 in 2006 (I. W. Index, 2021). Considering the IWI, it can be assessed that poverty was quite high in all of the provinces affected by the 2007 Floods and Cyclone Favio. Secondly, different sources confirm that many people depend on agriculture as their primary source of livelihoods in Tete, Manica, Sofala, and Zambezia (Baez et al., 2019; Database, 2021d, 2021e; Foley, 2007; Rana, 2007; Wines, 2007). Thus, people were highly vulnerable to the impacts of disasters in these regions. Thirdly, in terms of social and public service state, Zambezia, Sofala, and Manica had 0.448, 0.493, 0.460 and 0.465 health index values respectively in 2006 according to Health Index (S. H. D. Index, 2021b). In terms of education, Education Index shows that Tete, Zambezia, Sofala and Manica had 0.275, 0.284, 0.344 and 0.377 education index values respectively in 2006 (S. H. D. Index, 2021a). Consequently, the findings show that the central regions Tete, Manica, Sofala, and Zambezia were quite vulnerable due to their dependency on agriculture and bad economic, health, education and public services conditions.

In terms of disaster preparedness and pre-disaster responses, there were different developments in Mozambique. As an important development, The Master Plan for the Prevention and Mitigation of Natural Disasters (2006-2014) integrated the poverty, vulnerability and disaster risk reduction, according to the Recovery from Recurrent Floods 2000-2013 report (GFDRR, 2014, p. 4). Also, National Emergency Operations Center played an important role in the rescue operations and civil protection according to the Recovery from Recurrent Floods 2000-2013 report (GFDRR, 2014, p. 6). In apart from this development, INGC continued to develop its responses and its management between 2005-2007, according to the Recovery from Recurrent Floods 2000-2013 report (GFDRR, 2014, p. 6). In terms of a specific response to 2007 Floods and Cyclone

Favio, the government of Mozambique was found successful in the pre-disaster response of 2007 Floods and Cyclone Favio, according to the different sources (DFID, 2009; Foley, 2007; Wiharta, Ahmad, Haine, Löfgren, & Randall, 2008). To explain, first of all, DFID expressed that there was an effective early warning system, and the system warned the people in time (DFID, 2009). In addition, the Recovery from Recurrent Floods 2000-2013 report expressed that there were constant warnings from the government about the upcoming hazard. (GFDRR, 2014, p. 21). Thus, DFID expressed that the INGC was able to apply measures which include stocking of food/medical equipment, evacuating people, doing preparations and coordination for the rescue operations thanks to the effective and developed early warning system (DFID, 2009). Second of all, the government paid considerable attention to the affected areas. To explain, Foley expressed that the affected areas visited and checked by the prime minister before the flooding (Foley, 2007, p. 9). It should also be noted the government spent around 5 million dollars to evacuate the people from the flood-risk areas, according to the Recovery from Recurrent Floods 2000-2013 report (GFDRR, 2014, p. 21). Thirdly, there was less dependence on international assistance at this time. As mentioned previously, INGC were developed over the years by improving its institutional capacity in pre-disaster preparedness and making pre-disaster plans at many levels in Mozambique (Wiharta et al., 2008, pp. 55-65). Thus, INGC responded to the floods much more effectively and relied on international assistance lesser than the previous disasters of 2000 and 2001 floods, according to the Sipri report (Wiharta et al., 2008, pp. 64-65). Fourthly, the international community was better prepared at this time. To explain, the Foley report expressed that OCHA warned the region about the coming floods of February 2007 (Foley, 2007, p. 9). In addition, Foley expressed that the international agencies also mobilized their resources accordingly and in time (Foley, 2007, pp. 9-30). Lastly, the government and the local people were engaged effectively in disaster preparedness. To explain, Foley report expressed that local people were trained on evacuation and the floods (Foley, 2007, p. 15). In general, considering the discussion above, the disaster preparedness and pre-disaster responses of the Mozambique government and the international community were quite successful in the floods of February 2007 and cyclone Favio.

The impact of the 2007 Floods and the cyclone Favio was severe in Mozambique. To explain, according to the EM-DAT database, the floods (February 2007) affected 285,000 people in Mozambique (EM-DAT, 2021). Also, the EM-DAT database expressed that 29 people lost their lives due to these floods in February 2017 (EM-DAT, 2021). In addition, Foley expressed that around 165,000 people were displaced due to these floods (Foley, 2007, p. 9). In terms of affected areas, Tete, Manica, Sofala, and Zambezia were the most affected regions from these heavy rains and floods that occurred in January and February 2007 (EM-DAT, 2021). In terms of impact, Wines expressed that the floods destroyed around 45,000 homes and many croplands in the affected regions (Wines, 2007). In addition to the floods in February 2017, the cyclone Favio also hit the country and made a devastating impact on 22 February 2017. According to the EM-DAT database, around 160,000 people were affected by the cyclone Favio (EM-DAT, 2021). Also, around 130,000 people were displaced due to the cyclone Favio (EM-DAT, 2021). In addition, while ten people died, around 70 people were injured due to this cyclone, according to the EM-DAT database (EM-DAT, 2021). In this cyclone, Inhambane province was the most affected province. Also, this cyclone caused more flooding in the affected regions. In terms of its impact, there were around 250,000 hectares of crop losses due to the cyclone, according to a USAID report (USAID, 2007a, p. 1). Also, in addition to these crop losses, Foley expressed that 17 health facilities, lots of medical equipment, 332 classrooms and many other buildings were damaged (Foley, 2007, p. 9). In terms of houses, Rana expressed that around 6,000 houses were damaged or destroyed by the cyclone (Rana, 2007). Consequently, as the numbers and the situations show that both floods (in February 2007) and cyclone Favio had a significant impact on the affected regions.

In terms of post-disaster response, different sources confirmed that the post-disaster response of the government was quite effective in the 2007 floods and cyclone Favio. Since that INGC had better structure, capacity and new components, they responded to disasters much more effectively, according to Foley (Foley, 2007, pp. 12-16). For instance, Foley expressed that there was no loss of life in the evacuation process (Foley, 2007, p. 12). Also, USAID expressed that the government distributed a considerable amount of food assistance to the people in need (USAID, 2007a, pp. 1-3). It should also

be noted that INGC's director Zucula played an important leadership in developing INGC and responding to the disasters effectively, as Foley expressed (Foley, 2007, p. 13). In terms of international assistance, different sources confirmed that the government did not request funds from the international community in the February 2007 floods and Cyclone Favio (Foley, 2007; Wines, 2007). Still, USAID confirmed that there was still a significant amount of international assistance (both funds, relief supplies/materials, joint rescue operation) from the international agencies and countries (USAID, 2007a, pp. 1-3). Consequently, these findings show that there were mainly successful post-disaster responses from the national and international community.

In terms of outcomes, firstly, I express that the economic conditions of the affected households were worsened due to the floods and the cyclone. In this context, there were a large number of crop losses in the affected areas due to the floods and the cyclone. These crop losses affected the many farmer households in the affected region. In addition to these crop losses, many houses were damaged and destroyed, as mentioned previously. Thus, they lost a considerable amount of money, assets, possessions. As explained by Baez, the poverty rate was increased by 36% in the affected regions (Baez et al., 2019, p. 12). Secondly, I suggest that food security was worsened due to the two disaster. To explain, these crop losses highly affected the food insecurity of the affected regions. In this issue, Foley reported that these crop losses occurred right before the harvest (Foley, 2007, p. 9). Thus, food security was highly affected, and it is expected to worsen due to this reason. Consequently, worsened food security and the economic conditions of the affected areas show that the outcomes of these two disasters were severe in Mozambique.

5.1.2.9) 2008 Cyclone Jokwe

In 2008, Cyclone Jokwe hit Mozambique's central and northern regions severely (EM-DAT, 2021). Nampula, Zambezia and Sofala were the affected regions from the cyclone in Mozambique (EM-DAT, 2021). It should also be noted that Nampula was the most affected region from the Cyclone Jokwe (BBC, 2008; IFRC, 2008). In terms of the pre-disaster vulnerability of the affected areas, firstly, the International Wealth Index (IWI) shows that 92.1% of the households in Nampula had an IWI score of under 35 in 2007

(I. W. Index, 2021). For Zambezia and Sofala, the index indicates that 93.9% and 82.1% of the households in Zambezia and Sofala had an IWI score of under 35 in 2007 (I. W. Index, 2021). Considering the IWI, it can be assessed that poverty was relatively high in all of the provinces, especially in Nampula and Zambezia. Secondly, different sources confirmed that many people depend on agriculture as their primary source of livelihoods in Nampula, Zambezia and Sofala (BBC, 2008; Database, 2021d, 2021e; IFRC, 2008). Thus, people were highly vulnerable to the impacts of natural disasters in these regions. Thirdly, in terms of social and public services, the health index value was 0.496 in Nampula in 2007 (S. H. D. Index, 2021b). Also, Zambezia and Sofala had 0.484 and 0.468 health index values in Health Index in 2007 (S. H. D. Index, 2021b). In terms of education, the education index value was 0.295 in Nampula in 2007 (S. H. D. Index, 2021a). Also, the education index shows that Zambezia and Sofala had 0.305 and 0.366 education index values, respectively, in 2007 (S. H. D. Index, 2021a). Consequently, the findings show that Nampula, Sofola and Zambezia had high vulnerabilities since they had bad economic, health, education conditions and depend on agriculture as a primary source of livelihoods.

In terms of disaster preparedness and pre-disaster response, there were new developments, especially on relocation, reconstruction, early warning systems and response mechanism. Related to this issue, the Recovery from Recurrent Floods 2000-2013 report expressed that National Relocation and Reconstruction Plan (2007) was significant due to the fact that the locals were transferred to less flood-prone areas (GFDRR, 2014, p. 5). Also, Recovery from Recurrent Floods 2000-2013 report expressed that Chimoio Plan and Preliminary Assessment and Post-Disaster Reconstruction plan was signed in 2007 (GFDRR, 2014, p. 19). These plans were important for better relocation activities in disaster situations. In terms of relocation, Recovery from Recurrent Floods 2000-2013 report expressed that the creation of the Office for Reconstruction Coordination was important due to the fact that this office was key for enabling coordination between INGC and the other actors in the relocation issues (GFDRR, 2014, p. 7). As a different development, Recovery from Recurrent Floods 2000-2013 report expressed that the response capacity and the management of the INGC developed in 2007 and 2008 (GFDRR, 2014, p. 6). In addition to these

developments, early warning systems were also developed, according to the different sources. To explain the specific response to Cyclone Jokwe, IFRC annual report explained that the early warning system discovered the cyclone and warned the community people by its coding system (Crescent, 2008, p. 13). Thus, the community member understood that the cyclone was coming, and they applied contingency plans, according to the report (Crescent, 2008, p. 13). Also, Recovery from Recurrent Floods 2000-2013 report expressed that the government spent around 3 million dollars to evacuate the people, and they sent constant early warnings, which continued five days (GFDRR, 2014, p. 21). In the end, these findings suggested that the impact of the Jokwe has decreased thanks to the early warning system and community-based disaster management programme considerably.

The impact of Cyclone Jokwe was severe for the affected regions in Mozambique. Related to this issue, the EM-DAT database expressed that the cyclone affected around 220,000 people (EM-DAT, 2021). Also, the database shows that while 55,000 lost their homes, nine people lost their lives due to the cyclone in 2008 (EM-DAT, 2021). In terms of the affected areas, Nampula, Zambezia and Sofala provinces were the areas that the cyclone hit (EM-DAT, 2021). In terms of most affected areas, Nampula was the most affected areas affected by the cyclone. To explain, IFRC expressed that the cyclone destroyed around 5,000 houses in the Nampula alone (IFRC, 2008). In terms of its effect on agriculture, there were significant crop losses, according to Ginige and Amaratunga (Ginige & Amaratunga, 2011, p. 17). They specifically explained that around 150,000 cashew trees were lost due to the cyclone Jokwe (Ginige & Amaratunga, 2011, p. 17). In terms of infrastructure, Jean-Luc Martinage expressed that the cyclone damaged or destroyed at least 10,000 homes in the affected areas (Martinage, 2008). Also, the BBC expressed that around 500 buildings (such as schools, hospitals) were destroyed (BBC, 2008). In terms of specifications of education, IFRC also expressed that 12 schools were destroyed due to the cyclone (IFRC, 2008). In terms of water and electricity supplies and systems, NASA also expressed that there were also significant issues with the electricity in the affected areas (NASA, 2008). In total, different sources showed that the immediate impact of the Jokwe was severe in the affected areas, especially in Nampula.

In terms of post-disaster response, there was a significant post-disaster response in the cyclone Jokwe. In this context, the red alert was declared by the government for the affected provinces, according to UNICEF (UNICEF, 2008). Also, according to UNICEF, INGC/government (with many international communities) rapidly made assessments for understanding the effects of the impact of the cyclone and the possible assistance for the regions (UNICEF, 2008). Also, UNICEF expressed that the government repaired the problems in electricity systems and water supplies rapidly (UNICEF, 2008). In terms of international assistance, different sources confirmed that WWF, CARE, UNICEF, IFRC played an active role by providing supplies, goods, materials and joining the rescue operations (Ginige & Amaratunga, 2011; IFRC, 2008; UNICEF, 2008). However, different sources expressed that the lack of shelter and the lack of food was reported by the people and the experts in the areas (Ginige & Amaratunga, 2011; Martinage, 2008; UNICEF, 2008). Thus, there were also significant problems in the post-disaster response of the cyclone Jokwe.

In terms of outcomes, firstly, I express that the economic condition was worsened in the affected regions. As explained previously, there were considerable crop losses, and many farmers lost their primary source of livelihoods because of these crop losses. Also, many people lost their assets and houses in the affected regions. Thus, the economic conditions of the people in the affected-areas were worsened. As Baez confirmed, poverty was increased around 18% after Cyclone Jokwe in 2008 (Baez et al., 2019, p. 4). Secondly, I express that food security was also worsened by crop losses in the affected areas. To explain, daily food consumption was decreased considerably, according to Baez (Baez et al., 2019, p. 12). In terms of the number of the meal which is consumed by ordinary people in the affected region, Baez expressed that there was an 0.21 decrease (for 2007 Jokwe) in the number of meals "by an increase of one standard deviation in the intensity of the shock" (Baez et al., 2019, p. 12). Thus, food consumption was highly affected by cyclone Jokwe. In terms of both food and non-food consumption of the affected households, there were around 50% decreases in the level of consumption for the affected people, according to Baez (Baez et al., 2019, p. 12). To sum up, all of these issues (declining food and non-food consumption, crop losses)

increased food insecurity in the affected regions, according to Baez (Baez et al., 2019, p. 12). Considering the worsened food security and economic conditions, the outcomes of Cyclone Jokwe were severe in the affected areas.

5.1.2.10) 2013 Floods

In 2013, Mozambique experienced massive floods and these floods affected every part of the country. Gaza, Maputo, Inhambane, Zambezia, Nampula, Manica, Niassa and Cabo Delgado were the affected regions from the 2013 Floods (EM-DAT, 2021). It should also be noted that Gaza was the most affected region from the 2013 Floods (H. C. Team, 2013, p. 5).

In terms of the pre-disaster vulnerability of the affected areas, firstly, the International Wealth Index (IWI) shows that %76.8 of the households in Gaza had an IWI score of under 35 in 2012 (I. W. Index, 2021). For Maputo Capital, Maputo Province, Inhambane, Zambezia, Nampula, Manica, Niassa and Cabo Delgado, the index shows that 20.4%, 45.9%, 87.4%, 88.8%, 88.7%, 74.1%, 91.8% and 95.4% of the households had an IWI score of under 35 respectively in 2012 (I. W. Index, 2021). Considering the IWI, it can be assessed that poverty was quite high in Gaza, Zambezia, Cabo Delgado Inhambane, Nampula, Niassa and Manica. Also, many households are in severe poverty in Maputo Province. Moreover, although the economic situation was better in Maputo Capital, 1/5 of the households (in the capital) were in severe poverty in 2012 (I. W. Index, 2021). Secondly, different sources confirmed that many people depend on agriculture as their primary source of livelihoods in Gaza, Maputo, Inhambane, Zambezia, Nampula, Manica, Niassa and Cabo Delgado (Database, 2021d, 2021e; H. C. Team, 2013). Therefore, people were highly vulnerable to the impacts of natural disasters in these regions. Thirdly, in terms of social and public services, the health index value was 0.519 in Gaza in 2012 (S. H. D. Index, 2021b). Also, Maputo Capital, Maputo Province, Inhambane, Zambezia, Nampula, Manica, Niassa and Cabo Delgado had 0.567, 0.540, 0.606, 0.478, 0.590, 0.513, 0.532, 0.510 health index values respectively, in Health Index in 2012 (S. H. D. Index, 2021b). In terms of education, the education Index value was 0.340 in Gaza in 2012 (S. H. D. Index, 2021a). Also, the education index shows that Maputo Capital, Maputo Province, Inhambane, Zambezia,

Nampula, Manica, Niassa and Cabo Delgado had 0.561, 0.464, 0.367, 0.296, 0.411, 0.294 and 0.248 education index values, respectively, in 2012 (S. H. D. Index, 2021a). To sum up, the economic, health and education situation was quite bad in the central regions. Although the situation was better in the southern regions, there was also bad financial, health and education condition in the southern regions except for Maputo Capital. Consequently, most of the affected areas had high vulnerabilities since they had bad economic and social conditions and depend on agriculture as a primary source of livelihoods.

In terms of disaster preparedness and pre-disaster response, according to Powell, the UN representative expressed that the early warning system and infrastructures had significant improvements since the 2000 floods (Powell, 2013). Thanks to these improvements, fewer people were affected by the disasters, according to the UN representatives (Powell, 2013). In addition to this improvement, the New Humanitarian also expressed that there was better planning for the disasters, according to the UN (Humanitarian, 2013a). Also, they expressed that the response capacity of the INGC was better and more rapid compare to the previous years (Humanitarian, 2013a). However, there were also some critics to the early warning system from the aid workers, according to the New Humanitarian (Humanitarian, 2013a). Although that the early warning system predicted the 2013 floods effectively and sent warnings to the people, the system could not predict the magnitude of the floods correctly, according to Américo Ubisse (the general secretary of the Mozambican Red Cross) (Humanitarian, 2013a). In a similar argument, Sergio Buque (at the National Meteorological Institute) expressed that the quality of their equipment was not enough to predict the "rain quantities over 75mm" (Humanitarian, 2013a). Therefore, they requested better equipment to calculate the upcoming floods effectively (Humanitarian, 2013a). To sum up, although that there were significant improvements in the response capacity of INGC, infrastructures and early warning systems, there were still problems with the early warning system and the quality of the equipment as expressed above.

There are different impacts of the 2013 Floods in Mozambique. In this context, the Mozambique Floods 2013 report expressed that the number of the affected people is

420,00 from the floods (H. C. Team, 2013, p. 4). Also, the report explained that around 119 people lost their lives due to the floods (H. C. Team, 2013, p. 7). Also, Davies explained that the floods displaced around 140,000 people in Mozambique (Davies, 2013a). In terms of affected areas, Mozambique Floods 2013 report mentioned that Gaza, Maputo, Inhambane, Zambezia, Nampula, Manica, Niassa and Cabo Delgado regions were the affected regions from the floods in 2013 (H. C. Team, 2013, p. 4). In terms of the most affected provinces, the BBC expressed that Gaza was the most affected provinces by far. In terms of houses and infrastructure, the Mozambique Floods 2013 expressed that around 3000 houses were damaged or destroyed by the floods (H. C. Team, 2013, p. 7). Also, the report expressed that there was significant damage to roads, electricity and water supplies (H. C. Team, 2013, p. 7). Also, three health facilities and many schools were damaged or destroyed according to report (H. C. Team, 2013, p. 11). In terms of agriculture, 210,587 hectares of crop and 1,000 metric tons of seeds were lost due to the floods according to Mozambique Floods 2013 report (H. C. Team, 2013, p. 9). Also, the report explained that around 13,000 livestock were also lost due to the floods (H. C. Team, 2013, p. 9). Furthermore, according to the report, fishers also were highly affected negatively due to the fact that they lost their boats and significant equipment due to the floods (H. C. Team, 2013, p. 13).

In terms of post-disaster response, Jennifer Topping (UN Humanitarian Coordinator for Mozambique) expressed that many relief goods and materials (such as food and shelter) were provided by the government, according to the BBC News (BBC, 2013). In terms of health condition, the government distributed mosquito tents in the affected region (H. C. Team, 2013, p. 19). Also, the government took significant measures to prevent flood-related disasters in the affected people, according to Mozambique Floods 2013 (H. C. Team, 2013, pp. 18-21). In terms of education conditions, the government distributed a significant number of educational materials (such as school books) and built temporary schools in the affected areas, according to Mozambique Floods 2013 (H. C. Team, 2013, p. 18). In terms of protection, the government put the people in the safe places that they can live with taking their daily needs, according to Mozambique Floods 2013 (H. C. Team, 2013, p. 19). As these efforts show, the government made significant efforts in the 2013 floods. In terms of international responses, CERF provided around

$5.13 million, according to the Office of the Resident Coordinator in Mozambique (Mozambique, 2013, p. 2). However, the Office of the Resident Coordinator in Mozambique expressed that there was still around $20 million gaps to cover all the assistance (Mozambique, 2013, p. 1). Also, UNAPROC expressed that affected people were rescued and protected by the UNAPROC and South Africa, according to Mozambique Floods 2013 report (H. C. Team, 2013, p. 18). In terms of health, UNICEF also distributed mosquito nets to the affected people, according to the Mozambique Floods 2013 report (H. C. Team, 2013, p. 19). There were also significant issues in responding to the disaster. In this context, firstly, the Office of the Resident Coordinator in Mozambique expressed that the government did not have enough resources and relief stocks to cover all the needs of the affected population (Mozambique, 2013, pp. 3-9). To explain, the New Humanitarian confirmed that food assistance and mosquito tents were not enough to cover all the needs of the people, according to the statement of the people in the areas (Humanitarian, 2013b). Secondly, the rescue operations were not sufficient since that some people were left behind and waited to be rescued for a while, according to Earth Observatory (Observatory, 2013). Thirdly, as expressed previously, there were problems in terms of funds. Fourthly, according to New Humanitarian news, the aid reached many areas too slow (Humanitarian, 2013b). Consequently, there were significant issues in post-disaster response in 2019 Floods. Still, the post-disaster response was not a failure, and the government and the international community made significant efforts in 2019 Floods.

In terms of outcomes, firstly, I suggest that the economic conditions of the affected areas were worsened due to the 2013 floods. As explained before, there were significant losses of crops, seeds (around 210,00 he), fisheries and livestock in the affected areas. As a result of these losses in agriculture, Mozambique Floods 2013 report expressed that around 130,000 people (who engaged in agriculture) were affected in the affected provinces (H. C. Team, 2013, p. 9). In addition to crop losses, many houses were damaged or destroyed due to the floods, as expressed previously. Due to these damages, the people in the affected areas lost many possessions, assets and houses. Therefore, many of these people lost their income, assets and investments, and their economic conditions were worsened. Secondly, I suggest that food security was worsened due to

the floods in 2013. In this context, Mozambique Floods 2013 report explained the crop losses and livestock losses affected the food insecurity in the region (H. C. Team, 2013, p. 9). Thirdly, I suggest that the health and education conditions were worsened in the affected areas. To explain, some of the health facilities and health equipment were damaged or destroyed. Also, the diseases such as malaria and cholera were increased after the floods, according to the Mozambique Floods 2013 report (H. C. Team, 2013, p. 19). As explained by New Humanitarian, many people were lived in camps after the floods, and these diseases were easy to spread in these camps (Humanitarian, 2013a). Thus, these damaged facilities and increased diseases threatened the health situation of the affected regions. In terms of education, many educational facilities and equipment were also damaged or destroyed due to the floods in 2013 (H. C. Team, 2013, p. 11). Destroyed facilities and equipment losses highly likely affect the dropouts and the literacy rate in the medium and long term. Consequently, the findings showed that the economic, food, health and education conditions were worsened in the affected areas in Mozambique.

5.1.3) Nigeria

In this section, I will focus on the impact and the outcomes of the natural disasters in Nigeria in the period of 1970-2009. According to the EM-DAT Database and different sources, there were 6 large-scale natural disasters in Nigeria (Derrick, 1977; EM-DAT, 2021; Mortimore & Mortimore, 1989; Vivekananda et al., 2019). I will assess the impact and the outcome of these disasters for the affected regions and Nigeria. To evaluate these impacts and the outcomes, this chapter will consider pre-disaster vulnerabilities, disaster preparedness, pre-disaster response, the impact of the disasters, post-disaster responses and the outcomes of the disasters.

5.1.3.1) 1972-1973 Droughts

In 1972 and 1973, Nigeria experienced severe droughts in the northern areas, especially in Borno. In terms of the pre-disaster vulnerability of the affected areas, there is no IWI, Income Index or Subnational Development Index for these periods. Therefore, I will briefly summarize the pre-disaster vulnerabilities according to different sources in the literature. In terms of economics, Collier, Gunning, and Bevan also expressed that the

northern region was highly poor in the 1960s and 1970s (Bevan, Collier, & Gunning, 1999, pp. 24-35). They also expressed that the divide between the south and the north was also increased in the 1960s and 1970s since the southern get richer and the northern regions get a more bad economic situation (Bevan et al., 1999, pp. 24-35). In terms of livelihoods, according to several sources, many people depended on rain-fed agriculture and fisheries as their main source of livelihoods in the northern regions, especially in the northeast (Borno region) of Nigeria, in the 1970s (Derrick, 1977; Vivekananda et al., 2019). Therefore, these people were quite vulnerable to natural disasters. As these reliable sources confirmed, the northern region was vulnerable due to its dependency on rain-fed agriculture and high poverty.

In terms of disaster preparedness and pre-disaster responses, I argue that there were no adequate pre-disaster preparedness or response in Nigeria in the 1970s. As the National Disaster Framework report expressed, disaster management and preparedness were considered as only security issue, and there was no main department that focuses on disaster management (N. Government, 2010b, p. 7). National Disaster Framework report expressed that only the Head of State and some governments made ad-hoc arrangements on the disaster preparedness and response (N. Government, 2010b, p. 7). Thus, there were no systematic structure, plans and strategies in these years, and disaster preparedness and responses did not take much attention (N. Government, 2010b, p. 7). As expressed in the framework, the government started to extend its disaster response plans, structure and strategies after the disaster in 1972/1973 since that disaster killed many people and destroyed the economic life in the northern region (N. Government, 2010b, p. 7). In terms of pre-disaster response to the 1972/1973 response, Derrick expressed that there were Strategic Grain Reserves in Nigeria (Derrick, 1977, p. 569). This strategic reserve was important for supporting some people in the area (Derrick, 1977, pp. 568-575). However, there were no adequate grains for fulfilling the needs of the majority of the people in the affected areas (Derrick, 1977, pp. 568-575). Thus, the pre-disaster response was not strong in the 1972/1973 drought.

In terms of impact and the outcomes, I suggest that the impact and the outcomes of the 1972/1973 droughts were severe in Nigeria. In terms of affected people, Derrick

explained that at least 10 million were affected in the northern regions of Nigeria (Mortimore & Mortimore, 1989). To explain the outcomes, firstly, I suggest that the economic condition of the affected areas were worsened due to the droughts. To explain this, Eze expressed that agriculture (in the northern regions) was highly dependent on climate changes since agriculture is rain-fed (Eze, 2018, pp. 5-7). Thus, the drought highly affected the economic situation of the people who work in the agriculture sector in the affected areas. Specifically, the Federal Ministry of Environment explained that "crop failure in some parts of Borno (including the present Yobe state) was estimated at between 80 and 100 per cent" due to the drought (F. M. o. E. o. Nigeria, 2018, p. 45). Also, Adeaga mentioned that there was a considerable reduction in farm yields due to the drought (Adeaga, 2011, p. 2). In addition to the crop losses, Eze expressed that the drought killed around 300,000 livestock (Eze, 2018, p. 2). Specifically, the Federal Ministry of Environment expressed that around 170,000 sheep, 40,000 goats and 105,000 cattle were died due to the drought (F. M. o. E. o. Nigeria, 2018, p. 53). In total, Abubakar also explained that there was around 11% decrease in agricultural contribution to GDP from 1971/1972 to 1972/1973 (Abubakar & Yamusa, 2013, p. 171).

In addition to the direct effects of the 1972/1973 drought on agricultural production and livelihoods of the affected regions, different sources confirmed that droughts of 1972/1973 (with other droughts in the 1980s) contributed to the shrinking of Lake Chad in the years of 1970s and 1980s (Vivekananda et al., 2019, pp. 39-41). To explain, Vivekananda, Wall, Sylvestre, Nagarajan, and Brown explained that the lake size was 25,000 km² in the 1960s (Vivekananda et al., 2019, pp. 39-41). However, it decreased to 2,000 km2 in the 1990s due to the droughts in the 1970s and 1980s (including 1972/1973), according to the report (Vivekananda et al., 2019, pp. 34-41). This situation had different impacts on the livelihoods of the people who engage in agriculture in the area, according to the Shoring Up Stability (Vivekananda et al., 2019, pp. 39-41). This part will be explained in detail at the 1982/1983 and 1987 Droughts. Secondly, I suggest that food security was worsened in the affected areas due to droughts. To explain this, the Federal Ministry of Environment explained that there were significant food problems in the affected areas (F. M. o. E. o. Nigeria, 2018, p. 53). Indeed, these crops,

livestock and assets losses had a significant impact on the food availability and food security in the affected regions. In this issue, Derrick expressed that many farmers had no crops before the harvest (Derrick, 1977, p. 570). To describe the worsening situation, Mortimore expressed that many households applied different strategies to deal with food scarcity (Mortimore & Mortimore, 1989, p. 61). For instance, some families did not eat the midday meal, or they highly decreased the amount of their daily food to deal with the food scarcity (Mortimore & Mortimore, 1989, p. 61). Related to losses of crops and livestock, the food prices were increased around 400 in some places, according to the report (Mortimore & Mortimore, 1989, p. 36). This situation also harmed food security since that many poor people may not be able to buy food adequately. Consequently, losses of crops/livestock/assets losses and increased food prices contributed to food insecurity in the region.

In terms of post-disaster responses, Derrick explained that the government worked hard and made significant assessments to understand the crop losses and necessary relief distribution (Derrick, 1977, pp. 568-573). Furthermore, Derrick expressed that the communications were mainly well in the post-disaster responses (Derrick, 1977, p. 552). Also, thanks to the Strategic Grain Reserves, the government distributed cassava flour, millet and sorghum, according to Derrick (Derrick, 1977, p. 569). In a more long-term response, Derrick explained that the government did a project to create irrigation infrastructure in entire Nigeria (Derrick, 1977, pp. 571-574). In terms of the post-disaster response of the international community, Derrick explained that Nigeria mainly relies on their local sources, not international funding (Derrick, 1977, pp. 550-552). In terms of weaknesses in post-disaster responses, Derrick mentioned that the government did not distribute food for free in some years in some of the affected areas (Derrick, 1977, pp. 569-572). Also, Derrick explained that many farmers had no crops before the harvest and the relief operations of the government only supported quite a low number of farmers and people (Derrick, 1977, p. 570). To support his argument, Mortimore and Mortimore explained that many people had to develop strategies to survive the food scarcity (Mortimore & Mortimore, 1989, p. 61). These situations show that the international community or the government's efforts were not adequate in northern

Nigeria. In overall, the findings suggested that the government and the international community showed a weak post-disaster response to 1972/1973 droughts.

5.1.3.1) 1982/1983 Drought and 1987 Drought

In 1982, 1983 and 1987, Mozambique experienced severe droughts in the northern areas, especially in Borno and Yobe (EM-DAT, 2021). In terms of pre-disaster vulnerability of the affected areas, firstly, National Poverty Profile shows that the poverty rates were 32.2%, 35.6% and 37.7% in the North Central, North East and North Western region in 1980 (F. R. o. Nigeria, 2005, p. 22). Specifically, since the poverty rate was 35.6% in the northeast (Borno and Yobe) of Nigeria in 1980, these two regions were quite poor and vulnerable in 1980. More specifically, the poverty rate was 42.1% in the Borno region in 1985/86 (Thomas & Canagarajah, 2002, p. 17). Secondly, many different sources confirmed that many people depend on rain-fed agricultural, fisheries and livestock activities as a primary source of livelihoods in the northern regions 1980s. (Eze, 2018; Vivekananda et al., 2019). Specifically, Eze mentioned that 65% of the households were farmers, and these people depended on their farms as a primary source of livelihoods in Yobe (Eze, 2018, p. 5). Consequently, Yobe and Borno were highly vulnerable to the impact of the droughts since they had bad economic conditions, and they relied on rain-fed agriculture as their primary source of living.

In terms of disaster preparedness and pre-disaster responses, the Humanitarian Library report expressed the National Emergency Relief Agency (NERA) was created by the federal government in 1976 (Library, 2013, p. 2). As the National Disaster Framework report explained, this development was the result of the devastating impacts and the outcomes of the 1972/1973 drought in the northern region (N. Government, 2010a, p. 7). Regarding the mission of the agency, the National Disaster Framework report explained that this agency was responsible for coordinate the post-disaster activities (N. Government, 2010a, p. 7). Consequently, there were new developments after the 1972/1973 droughts. However, I could not find a resource that discusses the pre-disaster responses or post-disaster to droughts in the 1980s.

There were severe impacts and outcomes of the 1982-1983 and 1987 droughts in Nigeria. To explain, UNISDR explained that around 3,000,000 people were affected by the drought in 1982/1983 (Africa, 2015, p. 15). In addition to the drought in 1982/1983, Eze expressed that there was also a severe drought in 1987 for northern Nigeria, especially for Yobe and Borno regions (Eze, 2018, pp. 5-9). Regarding the 1987 Drought, Abaje expressed that 1987 was more severe than the 1968-1973 drought. (Abaje, Ati, Iguisi, & Jidauna, 2013, p. 4). Thus, the 1987 drought was severe for the people in the affected regions. In terms of outcomes, firstly, I suggest that the economic conditions were worsened in the affected areas due to the droughts. To explain, Eze mentioned that the droughts caused crop losses and livestock in the affected areas (Eze, 2018, pp. 5-9). As mentioned previously, many people (around 65%) depend on agriculture and farming as their primary source of livelihoods in these areas. Thus, Eze noted that these people were highly affected by the impact of droughts (Eze, 2018, pp. 5-9). In addition to this direct impact, the droughts in the 1980s also had indirect impacts on the livelihoods and agricultural production by contributing to the shrinking (from 25,000k2 in the 1960s to 2000km2 in the 1990s) of Lake Chad (Vivekananda et al., 2019, pp. 39-41). This shrinking had significant impacts on the livelihoods of the people in the Lake Chad area (Vivekananda et al., 2019, pp. 39-41). In this issue, Vivekananda and her colleagues expressed that this shrinking did not cause loss of livelihoods directly (Vivekananda et al., 2019, p. 39). Vivekananda and her colleagues expressed that the shrinking even created new opportunities for agriculture, and people mainly adapt to these changes (Vivekananda et al., 2019, p. 39). However, the lake's variability regularly changed, and this hardened the coping mechanism of the local people, according to Vivekananda and her colleagues (Vivekananda et al., 2019, p. 39). Thus, together with more frequent and severe natural disaster, this variability of the lake also damaged the livelihoods and created more natural resources conflicts in the area (Vivekananda et al., 2019, p. 39). Secondly, I suggest that food insecurity was worsened in the affected areas due to the droughts. To explain, as mentioned previously, there were many crop and livestock losses in the affected areas. These crop and livestock losses affected food insecurity negatively in the affected areas in Nigeria. To sum up, the findings suggested that 1982/1983 droughts and 1987 droughts harmed economic situation and the food security of the affected areas.

5.1.3.3) 1988 Floods

In 1988 Floods, in Nigeria experienced massive floods, and these floods affected the Kano, Kaduna, Borno, Jigawa, Bauchi, Niger and Oyo (EM-DAT, 2021). It should also be noted that Kano was the most affected region from the 1988 Floods. In terms of the pre-disaster vulnerability of the affected areas, firstly, the poverty rates were 48.3% and 49.8% in Kano and Kaduna, respectively, in 1985-1986 (Thomas & Canagarajah, 2002, p. 17). Thus, these areas were highly vulnerable since they had a very bad economic situation. For other affected regions, the poverty rates were 42.1% and 58.7% in Borno and Bauchi, respectively, in 1985/1986 in Nigeria (Thomas & Canagarajah, 2002, p. 17). Thus, these people had bad economic conditions in 1985. For Niger and Oyo, the poverty rates were 56.6% and 31.5%, respectively, in 1985/1986 in Nigeria (Thomas & Canagarajah, 2002, p. 17). Secondly, there were many farmers and herders in these affected regions (Mba, 2017; UNDHA, 1988). Thus, these areas were highly vulnerable to the impact of natural disasters. Consequently, the northern regions had high vulnerability considering their dependency on agriculture and their high poverty. In terms of pre-disaster preparedness and response, there no new development in terms of disaster management and disaster preparedness in Nigeria between 1976 to 1988. As mentioned previously, the establishment of NERA in 1976 was an important development in Nigeria. In terms of pre-disaster response, I could not find a resource that discusses the pre-disaster responses to the 1988 Floods. Thus, this is an important limitation in this section and a future research topic.

In terms of the impact of the 1988 Floods, the EM-DAT database explained that 300,000 people were affected by the 1988 Floods (EM-DAT, 2021). Also, Nwigwe expressed that around 140 people lost their lives due to the floods (Nwigwe & Emberga, 2014). Furthermore, the EM-DAT database explained that around 300,000 people were displaced due to the 1988 Floods (EM-DAT, 2021). In terms of affected regions, different sources confirm that Kano, Borno, Kaduna, Jigawa, Bauchi, Niger and Oyo were the affected areas from the 1988 Floods (EM-DAT, 2021; Mba, 2017; UNDHA, 1988). Different sources also confirm that Kano was the most affected region among these affected regions (Mba, 2017; UNDHA, 1988). Also, Etuonovbe reported that a

considerable amount of schools were destroyed in Kano (Etuonovbe, 2011, p. 11). Also, the floods destroyed 18,000 houses in Kano, according to UN DHA (UNDHA, 1988). Also, different sources reported that many animals and 14,000 farms were lost due to the floods in Kano (Etuonovbe, 2011; UNDHA, 1988). In terms of other affected areas, around 800 homes and many farmlands were destroyed or damaged due to the floods in 1988 in Bauchi, according to the Etuonovbe (Etuonovbe, 2011, p. 10). Also, Etuonovbe expressed that there were also significant damages and destroyed houses and farmlands in Borno (Etuonovbe, 2011, p. 10). In Jigawa, around 36,000 people lost their homes, according to Etuonovbe (Etuonovbe, 2011, p. 11). Considering the information above, the 1988 floods had significant impacts on the affected areas, especially for Kano.

In terms of post-disaster response, UN DHA expressed that the government spent around 1 million US dollars for relief efforts in the affected areas (UNDHA, 1988). UN DHA expressed that the government distributed a considerable amount of food and seed to the affected people (UNDHA, 1988). Consequently, these findings showed that there was an important post-disaster response from the international community/government despite that Nigeria had weak disaster preparedness overall. In terms of outcomes, firstly, I suggest that economic conditions were worsened in the affected areas due to the floods. As mentioned previously, many people depend on agriculture as their primary source of livelihoods in the affected areas. Thus, crops and livestock losses had a significant impact on the livelihoods of the people in the affected regions. In addition to these losses, previous findings showed that many people lost their homes and important assets. Therefore, these findings showed that the economic conditions were affected negatively by the 1988 floods. Secondly, I suggest that food security was worsened due to the 1988 Floods. The findings showed that many food, crops and livestock were lost due to the 1988 floods. Thus, this situation harmed the food security in the affected regions. Consequently, the findings showed that the economic conditions and food availability were affected negatively by the 1988 Floods.

5.1.3.4) 1994 Floods

In 1994, Nigeria experienced massive floods, and these floods affected the Borno, Kaduna, Sokoto, Kwara, Plateau, Anambra, Cross River, Niger, Bauchi, Benue, River,

Imo and Kano (DHA, 1994b). According to UN DHA, Borno was the most affected region from the 1988 Floods (DHA, 1994b). In terms of the pre-disaster vulnerability of the affected areas, firstly, the poverty rate was 41.8% in 1992/93 in Borno (Thomas & Canagarajah, 2002, p. 17). For other affected regions, the poverty rates were 24.7%, 52.6%, 31.4%, 42.6%, 16.3%, 33.0%, 44.4%, 55.6%, 36.8%, 37.9%, 14.4% and %50.8 in Kaduna, Sokoto, Kwara, Plateau, Amambra, Cross River, Niger, Bauchi, Benue, River, Imo and Kano respectively in 1992/93 in Nigeria (Thomas & Canagarajah, 2002, p. 17). Furthermore, Kebbi, Katsina, Jigawa and Kano had poverty rates of more than 45% in 1992/93 in Nigeria. Also, Kogi, Abia, Adamawa, Taraba, Anambra, Edo, Akwa, Ibom and Imo had poverty rates of less than 35% in 1992/1993 in Nigeria (Holm-Nielsen, Crawford, & Saliba, p. 43). Secondly, many people rely on agriculture as their main source of livelihoods in these years (Database, 2021d, 2021e; DHA, 1994b; T. F. G. o. Nigeria, 2013; Odihi, 1996). Thus, natural disasters had a significant impact on the income and the livelihoods of these people in the affected areas. Consequently, Borno and other affected regions had high vulnerabilities in 1992/1993 in Nigeria. It should also be noted the northern regions were quite vulnerable considering their bad economic conditions and their dependency on agriculture.

In terms of disaster preparedness and pre-disaster responses, Nigeria's Path to Sustainable Development Through Green Economy report mentioned that the Federal Environmental Protection Agency was created in 1988 to focus on environmental issues and policies (F. G. o. Nigeria, 2012, p. 70). Also, as explained by the National Disaster Framework, the Federal Government of Nigeria created the Inter-Ministerial body in 1990, and this body was assigned to develop disaster reduction strategies (N. Government, 2010a, p. 7). These developments were significant in terms of disaster preparedness. However, Odihi expressed that there were significant issues in disaster preparedness. For instance, Odihi expressed that flood preparedness was not effective in Nigeria (Odihi, 1996, p. 304). Also, Odihi expressed that the flood issues (including the 1994 Floods) did not take much attention from the officials (Odihi, 1996, p. 304). Besides, Odihi expressed that the officials did not show attention to the flood training program one week before the 1994 floods (Odihi, 1996, p. 304). Consequently, the lack

of attention to the floods (including 1994 floods), lack of interest in training and weak disaster preparedness were the significant problems in the 1994 floods.

The impact of the 1994 Floods was severe for Nigeria (EM-DAT, 2021). According to the Post-Disaster Needs Assessment 2012 Floods Report, 580,000 people were affected by the 1994 Floods (T. F. G. o. Nigeria, 2013, p. 78). Also, the EM-DAT database explained that while 400,000 people lost their homes, 30 people lost their lives due to the 1994 floods in Nigeria (EM-DAT, 2021). In terms of the most affected region, UN DHA mentioned that Borno was the most affected region (DHA, 1994b). To explain, the UN DHA report noted that there were significantly destroyed farmlands and crop losses in the Borno (DHA, 1994b). Also, Odihi reported that many animals were died due to the floods in 1994 in Borno (Odihi, 1996, p. 312). In addition to agriculture, UN DHA reported that many mud houses, assets, possessions were lost due to the floods in 1994 in Borno (DHA, 1994b). Also, UN DHA reported that roads and water systems were damaged or destroyed in Borno (DHA, 1994b).

In terms of post-disaster responses, the UN DHA report mentioned that the federal government sent teams to assess the impact of the floods and the possible needs after the floods (DHA, 1994b). Also, the UN DHA report expressed that the government spent more than 2 million U.S dollar for the relief operations in the affected areas (DHA, 1994b). In terms of international responses, DHA prepared the funds to spent for the emergency relief needs in the affected areas, according to UN DHA (DHA, 1994b). According to UN DHA, Spain and the United States also sent a considerable amount of funds to support the relief operations in the affected areas (DHA, 1994b). Considering the information above, there were both significant national and international responses in Nigeria. However, these responses did not cover all of the needs of the people in the affected areas. In this issue, Odihi mentioned that many people (in Borno) complained that the government did not give enough attention to them in the 1994 Floods (Odihi, 1996, p. 304). Thus, many people were not satisfied with the post-disaster responses in the most affected region Borno.

In terms of outcomes, firstly, I suggest that the economic conditions were worsened in the affected areas due to the 1994 Floods. To explain, as mentioned above, many people depend on agriculture as their main source of livelihoods. Thus, these destroyed farmlands, crop and livestock losses mean a significant decrease in income and a loss of economic investment for these people. Also, many houses were destroyed or damaged in the affected regions, as mentioned previously. Therefore, many people lost their homes, assets and possessions. In the end, these losses in agriculture and destroyed/damaged houses/assets harmed the economic situation of the people in the affected areas. Secondly, I suggest that food security was affected negatively by the 1994 Floods. To express, as expressed previously, there were significant amounts of crop and food losses in the affected areas. Therefore, the food security/availability was affected negatively by the crop and food losses in the affected areas. Consequently, these findings showed that economic conditions and food security were affected negatively in the affected regions, especially in Borno.

5.1.3.5) 1998 Floods

In 1998, Nigeria experienced massive floods, and these floods affected Kwara and Niger (EM-DAT, 2021). In terms of the pre-disaster vulnerability of the affected areas, firstly, the International Wealth Index (IWI) shows that 49.7% and 56.5% of the households in Kwara and Niger had an IWI score of under 35 in 1997 (I. W. Index, 2021). Secondly, different sources confirmed that many people depend on agriculture for their livelihoods in these affected areas (BBC, 1998; Database, 2021d, 2021e; IFRC, 1998). Thus, these areas were quite vulnerable to the impact of natural disasters. Thirdly, in terms of social and public services, the child mortality rate was 34.7% and 12.9% in Kwara and Niger, respectively, in 1997 (Database, 2021g). In terms of education conditions, the mean year's education of adults (aged 20+) was 4.74 and 6.95 in Kwara and Niger, respectively, in 1997 (Database, 2021h). Consequently, these areas had high vulnerabilities since they have bad economic and education conditions and depend on agriculture as their primary source of livelihoods.

In terms of disaster preparedness and pre-disaster responses, there were significant developments before the 1998 Floods in Nigeria. For instance, the National Disaster

Framework report expressed that the National Emergency Relief Agency was created in 1976 (N. Government, 2010a, p. 7). Framework report expressed that National Emergency Relief Agency mainly focused on the relief victims and their needs (N. Government, 2010a, p. 7). Also, the Framework report expresses the government aimed to develop their logistical operations, search and rescue operations, mobilizing capabilities, strategies, budget and training in 1997 (N. Government, 2010a, p. 7). In addition to this development, the National Emergency Management Agency was created by the government in 1999 (N. Government, 2010a, p. 7). In terms of specific pre-disaster responses to the 1998 disaster, BBC expressed that there were a lack of relief materials and no warning against the floods (and the opening of the dams) in 1998 (BBC, 1998). Many people had a bad situation after the floods, and the weak pre-disaster response (and the post-disaster) and lack of warning (against the opening of the dams and the floods) were one of the reasons for this situation (BBC, 1998). Consequently, there were different developments before the 1998 floods. However, BBC expressed that the pre-disaster preparedness and pre-disaster responses were not adequate in the 1998 Floods (BBC, 1998).

The impact of the 1998 Floods was severe in Nigeria. Post-Disaster Needs Assessment 2012 Floods Report explained that around 100,000 people were affected by the floods in 1998 (T. F. G. o. Nigeria, 2013, p. 78). Also, the EM-DAT database explained that the number of the displaced people was around 100,000 people in Nigeria (EM-DAT, 2021). In terms of affected regions, the EM-DAT database explained that Kwara and Niger were the affected areas (EM-DAT, 2021). IFRC explained that there were many farmers in the rural areas of the affected regions (IFRC, 1998, p. 1). As BBC confirmed, many farmers were affected by the flood, and many of them lost their source of income (BBC, 1998). In terms of infrastructure and damaged houses, IFRC reported that there were significant damages and destroyed homes in the affected regions (IFRC, 1998, p. 3).

In terms of post-disaster responses, IFRC explained that there were evacuation efforts in the affected areas (IFRC, 1998, p. 2). Also, the government distributed relief goods and materials in the affected areas, according to IFRC (IFRC, 1998, pp. 2-3). However,

there was also criticism from different sources. Firstly, the report explained that there was no unit that focuses on the coordination between the government and agencies (IFRC, 1998, p. 2). Secondly, the IFRC report expressed that there were still a considerable amount of people who need shelter and food, although there were different efforts from the government and other local and international agencies (IFRC, 1998, pp. 2-3). Also, the BBC mentioned that there was a lack of materials, and the federal government did not give attention to the 1998 Floods (BBC, 1998). Consequently, although there were different positive developments and efforts, the lack of coordination, lack of warning and lack of provided relief goods/materials were the weaknesses of the post-disaster response of 1998 Floods.

In terms of the outcomes of the 1998 Floods, firstly, I suggest that the economic conditions were worsened due to the floods in the affected areas. As mentioned above, floods destroyed many crops and livestock in the affected areas. Since many people in the affected areas depend on agriculture for their income, their economic conditions were affected negatively by these losses. Also, many houses were destroyed, and these destroyed buildings had a significant impact on the people's economic conditions since many people lost their homes, assets and possessions. Consequently, the economic conditions of the affected households were worsened due to crop losses and destroyed houses. Secondly, I express that food security was worsened in the affected areas due to the 1998 Floods. As mentioned previously, these crop losses and livestock losses had a significant impact on food availability in the affected regions. Thirdly, I suggest that the health conditions were worsened due to the 1998 Floods. IFRC report demonstrated that the water-related diseases (diarrhoea and malaria) were increased after the floods in the affected areas in Nigeria (IFRC, 1998, p. 1). Thus, I suggest that the health conditions were affected by negatively the 1998 Floods. Consequently, these findings suggested that the economic conditions, health conditions and food security were worsened in Kwara and Niger in the 1988 Floods.

5.1.3.6) 2003 Floods

In 2003, Nigeria experienced massive floods, and these floods affected the areas of Kaduna, Kano, Niger and Jigawa (EM-DAT, 2021). It should also be noted that Kaduna

was the most affected area in Nigeria (IFRC, 2003a, 2003b, 2003c, 2003d). In terms of the pre-disaster vulnerability of the affected areas, firstly, the International Wealth Index (IWI) shows that 52.8% of the households in Kaduna had an IWI score of under 35 in 2002 (I. W. Index, 2021). For other affected areas, the index indicates that 51.7%, 71.8% and 96.8 of the households in Kano, Niger and Jigawa had an IWI score of under 35 in 2002 (I. W. Index, 2021). Secondly, different sources confirmed that many affected people were depended on agricultural activities as their primary source of livelihoods (Database, 2021d, 2021e). Thus, these areas were quite vulnerable to the impact of natural disasters. Thirdly, in terms of social and public services, only 18.3% of the children (aged 1) received DTP 3 vacation in Kaduna in 2002 (Database, 2021a). Also, only 10.1%, 26.6%, %0.0 of the children (aged 1) received DTP 3 vacation in Kano, Niger and Jigawa in 2002 (Database, 2021a). In terms of education conditions, the mean year's education of adults (aged 20+) was 4.71 in Kaduna in 2002 (Database, 2021h). Also, the mean year's education of adults (aged 20+) were 3.26, 4.08 and 1.04 in Kano, Niger and Jigawa (Database, 2021h). Consequently, the economic, health and education conditions were quite bad in these areas. It should also be noted that there were many farmers and herders in the affected areas. Thus, these people were especially vulnerable to the impact of natural disasters. To sum up, all of the regions were vulnerable regions in 2002 in Nigeria.

In terms of disaster preparedness and pre-disaster responses, there were significant developments before the 2003 Floods in Nigeria. NEMA was created in 1999, and NEMA had better plans and strategies on search, rescue operations, logistical support, budget, training, disaster preparedness (N. Government, 2010b, pp. 7-8). Also, the National Disaster Framework report mentioned that NEMA worked and cooperated closely with many stakeholders, agencies, organizations and local actors in Nigeria (N. Government, 2010b, p. 10). Furthermore, the report expressed that NEMA aimed to contribute the research activities, field works, programmes in disaster management issues in all of the country (N. Government, 2010b, p. 10). Also, according to the official website of the Nigerian Federal Ministry of Environment, the Federal Ministry of Environment was created in 1999, and the ministry mainly focused on empowering people, tackling climate change and protecting environmental resources (Environment,

2021). As a further development, NIMET was created in June 2003 (4-5 months before the September/October 2003 Floods), and they mainly focused on data collection and weather forecasting and prediction (Agency, 2021). Lastly, the National Disaster Framework report summarized that many plans and frameworks were created, and these plans/frameworks played a vital part to increase the efficiency in disaster management in Nigeria (N. Government, 2010b). Consequently, the creation of NEMA, Federal Ministry of Environment, NIMET and other plans/frameworks were quite significant since they aimed to provide better disaster management, post-disaster response and preparedness. In terms of pre-disaster response, I could not find any research which focuses on the pre-disaster response in the 1988 Floods. Although there were developments through the years, the impact and the outcomes of the 2003 floods were devastating, and it shows that there was still no effective pre-disaster response, preparedness in Nigeria.

The impact of the 2003 Floods was devastating in Nigeria. EM-DAT database explained that 210,000 people were affected by the floods in 2003 (EM-DAT, 2021). Also, the database shows that 16 people lost their lives due to the floods in 2003 (EM-DAT, 2021). In terms of affected areas, the EM-DAT database shows that Kaduna, Kano, Niger and Jigawa regions were the most affected provinces in Nigeria (EM-DAT, 2021). Also, IFRC reports expressed that Kaduna was the most affected province from the 2003 Floods in Nigeria (IFRC, 2003a, 2003d). IFRC report mentioned that around 2,000 buildings were damaged or destroyed in the 2003 Floods in Kaduna (IFRC, 2003d). IFRC also explained that around 3,000 people lost their homes, and many others were displaced in Kaduna (IFRC, 2003d). Also, many roads, bridges, and electrical installations were damaged or destroyed due to the floods in Kaduna, according to IFRC (IFRC, 2003a). Also, IFRC mentioned that some farmlands were also destroyed or damaged due to the floods in 2003 (IFRC, 2003d).

In terms of post-disaster responses, DPA explained that many foods (such as rice, beans, maize, grains) and non-food items (such as sheets, plastic buckets, mats, planks, clothing and sundry items) were distributed by the government (DPA, 2003). IFRC also explained that the army gave considerable support to these evacuation efforts (IFRC,

2003b). Besides, the government provided temporary shelters to the people in need, according to Pana Press (PANAPress, 2003). Lastly, there was a cholera outbreak after the floods, and the government gave an immediate and adequate response to prevent the outbreak of cholera in the affected areas, according to IFRC (IFRC, 2003b, 2003c). To explain, the distribution of the medical and hygiene supplies were also distributed by the government and IFRC, according to IFRC (IFRC, 2003b, 2003c). Also, a high level of efforts was given to prevent this outbreak (IFRC, 2003b, 2003c). As a result, according to the IFRC reports, the cholera outbreak was mainly controlled in the affected areas (IFRC, 2003b, 2003c). In terms of international assistance, The UN, and Médècin Sans Frontière, British Red Cross Emergency Relief Fund, Save the Children, Red Cross and Red Crescent, and Civil Defence Corps joined the relief operations by distributing foods, non-food goods and joining rescue operations according to IFRC (IFRC, 2003b, 2003c). Consequently, these findings expressed that there were both successful post-disaster responses and issues in the post-disaster responses in 2003.

In terms of outcomes, firstly, I suggest that the economic conditions of the affected people were worsened due to the floods. To explain this, as expressed previously, there were destroyed and damaged farmlands in Kaduna. Therefore, many farmer's incomes were lost in Kaduna in 2003. Also, many houses were destroyed or damaged, which leads to the loss of assets, homes and possessions, as mentioned in the previous section. Thus, the economic conditions of the affected areas (especially Kaduna) were affected negatively due to crop losses and destroyed houses. Secondly, food security was worsened in the affected areas. As expressed in the findings, there were a significant amount of crop losses in the affected areas. Therefore, these crop losses had a significant impact on food availability in the affected areas. Thirdly, I suggest that the health conditions were worsened in the affected areas due to the floods. To explain, as mentioned previously, there was a small size of a cholera outbreak. In this cholera break, the health conditions of the affected regions were worsened. Consequently, the findings showed that the economic, health and food conditions were worsened in the affected areas in Nigeria.

5.2) The Horizontal Inequality in Malawi, Mozambique and Nigeria

In this chapter, I will focus on the horizontal inequalities in Malawi, Mozambique and Nigeria. Thus, this chapter focus on the political horizontal inequality, economic horizontal inequality and social horizontal inequality in Malawi, Mozambique and Nigeria., I will examine the political life and the distribution of the political power (among the ethnic groups/regions) to understand the political horizontal inequalities in three countries. In the context of economic horizontal inequality, I focus on the economic conditions of the different regions/ethnic groups in three countries. In the context of social horizontal inequality, the health, education and public services conditions of the different regions/ethnic groups will be assessed in three countries. Consequently, this chapter will examine the horizontal inequalities in three countries in their examined periods.

5.2.1) The Horizontal Inequalities in Malawi

In this chapter, I assess the horizontal inequalities in Malawi between the years 1994-2019. In this context, I will focus on the economic, social and political horizontal inequalities between the years 1994-2019. In the context of political horizontal inequality, political life and the distribution of political power will be discussed between 1994 and 2019. In the context of economic horizontal inequality, I will focus on the poverty rates of the different regions in Malawi. Lastly, in the social horizontal inequality, I will focus on the education and health conditions of the different areas of Malawi.

5.2.1.1) The Political Horizontal Inequality in Malawi

The political horizontal inequality remained an essential issue in Malawi through the years 1994 and 2019. However, the findings suggested that there were always different mechanisms that reduced the level of the political horizontal inequality in the period of 1994-2019. In order to understand this relationship, this paper examines other datasets, articles and reports related to the political horizontal inequality in Malawi.

Before focusing on the elections and other issues in political life, it would be essential to examine the ethnic groups and their relations to the key political parties in Malawi

starting from the beginning of the multi-system period (1994) to 2019. In terms of ethnic groups, EPR Dataset confirms that the Tumbuka, Tonga and Ngonde ethnic groups are the ethnic groups who lived in the northern region (Family, 2020; Vogt et al., 2015). Lomwe, Mang'anja, Nyanja and Yao are the ethnic groups who live in the southern areas, according to EPR Dataset (Family, 2020; Vogt et al., 2015). Lastly, Chewa ethnic groups are the ethnic groups who live in the central region, as the EPR dataset confirmed (Family, 2020; Vogt et al., 2015). Also, in terms of ethnic fractionalization, according to Historical Index of Ethnic Fractionalization data, Malawi's index mainly ranged from 0.787 to 0.791 in their history (from 1964 to 2013) which means that different individuals belong to different ethnic groups (Drazanova, 2019; Fractionalization, 2019). In other words, individuals do not belong to the same ethnic groups, but different ethnic groups. This dataset shows that EPR Dataset and Historical Index of Ethnic Fractionalization dataset is coherent with each other since that these datasets express that there are different ethnic groups in the country. According to the fractionalization index by Alesina, Devleeschauwer, Easterly, Kurlat and Wacziarg, Malawi's fractionalization data are 0.67, 0.60, 0.81 in ethnic, language, and religion, respectively, in 1998 (Alesina et al., 2003). This dataset also shows that Malawi's fractionalization is high in every aspect. This data also is coherent with the EPR Dataset.

In terms of their relations to the political parties, EPR Atlas mentioned that there were three dominant parties, and these three parties had regional strongholds in 1994-2005 (Girardin et al., 2015; Platform, 2020, pp. 1044-1045). As EPR Atlas expressed, MCP was supported by the ethnic groups in the centre region (Chewa), UDF was supported by the ethnic groups in the south (Lomwe, Mang'anja, Nyanja and Yao) and AFORD was supported by the ethnic groups (Tumbuka, Tonga and Ngonde) in the north (Girardin et al., 2015; Platform, 2020, pp. 1044-1046). Thus, the elections in these periods were shaped by this ethnic and regional divide in Malawi, according to EPR Atlas (Girardin et al., 2015; Platform, 2020, pp. 1044-1046).

In terms of political power, it would be essential to examine the elections and the period of the ruling party/leaders. The first election was held in 1994 in Malawi after Banda

Regime fell, as EPR Atlas expressed (Girardin et al., 2015; Platform, 2020, p. 1045). In the election of 1994, as expressed by different sources, the UDF won the presidential elections (and also parliamentary elections) by taking approximately 47% of the votes in Malawi (M. E. Commission, 2021a; EISA, 2007a). This election was shaped by the regional and ethnic divides since those southern regions, central region, and northern region supported UDF, MCP and AFORD, respectively, in the 1994 election, according to EPR Atlas (Girardin et al., 2015; Platform, 2020, pp. 1045-1046). It should also be noted that UDF formed a coalition government with the northern party AFORD (Girardin et al., 2015; Platform, 2020). Thus, the northern party also had political influence in political power (Girardin et al., 2015; Platform, 2020). Therefore, northern ethnic groups remained as "Junior Partner" in the EPR Dataset in 1999 and in the coming years (Family, 2020; Vogt et al., 2015). In this period, the President was Bakili Muluzi, and he was Muslim and Yao (southern). In the 1999 elections, different sources confirm that UDF (supported by southern ethnic groups) won the elections again (M. E. Commission, 2021b; EISA, 2007b). In the 2004 elections, EISA expressed that that UDF won the presidential elections (EISA, 2006). Also, it should be noted that the MCP (supported by people in the central region and central ethnic groups) won the parliamentary elections in 2004 (EISA, 2008). This ethnic divide was evident in the polls in 2004 in Malawi, as the EPR Atlas expressed (Girardin et al., 2015; Platform, 2020, pp. 1045-1046). In the 2009 elections, EISA expressed that DPP (lead by southern Bingu wa Mutharika) won the elections by taking approximately 66% of the votes in Malawi (EISA, 2009). As this high vote rate shows, the DPP received votes from all of Malawi. Chinsinga and Kayuni explained that DPP gained support not only in the southern region but also in the central and northern areas. Thus, Chinsinga and Kayuni expressed that the ethnic and regional divides were undermined by the success of DPP. However, EPR Atlas still expressed that the ethnic/regional divide again existed in the 2009 elections in Malawi (Girardin et al., 2015; Platform, 2020, p. 1046).

Before explaining the 2014 elections, it should be expressed that Joyce Banda (a southern people) became a president after the death of Bingu wa Mutharika in 2012 (Girardin et al., 2015; Platform, 2020, p. 1046). In the 2014 elections, DPP won the elections again, and this time Peter Mutharika (southern people) was the leader of the

party, as EPR Atlas confirmed (Girardin et al., 2015; Platform, 2020, p. 1046). It should also be expressed that Peter Mutharika was Bingu wa Mutharika's brother. This is a negative situation for the diversity in political power. In the 2014 election, EPR Atlas also confirmed that this election was shaped through ethnic and regional lines (Girardin et al., 2015; Platform, 2020, p. 1046). As Malawi Electoral Commission shows, centre people and groups supported MCP, and the southern groups supported DPP and UDF in this election (M. E. Commission, 2021e). Therefore, ethnic and regional patterns were significant in this election too. After the election, DPP also could not win the support of the majority of the people in the central and northern areas in their term, as EPR Atlas confirms (Girardin et al., 2015; Platform, 2020, p. 1047). In the 2019 election, EISA explained that DPP won the election, and MCP becomes the second party in the elections (EISA, 2020). In this election, there were also regional/ethnic divides. The reason is that centre ethnic groups mainly supported MCP, and southern ethnic groups supported DPP, according to the Malawi Electoral Commission (M. E. Commission, 2021f). In general, since the southern parties won almost every election and ruled the country, the southern ethnic groups remained as "Senior Partner" in the EPR Dataset between the period of 1994-2015 (Family, 2020; Vogt et al., 2015). As mentioned previously, the northern ethnic groups remained as "Junior Partner" in the period of 1994-2015, according to EPR Dataset (Family, 2020; Vogt et al., 2015). As Minority At-Risk expressed, these northern people had an active role in Parliament and the government at different times. The AFORD-UDF coalition was one of the important examples of this active participation. In the context of the central ethnic groups, they remained as "Junior Partner" in the period of 1994-2015 in the EPR Dataset (Family, 2020; Vogt et al., 2015). Also, they had an active role in the government and parliament. For instance, they won the 2004 Parliamentary elections in Malawi, as expressed previously.

In order to assess the political horizontal inequalities in Malawi, Mussa and Masanjala explained that all of the presidents came from the southern region (Mussa & Masanjala, 2015, p. 18). Also, most of the leaders of these political parties were blood relatives in Malawi (Mussa & Masanjala, 2015, p. 18). Therefore, political power was mainly concentrated in one area (south) and within particular families (Mussa & Masanjala,

2015, p. 18). This was a negative feature for the political horizontal inequality in Malawi. Still, there are significant positive developments for political life and political horizontal inequality. Firstly, Mussa and Masanjala expressed that the politics and the elections were competitive between 1994-2019 (Mussa & Masanjala, 2015, pp. 18-19). The competitive elections and the changing ruling leaders/parties supported this argument. Secondly, although that the president and ruling parties are from the southern region/ethnic groups, northern ethnic groups and center ethnic groups were "Junior Partners" of the government, and there were no powerless or discriminated groups in Malawi between 1994-2015, according to EPR Dataset (Family, 2020; Vogt et al., 2015). As discussed in the previous paragraph, the northern ethnic groups and central ethnic groups actively played a role in the parliament and government at different times. Thirdly, Malawi Electoral Commission shows that there were lots of independent MPs candidates from the different regions of Malawi, and these independent MPs were highly supported by the different areas (M. E. Commission, 2021a, 2021b, 2021c, 2021d, 2021e, 2021f). This situation was essential for the people who want to join or influence political life since many of the party leaders are blood relatives or coming from one region. Fourthly, The official website of the Malawi Government shows that there were MPs, president and cabinet members who came from different areas, ethnic groups or religious groups (M. Government, 2021). For instance, President Bakili Mulizi was Muslim, and there were also different lots of minister or cabinet members from central and northern regions (M. Government, 2021). Fifthly, Malawi Electoral Commission confirmed that there were high vote turnouts in every area in different elections (M. E. Commission, 2021a, 2021b, 2021c, 2021d, 2021e, 2021f). This means that people in all of the areas (including northerners and southerners) actively participated in/influenced the political life in Malawi. According to the Afro Barometer, around 85% of the Malawians thinks that Malawi has a democracy, although that the democratic system in Malawi have minor or major problems (Afrobarometer & Research, p. 30). More importantly, approximately 70% of Malawi believes (in different levels) that political life is free in Malawi, and they can participate in any political organization (Afrobarometer & Research, p. 33). These results are also essential since a significant majority of the country believe that there are democracy and democratic freedom in Malawi. Consequently, it can be suggested that political horizontal

inequality remained an essential issue in Malawi through the years 1994 and 2019. Still, as I expressed, there were always different mechanisms that reduced the level of the political horizontal inequality in the period of 1994-2019.

5.2.1.2) The Economic Horizontal Inequality in Malawi

This chapter will examine the economic horizontal inequalities in Malawi. In this context, I will examine the poverty rates of northern, central and southern regions since these regions are politically relevant, as discussed in the previous section. Since the data is available from 1998 to 2016, this chapter will focus on the period between 1998-2016.

In terms of regional poverty rates, I will examine four IHS reports to understand the regional poverty rates. Firstly, according to the PMS policy brief (based on IHS1), the poverty rates were 68.1%, 62.8% and 62.5% in the southern, central and northern region in 1998 (System, 2000, p. 1). Considering these poverty rates, it can be argued that all of the areas have similar economic conditions, and the southern region was the poorest in Malawi in 1998. According to the IFPRI report (based on IHS2), the incidences of poverty were 59.7%, 54.1% and 44.2% in the southern, northern and central region, respectively, in 2004 (IFPRI, 2019, p. 3). As the poverty rates show, the southern region was the most impoverished region and the central region were the least poor region. Still, there was no significant gap in poverty between the southern region and the central region. In 2010-2011, the incidence of poverty was 55.5%, 54.3% and 44.5% in the southern, northern and central area, respectively, according to IHS3 (M. N. S. Office, 2012, p. 208). These poverty rates also showed that the southern region was still the most impoverished region, but the poverty rate was decreased by 4.2% from 2004 to 2010. On the other hand, the poverty rates in the central region and the northern region remained similar from 2004 to 2010. The poverty rates in 2010 also showed that there was no significant difference in the poverty rates among the northern, southern and central areas. In 2016, the incidences of poverty were 56%, 49.5% and 47.5% in the southern, northern and central region, respectively, according to the IFPRI report based on IHS4 (IFPRI, 2019, p. 3). As the rates show, the poorest region was the southern

region again. Still, the poverty rates were also similar among the northern, central and southern region in 2016.

In general, the southern region remained as the poorest region from 1998 to 2016. Still, there were no significant gaps (in terms of poverty) among the northern, southern and central region. Thus, these findings suggested that the economic horizontal inequality was not severe, and all of the regions enjoyed a similar level of economic opportunities in Malawi from the years of 1998 to 2016.

5.2.1.3) The Social Horizontal Inequality in Malawi

This chapter will assess the social horizontal inequality in Malawi. To assess, this chapter focus on the health and education conditions of Malawi. In terms of health conditions, child mortality rates will be the criteria in Malawi. Demographic and Health Survey (DHS) reports are useful resources to understand the child mortality situation in Malawi. Since the data is available from 2000 to 2016, this chapter will focus on the period of 2000-2016 to understand the health conditions in Malawi. In terms of education conditions, the net enrolment rate (6-13 years old) will be the criteria in Malawi. IHS1, IHS2, IHS3 and IH4 have data and information on the net enrolment rate for the regions in Malawi. Since the data is available from 1998 to 2016, this chapter will focus on the period of 1998-2016.

In terms of health conditions, firstly, the child mortality rates were 114.6%, 95.2% and 76.5% in the central, southern and northern region in 2000 in Malawi (M. N. S. Office & Macro, 2001, p. 100). These rates indicate that the health situation was highly problematic in the center region. The situation was also negative for the southern and northern region. However, there was a significant gap between the center and the northern/southern region. Secondly, the child mortality rates were 80%, 73% and 41% in the central, southern and northern region in 2004 in Malawi (M. N. S. Office & Macro, 2005, p. 128). Considering these rates, it can be argued that there were significant improvements in all of the regions. Still, the situation was highly negative for the central region and the southern region. Thirdly, the child mortality rates were 66%, 56% and 40% in the central, southern and northern region in 2010 in Malawi (M.

N. S. Office & Macro, 2011, p. 98). These rates also indicate that the central region is still the worst in terms of health. Also, it should be noted that the gap (in terms of child mortality rate) between the worst performing regions (center, southern) and the best performing region (northern) decreased considerably. Lastly, the child mortality rates were 33%, 29% and 21% in the central, southern and northern region in 2016 in Malawi (M. N. S. Office & ICF, 2017, p. 115). Similar to the previous years, there were also significant improvements in all of the regions. Also, the gap (in the child mortality rate) was highly closed among the three regions. As a result, through the years 2000-2016, the center region was the worst in terms of child mortality, and the southern region also had significant issues in terms of child mortality. The situation was better in the northern region, although they also had a high child mortality rate, especially in 2000 and 2004. It should also be noted that there was a significant gap between the center/southern regions and the northern region. However, this gap was decreased significantly throughout the years. Thus, the inequality (in terms of child mortality) between the regions was highly reduced. Consequently, there were not significant and widening social inequalities between the northern, central and southern regions.

In terms of education conditions, firstly, the net enrolment rates (for primary) were 86.7%, 76.5% and 76.4% for the northern, central and southern region in 1998 in Malawi, according to IHS1 (M. N. S. Office, 2000, p. 11). As the rates showed, all of the regions had similar enrolment rates in 1998. Secondly, the net enrolment rate (for primary) were 87.3%, 80.0% and 78.1% for the northern, central and southern region in 2004 in Malawi, according to IHS2 (M. N. S. Office, 2005, p. 28). Considering these rates, all of the regions had improvements and similar education conditions in 2004 in Malawi. Thirdly, the net enrolment rate (for primary) were 95.1%, 86.2% and 82.5% for the northern, central and southern region in 2010 in Malawi, according to IHS3 (M. N. S. Office, 2012, p. 30). These rates indicate that the situation was improved in all of the three regions and these regions had similar education conditions in 2010. Lastly, according to the IHS4, the net enrolment rate (for primary) were 93.0%, 88.2% and 86.3% in the northern, southern and central region in 2016 in Malawi (M. N. S. Office, 2017, p. 32). In general, the northern regions had a better education situation, and the southern regions mainly had the worst education conditions compared to the other

regions. Still, it should be noted that there are no significant differences among the northern, southern and central regions.

5.2.2) The Horizontal Inequalities in Mozambique

In this chapter, I will assess the horizontal inequalities in Mozambique between the years 1992-2013. Specifically, I will focus on the economic, social and political horizontal inequalities between the years 1992-2013. In the context of the political horizontal inequality, the political life and the distribution of the political power will be discussed in the period of 1992-2013. In the context of economic horizontal inequality, I will focus on the wealth conditions of the different regions in Mozambique. Lastly, I will focus on the education, health and electricity conditions of different areas to examine the social horizontal inequality.

5.2.2.1) The Political Horizontal Inequality in Mozambique

The political horizontal inequality remained an essential issue in Mozambique through the years 1992 and 2013. In the context of political horizontal inequality, I will examine different analysis, reports and articles which explore this issue between the years of 1992-2013. Before examining the political life in Mozambique, it would be essential to investigate the ethnic groups and their relations to the key political parties in Mozambique between 1992-2013. To explain, Tsonga ethnic groups are located in the southern region of Mozambique. Tsonga ethnic group mainly supported the FRELIMO party, as different sources confirmed (Family, 2020; Girardin et al., 2015; Platform, 2020, pp. 1177-1179; Stewart, 2009b, p. 22; Vogt et al., 2015). The other ethnic group is Shona-Ndau, and this ethnic group primarily lived in the central region (Family, 2020; Girardin et al., 2015; Platform, 2020, pp. 1177-1179; Stewart, 2009b, pp. 22-23; Vogt et al., 2015). As various sources confirmed, Shona-Ndau mainly supported the RENAMO party (Family, 2020; Girardin et al., 2015; Platform, 2020, pp. 1177-1179; Stewart, 2009b, pp. 22-23; Vogt et al., 2015). The other ethnic groups are Makonde-Yao, and this ethnic group primarily lived in the northern region (Family, 2020; Girardin et al., 2015; Platform, 2020, pp. 1177-1179; Vogt et al., 2015). This ethnic group was important since the founder of FRELIMO was Makonde-Yao, as EPR Atlas expressed (Girardin et al., 2015; Platform, 2020, p. 1177). However, EPR Atlas

expressed that Makonde-Yao ethnic group lost most of their influence in FRELIMO through the years (Girardin et al., 2015; Platform, 2020, pp. 1177-1178). Still, they had some influence in FRELIMO through the years in Mozambique, according to the different sources (Family, 2020; Girardin et al., 2015; Platform, 2020; Vogt et al., 2015). Also, in terms of ethnic fractionalization, according to the fractionalization index by Alesina, Devleeschauwer, Easterly, Kurlat and Wacziarg, Mozambique's fractionalization data are 0.69, 0.81, 0.67 in ethnic, language, and religion, respectively, in 1983 (Alesina et al., 2003). This dataset shows that Mozambique's fractionalization is high in every aspect in the country. This data also is coherent with the EPR Dataset since that there are different ethnic groups in Mozambique. Besides, this fractionalization data shows that there are also different groups in terms of language and religion.

In terms of political life and political concentration, different sources confirmed that the southern Frelimo Government concentrated its power and monopolized the political life in Mozambique between 1992-2013 (Family, 2020; Girardin et al., 2015; Manning, 2002; Platform, 2020; Stewart, 2009b; Vogt et al., 2015). Thus, EPR Dataset explained that the southern Tsonga ethnic group remained as "Senior Partner" between 1992-2013 in political life means that Tsonga ethnic group had a significant role in executive power and decision making processes(Family, 2020; Vogt et al., 2015). Also, Makonde-Yao was considered as a "Junior Partner" due to the fact that they had some influence in FRELIMO, according to EPR Atlas (Girardin et al., 2015; Platform, 2020, p. 1177). On the contrary, the central ethnic groups Shona-Ndau (supports to RENAMO) remained "powerless" in the political life between the years of 1992-2013, according to the EPR Dataset (Family, 2020; Vogt et al., 2015). In addition to EPR Dataset, Stewart expressed that Ndau ethnic group have no power in the government in the mid and late 1990s (Stewart, 2009b, pp. 22-24). As mentioned previously, the Frelimo government monopolized the power and ruled Mozambique (Stewart, 2009b, pp. 22-23). For instance, Manning expressed that Frelimo mainly placed the southern officials in the northern and central areas (Manning, 2002, p. 85). As Stewart said, the president even "refused to appoint RENAMO nominated governors for central provinces which RENAMO had won electorally both in 1994 and 1999" (Stewart, 2009b, p. 24).

Besides, Stewart expressed that the Frelimo government tried to eliminate the leaders who support RENAMO and strengthen its rule (Stewart, 2009b, pp. 22-24). Thus, as Orre and Ronning expressed, the Frelimo government always prevented RENAMO to gain power or have a word in the political life in Mozambique (Orre & Rønning, 2017, pp. 20-24). To sum up, the EPR dataset and different articles show that the political power was highly concentrated in the southern Frelimo party (supported Tsonga ethnic group), and the central RENAMO party (supported by Ndau) had little or no political power in Mozambique between 1992-2013 (Family, 2020; Girardin et al., 2015; Manning, 2002; Platform, 2020; Stewart, 2009b; Vogt et al., 2015).

5.2.2.2) The Economic Horizontal Inequality in Mozambique

In the context of economic horizontal inequality in Mozambique between the years 1992-2013, this chapter will focus on the IWI index and express the economic horizontal inequalities in Mozambique. Since the data availability is complete in IWI, IWI is a useful index to examine the economic horizontal inequality in Mozambique in the period of 1992-2013. Zambezia, Tete, Sofola and Nampula are the central and northern regions that supported the RENAMO over the years. Gaza, Inhambane, Maputo Province, Maputo Capital are the southern regions that mainly supported the FRELIMO, as mentioned previously. Thus, this chapter will focus on the household's wealth conditions in these regions between 1992-2013. Firstly, 97.4%, 99.0%, 98.1%, 99.0% of the households in Zambezia, Tete, Sofala and Nampula had an IWI score of under 35 in 1994 (I. W. Index, 2021). On the other hand, 84.0%, 95.1%, 67.6%, 74.2% of the households in Gaza, Inhambane, Maputo Province, Maputo Capital had an IWI score of under 35 in 1994 (I. W. Index, 2021). Thus, it can be argued that the RENAMO based central and northern areas were poorer than the FRELIMO represented southern areas in 1994.

In 2003, 98.0%, 95.3%, 89.1%, 94.9% of the households in Zambezia, Tete, Sofala and Nampula had an IWI score of under 35 in 2003 (I. W. Index, 2021). On the other hand, 92.4%, 93.9%, 70.9%, 38.0% of the households in Gaza, Inhambane, Maputo Province, Maputo Capital had an IWI score of under 35 in 2003 (I. W. Index, 2021). Thus, it can be expressed that the RENAMO based central and northern areas were poorer than the

FRELIMO based southern areas in 2003. Also, it should be noted that many southern areas were relatively poor in this period.

In 2013, 87.8%, 90.1%, 71.7%, 88.0% of the households in Zambezia, Tete, Sofala and Nampula had an IWI score of under 35 in 2013 (I. W. Index, 2021). For the southern regions, 75.1%, 86.7%, 43.2%, 18.5% of the households in Gaza, Inhambane, Maputo Province, Maputo Capital had an IWI score of under 35 in 2013 (I. W. Index, 2021). Thus, it can be expressed that the RENAMO based central and northern areas were still poorer than the FRELIMO based southern areas in 2013 in Mozambique.

To assess the economic horizontal inequality, I think that economic inequality (between the northern/central and southern) can be evaluated in two different periods. In the first period of 1994-2003, there was no severe economic horizontal inequality between the northern/central and the southern region in 1994-2003. Also, the economic inequality between the northern/central and the southern regions (except the capital region Maputo) was decreased between 1994-2003. In the second period of 2003-2013, the economic inequality between the northern/central and southern regions was increased and widened. In the general period of 1994-2013, the economic horizontal inequality remained severe and widened due to the fact that northern/central regions kept their high poverty, and the southern regions had better economic conditions.

5.2.2.3) The Social Horizontal Inequality in Mozambique

In the context of social horizontal inequality in Mozambique between the years 1992-2013, this chapter examines the different public and social services such as electricity, health and education conditions. Zambezia, Tete, Sofola and Nampula are the central and northern regions that supported the RENAMO over the years. Gaza, Inhambane, Maputo Province, Maputo Capital are the southern regions that mainly supported the FRELIMO. Thus, this chapter will focus on the household's wealth conditions in these regions between 1992-2013.

In terms of access to electricity, only 1.01%, 2.94%, 5.17% and 3.82% of the households had access to electricity in Zambezia, Tete, Sofala and Nampula in 1994

(Database, 2021b). In Gaza, Inhambane, Maputo Province, Maputo Capital, 14.9%, 1.56%, 20.5% and 27.1% of the households had access to electricity respectively in these areas in 1994 (Database, 2021b). Thus, the southern areas had better access to electricity compared to the northern/central regions in 1994. In 2003, only 2.90%, 4.89%, 6.80% and 5.11% of the households had access to electricity in Zambezia, Tete, Sofala and Nampula in 2003 (Database, 2021b). In Gaza, Inhambane, Maputo Province and Maputo Capital, 8.18%, 6.16%, 21.4% and 52.2% of the households had access to electricity in these areas in 2003 (Database, 2021b). Thus, the southern regions had better access to electricity compared to the northern/central region in 2003. In 2013, only 8.08%, 13.5%, 28.1% and 16.9% of the households had access to electricity in Zambezia, Tete, Sofala and Nampula in 2013 (Database, 2021b). In Gaza, Inhambane, Maputo Province, Maputo Capital, 27.4%, 22.0%, 75.0% and 95.9% of the households had access to electricity in these areas in 2013 (Database, 2021b). Therefore, it can be argued that the southern regions had better access to electricity compare to the northern/central regions in 2013. Overall, while there is no significant difference between the southern and the northern/central regions between the period of 1994-2003, the inequality became severe and widened between 2003-2013.

In terms of health conditions, the health index values were 0.424, 0.385, 0.391, 0.392 in Zambezia, Tete, Sofala and Nampula in 1992 (S. H. D. Index, 2021b). For Gaza, Inhambane, Maputo Province, Maputo Capital, the health index values were 0.406, 0.416, 0.460 and 0.527 in these regions in 1992 (S. H. D. Index, 2021b). Thus, the southern regions mainly had better health conditions compare to the northern/central areas in 1992. In 2003, the health index values were 0.523, 0.439, 0.439, 0.431, respectively, in Zambezia, Tete, Sofala and Nampula in 2003 (S. H. D. Index, 2021b). For Gaza, Inhambane, Maputo Province, Maputo Capital, the health index values were 0.481, 0.489, 0.544 and 0.574 in these regions in 2003 (S. H. D. Index, 2021b). Therefore, the southern regions mainly had better health conditions compare to the northern/central areas in 2003. In 2013, the health index values were 0.493, 0.509, 0.542 and 0.607 in Zambezia, Tete, Sofala and Nampula (S. H. D. Index, 2021b). For Gaza, Inhambane, Maputo Province, Maputo Capital, the health index values were 0.535, 0.623, 0.556 and 0.584 in these areas in 2013 (S. H. D. Index, 2021b). Thus, the

southern regions mainly had better health conditions compare to the northern/central regions in 2013. Overall, southern regions had better health conditions compared to the central/northern areas between 1992-2013. Still, it should be assessed that there was a significant development in health conditions in the northern and central regions between 1992 and 2013.

In terms of education conditions, the education index values were 0.139, 0.118, 0.115, 0.108 in Zambezia, Tete, Sofala and Nampula in 1992 (S. H. D. Index, 2021a). For Gaza, Inhambane, Maputo Province, Maputo Capital, the education index values were 0.131, 0.144, 0.190 and 0.243 in these regions in 1992 (S. H. D. Index, 2021a). Thus, the southern region had better education conditions compare to the northern/central regions in 1992. In 2003, the education index values were 0.232, 0.239, 0.288 and 0.237 in Zambezia, Tete, Sofala and Nampula (S. H. D. Index, 2021a). For Gaza, Inhambane, Maputo Province, Maputo Capital, the education index values were 0.281, 0.289, 0.408 and 0.487 in these regions in 2003 (S. H. D. Index, 2021a). Thus, the inequality (on education conditions) was increased between the northern/central and southern regions through the years. In 2013, the education index values were 0.343, 0.301, 0.395 and 0.312 in Zambezia, Tete, Sofala and Nampula (S. H. D. Index, 2021a). For Gaza, Inhambane, Maputo Province, Maputo Capital, the education index values were 0.359, 0.388, 0.490 and 0.593 in these areas in 2013 (S. H. D. Index, 2021a). Overall, there was significant inequality in education between the northern/central and the southern regions between 1992 and 2013. Consequently, in terms of social horizontal inequality, the health, electricity and education conditions show that the southern regions had better social conditions compared to the northern/central regions in Mozambique in the years of 1992-2013.

5.2.3) The Horizontal Inequalities in Nigeria

In this chapter, I will assess the horizontal inequalities in Nigeria between the years 1970-2009. To assess, I will focus on the economic, social and political horizontal inequalities between the years of 1970-2009. In this context of the political horizontal inequality, the political life and the distribution of the political power will be discussed in the period of 1970-2009. To explore the economic horizontal inequality, I will focus on the poverty rates of the different regions in Nigeria. Lastly, I will focus on the

education and health conditions of the different regions to examine the social horizontal inequality in Nigeria.

5.2.3.1) The Political Horizontal Inequality in Nigeria

The political horizontal inequality continued as a complicated issue in Nigeria between 1970-2009. Before examining the political life and political events, it is essential to explore the ethnic groups and their locations in Nigeria. EPR Atlas mainly mentioned that Hausa-Fulani, Yoruba and Igbo, Ijaw, Ogoni, and Tiv are the ethnic groups that are relevant for the politics in Nigeria (Girardin et al., 2015; Platform, 2020, pp. 1277-1278). Also, I will examine Kanuri ethnic groups since many of the Boko Haram fighters belongs to the Kanuri ethnic groups. As EPR Atlas shows, the Hausa-Fulani group are the Muslim ethnic groups located in the northern-western and some parts of the central and northern-eastern areas (Girardin et al., 2015; Platform, 2020, pp. 1277-1278). Also, Yoruba ethnic groups are the ethnic groups located in the southern-western of Nigeria (Girardin et al., 2015; Platform, 2020, p. 1297). Igbo, Ogoni and Ijaw are the ethnic groups located in the southern-eastern of Nigeria (Girardin et al., 2015; Platform, 2020, p. 1297). Tiv ethnic group located in the central-eastern areas of Nigeria (Girardin et al., 2015; Platform, 2020, p. 1297). Lastly, Kanuri ethnic groups are the people who live in the northeast of Nigeria (Project, 2021). Also, in terms of ethnic fractionalization, according to Historical Index of Ethnic Fractionalization data, Nigeria's index mainly ranged from 0.851 to 0.868 in their history (from 1960 to 2013) which means that individuals in Nigeria do not belong to the same ethnic groups, but different ethnic groups (Drazanova, 2019; Fractionalization, 2019). There is also a match between EPR Dataset and Historical Index of Ethnic Fractionalization dataset since that these datasets shows that there are different ethnic groups in their countries. According to the fractionalization index by Alesina, Devleeschauwer, Easterly, Kurlat and Wacziarg, Nigeria's fractionalization data are 0.85, 0.85, 0.74 in ethnic, language, and religion, respectively, in 1983 (Alesina et al., 2003). This dataset also shows that Nigeria's fractionalization is very high in many different areas. This data also is coherent with the EPR Dataset.

In terms of political life and political events, this paper mainly follows the structure of EPR Atlas and EPR Dataset due to the fact that they are highly comprehensive and divide the political life and events in Nigeria effectively. After examining every political life and events, I will make assessments for the political horizontal inequality for the period of 1970-2009 in Nigeria. In the EPR Atlas, the first period is period begins with the end of the Biafran War (1970) and continues with the coup by General Murtala Mohammed and ends with the return of democracy by Olusegun Obasanjo in 1978 (Girardin et al., 2015; Platform, 2020, p. 1280). In this period, the Hausa-Fulani group were coded as "Senior Partner" in the EPR Dataset (Family, 2020; Vogt et al., 2015). Yoruba, Igbo, Ijaw and Tiv ethnic groups were coded as “Junior Partner” in the EPR Dataset (Family, 2020; Vogt et al., 2015). As EPR Atlas confirms, the second period starts with the elections in 1979 and ends with Buhari’s military coup in 1983 (Girardin et al., 2015; Platform, 2020, pp. 1280-1281). In this period, Hausa-Fulani groups were coded as “Senior Partner”, and Igbo group were coded as “Junior Partner” in the EPR Dataset (Family, 2020; Vogt et al., 2015). Also, Yoruba, Ijaw, Tiv and Ogoni groups were coded as “Powerless” in the EPR Dataset (Family, 2020; Vogt et al., 2015).

The third period starts after the coup by Buhari in 1983 and ends in 1991 (Girardin et al., 2015; Platform, 2020, pp. 1282-1283). In this period, according to EPR Dataset, Hausa-Fulani ethnic group was coded as “Dominant”, and the other groups Yoruba, Ijaw, Tiv and Ogoni and Yoruba, were coded as "Powerless" in these periods (Family, 2020; Vogt et al., 2015). The fourth period starts in 1992 and ends with the death of General Sani Abacha (Girardin et al., 2015; Platform, 2020, p. 1282). In this period, as Bach, Lebeau, and Amuwo mentioned, General Sani Abacha ruled the country between the years of 1993-1998 (Bach, Lebeau, & Amuwo, 2001). It should be expressed that Sani Abacha belongs to the Kanuri ethnic group (Girardin et al., 2015; Platform, 2020, p. 1281). Thus, although that Kanuri ethnic group was not coded in EPR Dataset, the Kanuri ethnic group played a significant role in Nigeria's political life. In this period, EPR Dataset shows that the Hausa-Fulani group coded as "Dominant" and the other groups Yoruba, Igbo and Tiv, were coded as "Powerless", and the Ogoni group was coded as "Discriminated" in the EPR Dataset (Family, 2020; Vogt et al., 2015). The

other period starts with the death of General Sani Abacha and ends in 2007 (Girardin et al., 2015; Platform, 2020, pp. 1282-1283). In this period, while the Hausa-Fulani and Igbo group was coded as "Junior Partner", the Yoruba ethnic group was coded as "Senior Partner" in the EPR Dataset (Family, 2020; Vogt et al., 2015). Also, while Tiv and Ogoni groups coded as "Powerless", Ijav was coded as "Discriminated" in this period (Family, 2020; Vogt et al., 2015). The last period starts in 2008 and ends in 2010 (Girardin et al., 2015; Platform, 2020, pp. 1284-1285). In this period, while the Hausa-Fulani group was coded as “Senior Partner”, Yoruba, Igbo, Ijaw ethnic group was coded as “Junior Partner” in the EPR Dataset (Family, 2020; Vogt et al., 2015). Also, Tiv and Ogoni groups coded as “Powerless” in this period (Family, 2020; Vogt et al., 2015). Also, there were significant politicians from the Kanuri people in these periods. For instance, Baba Gana Kingibe was the secretary of the Nigerian Government from 2007 to 2008 (Owlappsnet, 2021).

In the end, EPR Atlas suggested that many southern ethnic groups, Ijaw, Tiv, Igbo, Ogoni, did not play a role in political life (Girardin et al., 2015; Platform, 2020, pp. 1292-1295). More importantly, many of them were discriminated in different years between 1970-2009 in Nigeria (Girardin et al., 2015; Platform, 2020, pp. 1292-1295). Also, these findings suggested that people from the Hausa-Fulani ethnic group mainly dominated political life in Nigeria between 1970-2009. Besides, the results indicated that the Kanuri ethnic group played an essential role in some of the years in Nigeria. However, different sources confirmed that only the elite Hausa-Fulani and elite Kanuri people had political influence in Nigeria. (Family, 2020; Vogt et al., 2015). Ordinary Hausa-Fulani people and Kanuri people mainly did not affect political life in the examined period. Thus, it cannot be argued that northern people also played a significant influence on political life. Consequently, the findings showed that although that Hausa-Fulani group dominated the political life in Nigeria, only some of the elite northern people dominated political life. Therefore, since both the northern and southern groups also had a passive role in political life, all of the regions/ethnic groups had no or little influence in political life. Therefore, these findings suggested that political inequality was not based on the inequality between the ethnic groups/region but based on the class differences.

5.2.3.2) The Economic Horizontal Inequality in Nigeria

In the context of economic horizontal inequality in Nigeria, this chapter examines the poverty rates of the different regions in this period. Before examining the economic horizontal inequality, several points must be stressed. Firstly, the data availability of regional poverty starts in 1980. Thus, it is not possible to examine the 1970s in Nigeria. Secondly, the situation of the northeast region is especially critical since that this region is home to the Kanuri people and the Boko Haram insurgency.

According to the National Bureau of Statistics, the poverty rates were 13.2%, 12.9% and 13.4% in the south-south, south-east and south-west region in 1980 (N. B. o. Statistics, 2005, p. 22). On the other hand, the poverty rates were 32.2%, 35.6% and 37.7% in the north-central, north-east and north-western region in 1980 (N. B. o. Statistics, 2005, p. 22). As the poverty rates show, the northern regions were the poorest regions in 1980. In 1985, the poverty rates were 45.7%, 30.4% and 38.6% in the south-south, south-east and south-west regions (N. B. o. Statistics, 2005, p. 22). For the northern regions, the poverty rates were 50.8%, 54.9% and 52.1% for the north-central, north-east and north-western region in 1985 (N. B. o. Statistics, 2005, p. 22). Considering these rates, it can be argued that poverty increased in the southern region. Still, the poverty rates were quite high in the northern regions in 1985.

In 1992, the poverty rates were 40.8%, 41.0% and 43.1% in the south-south, south-east and south-west regions in Nigeria (N. B. o. Statistics, 2005, p. 22). On the other hand, the poverty rates were 46.0%, 54.0% and 36.5% in the north-central, north-east and north-western in 1992 (N. B. o. Statistics, 2005, p. 22). These results indicate that the northeast (home of the Boko Haram insurgency) had high poverty compared to the southern regions and other northern regions in 1992.

In 1996, the poverty rates were 58.2%, 53.5%, 60.9% in the south-south, south-east and south-west regions in Nigeria (N. B. o. Statistics, 2005, p. 22). For the northern regions, the situation was worse since that the poverty rates were 64.7%, 70.1% and 77.2% for the north-central, north-east and north-western in 1996 (N. B. o. Statistics, 2005, p. 22).

These results also show that the northern regions remained the worst regions in terms of high poverty.

In 2003/2004, the poverty rates were 35.1%, 26.7%, 43.0% in the south-south, south-east and south-west regions in Nigeria (N. B. o. Statistics, 2005, p. 22). The poverty rates were 67.0%, 72.2% and 71.2% in the north-central, north-east and north-western of Nigeria (N. B. o. Statistics, 2005, p. 22). As the percentages showed that while the situation improved in southern regions, poverty highly increased in the northern regions in 2003/2004. Also, it should be noted that the economic inequality became more severe and widened since that the gap (in terms of poverty level) between the northern regions and the southern regions was highly increased between the years of 1980-2004. The years of 2003/2004 was critical since that Boko Haram organized in 2002 and launched its first attack in December 2003 (Program, 2020c). In 2009/2010, the poverty rates were 67.5%, 59.1% and 63.7% in the south-east, south-west and south-south, respectively, in Nigeria (N. B. o. Statistics, 2012, p. 16). For the northern region, the poverty rates were 76.31% and 77.76% for the northeast and northwest of Nigeria in 2009/10 (N. B. o. Statistics, 2012, p. 16). These rates also show that the northern regions were the worst region in terms of poverty in 2009/2010.

Consequently, economic horizontal inequality was severe and persistent in the years 1980-2009. Three important points must be expressed. Firstly, although that the economic inequality (between the northern and southern) was decreased or remained stable between 1980 and 1996, there were always persistent and significant economic inequality between the northern and the southern regions in these periods. Secondly, the economic horizontal inequality was especially severe in 2003/2004 in Nigeria. While the poverty rate was 26.7% in the south-east, the poverty rate was 72.2% in the north-east (Boko Haram active region) of Nigeria in 2003/2004. Thirdly, the significant and persistent economic inequality between the northern and the southern regions existed between 2003 and 2010. In this period, although the economic horizontal inequality was decreased, economic inequality remained persistent and significant in Nigeria. Consequently, economic horizontal inequality was severe and persistent between 1980 and 2009.

5.2.3.3) The Social Horizontal Inequality in Nigeria

The social horizontal inequality was significant in Nigeria between 1970-2009. In this context, this chapter will examine the health and education conditions in different regions in Nigeria. Firstly, health conditions will be discussed. I will examine the child mortality rates of different regions to understand the health conditions in Nigeria. Nigeria Demographic and Health Surveys (1990, 1999, 2003, 2008) are reliable and useful resources to understand this relationship. Since the first Nigeria Demographic and Health Survey was conducted in 1990, the examined period will be 1990-2009. It should also be noted that while the regional child mortality rates will cover both the men and women, the regional educational attainment rates will only be based on the men due to the report structure. Still, since that most of the fighters are male, I do not think that this issue will affect the effectiveness of the results. More importantly, I will also summarize the conditions (in terms of educational attainment) for the woman at the end of this section.

According to the Nigeria Demographic and Health Survey 1990, the child mortality rates were 139.2%, 151.2%, 66.5% and 90.3% in the northeast, northwest, southeast and southwest in 1990 in Nigeria (F. O. o. Statistics & Inc., 1992, p. 80). As the rates demonstrate that the northern regions had high child mortality rates compared to the southern regions in Nigeria in 1990. In 1999, the child mortality rates were 104.1%, 115.1%, 65.6%, 33.9%, 35.5% in the northeast, northwest, southeast, southwest and central in Nigeria (N. N. P. Commission, 2000, p. 101). These rates also show that the child mortality rate was still quite higher than the southern regions and the central region. In 2003, the child mortality rates were 154%, 176%, 70%, 40%, 47%, 63% in northeast, northwest, north-central, southeast, southwest and south regions in Nigeria (N. N. P. Commission & Macro, 2004, p. 110). These rates also show that the northern regions had higher child mortality rates than the southern regions. It should also be noted that the gap between the northeast/northwest regions and the southeast/southwest had increased significantly through the years in Nigeria. In 2008, the child mortality rates were 126%, 139%, 62%, 64%, 58%, 32% in northeast, northwest, north-central, southeast, southwest and south regions in Nigeria (N. N. P. Commission & Macro,

2009, p. 121). Considering these rates, it is still evident that the child mortality rate was still high in the northern regions compared to the southern regions in Nigeria in 2008.

Overall, there are several results from these child mortality rates. Firstly, these findings suggested that child mortality rates remained quite high in the northern regions between 1990-2008. Secondly, the child mortality rates were higher in the northeast and north-west compared to the southern regions in the years of 1990-2008. Thus, there was a significant inequality in terms of child mortality between southern and the northern regions, and this inequality was persistent between the years of 1990-2008. Thirdly, the inequality (between the southern region and the northern regions) was widened between 1990-2008. This situation was especially demonstrated in 2003 and 2008. Consequently, the economic inequality between the southern and the northern regions was severe, persistent and widened between 1990-2008.

In terms of education, according to Nigeria Demographic and Health Survey 1990, proportions of men with no education were 65.5%, 72.8%, 26.8% and 17.8% in northeast, northwest, southeast and southwest in 1990 (F. O. o. Statistics & Inc., 1992, p. 14). These rates show that most men in the northern region could not receive proper education in Nigeria in the 1970s, 1980s and 1990s. On the other, most of the men were able to receive an education in the southern regions in the 1970s, 1980s and 1990s. In 1999, the proportions of men with no education were 50.1%, 51.6%, 25%, 9.1% and 12.9% in northeast, northwest, central, southeast and southwest in Nigeria (N. N. P. Commission, 2000, p. 16). Considering these rates, it can be still argued that the education conditions was quite better in the southern region compared to the education situation in the northern states. In 2003, the proportions of men with no education were 50.2%, 50.2%, 21.9%, 14.0%, 13.9% and 8.7% in northeast, northwest, central, southeast, southwest and south-south in Nigeria (N. N. P. Commission & Macro, 2004, p. 14). These rates also demonstrate that there was still a massive gap between the southern and the northern regions in the education situation in Nigeria. In 2008, proportions of men with no education were close to 53.1%, 48.8%, 25.3%, 11.1%, 12.8% and 7.5% in northeast, northwest, central, southeast, southwest and south-south in Nigeria (N. N. P. Commission & Macro, 2009, p. 16). These rates show that most

people in the northern region could not receive proper education in Nigeria in the 1970s, 1980s, 1990s and 2000s. On the other, most of the men were able to receive an education in the southern regions in the 1970s, 1980s and 1990s and 2000s.

Overall, there are several results from the proportions of persons (for men) with no education in Nigeria. Firstly, since that these rates reflect the education situation in the 1970s, 1980s, 1990s and 2000s (and even the older times), it can be argued that proportions of persons (men) with no education remained relatively high in the northern regions between 1970-2008. Secondly, the proportions of persons (for men) with no education were higher in the northeast and north-west compared to the southern regions. Thirdly, all of the reports also show that many northern women could not receive an education. On the other hand, the situation is different for the women located in the woman since that these women received a better and longer education (compare to the northern regions). Thus, there is significant inequality in terms of proportions of persons with no education between southern and the northern regions, and this inequality was persistent and severe between the period of 1970s-2008 (and even the older times). Consequently, the findings showed that the education inequality between the southern and the northern regions was severe and persistent between 1970-2008.

5.3) How the Natural Disasters Affected the Conflict Dynamics Through Affecting the Horizontal Inequalities: Malawi, Mozambique and Nigeria

In this chapter, I analyse do climate-related natural disasters affect the conflict dynamics by affecting the horizontal inequalities in Malawi, Mozambique and Nigeria. In the theoretical framework, I argued that the natural disasters, by worsening the HIs, seems to contribute to the creation of feelings of injustice and the collective motivation, which in turn seems to contribute to the mobilization and increased the risk of conflict in Malawi, Mozambique and Nigeria. Also, I had country-specific arguments considering the mechanism expressed above. It should be noted that this thesis does not focusing on the causal relationships, but mainly focusing on the contributing factors. Besides, it should be express that this mechanism does not based on the strong linkages, but rather weak linkages. Therefore, I am mainly observing the relationship/mechanism and this relationship/mechanism should not be generalized. In the context of Mozambique, I specifically argued that the natural disasters, by worsening the HIs, seems to contribute

to the maintenance of the feeling of injustice and collective motivation, which in turn seems to contribute to the mobilization of the central/northern people under the RENAMO rebel group and increased the risk of conflict. In the context of Nigeria, I argued that the natural disasters, by worsening the HIs, seems to contribute to the creation of the feeling of injustice and collective motivation, which in turn seems to contribute to the mobilization of the northern groups under the Boko Haram group and increased the risk of conflict. In the context of Malawi, I argued that natural disasters, by worsening the HIs, seems to contribute to the creation of the feeling of injustice and collective motivation, which in turn seems to contribute to the mobilization and increased the risk of conflict in Malawi. Also, I argued that despite natural disasters increased HIs and feelings of injustice, there were low-level horizontal inequalities, and this situation seems to prevent the creation of the collective motivation and the mobilization of the deprived southern group. In this analysis, I examine these cases considering the mechanism.

5.3.1) Malawi

In this section, I examine do climate-related natural disasters affected the conflict dynamics by affecting the horizontal inequalities in Malawi between 1994-2019. In the theoretical framework, I argued that natural disasters increase the risk of conflict in Malawi by worsening HIs. On the contrary to my expectations, the findings suggested that natural disasters did not seemed to increase the risk of conflict despite that natural disasters worsened HIs. Thus, I express how the natural disasters did not seemed to increase the risk of conflict by worsening HIs in Malawi between 1994-2019. As the mechanism in Figure 3 shows, natural disasters seemed to increased the horizontal inequalities by highly worsening the economic and social conditions of the southern region and less affecting the conditions of the central and northern region. Still, the findings express that this situation (the increase in HIs) did not increase the feelings of injustice of the southern people in considerable levels. As I express later in detail, a great majority of the southern people think that they were treated fairly even after the three severe disasters which worsened HIs in Malawi. Thus, the findings suggest that there were low-level feelings of injustice among the southern people. Thus, I suggest that there was no contribution to collective motivation, mobilization and the risk of conflict. In general, my expectations were not confirmed due to the fact that increased

HIs (contributed by disasters) did not increase the feelings of injustice among the deprived southern groups.

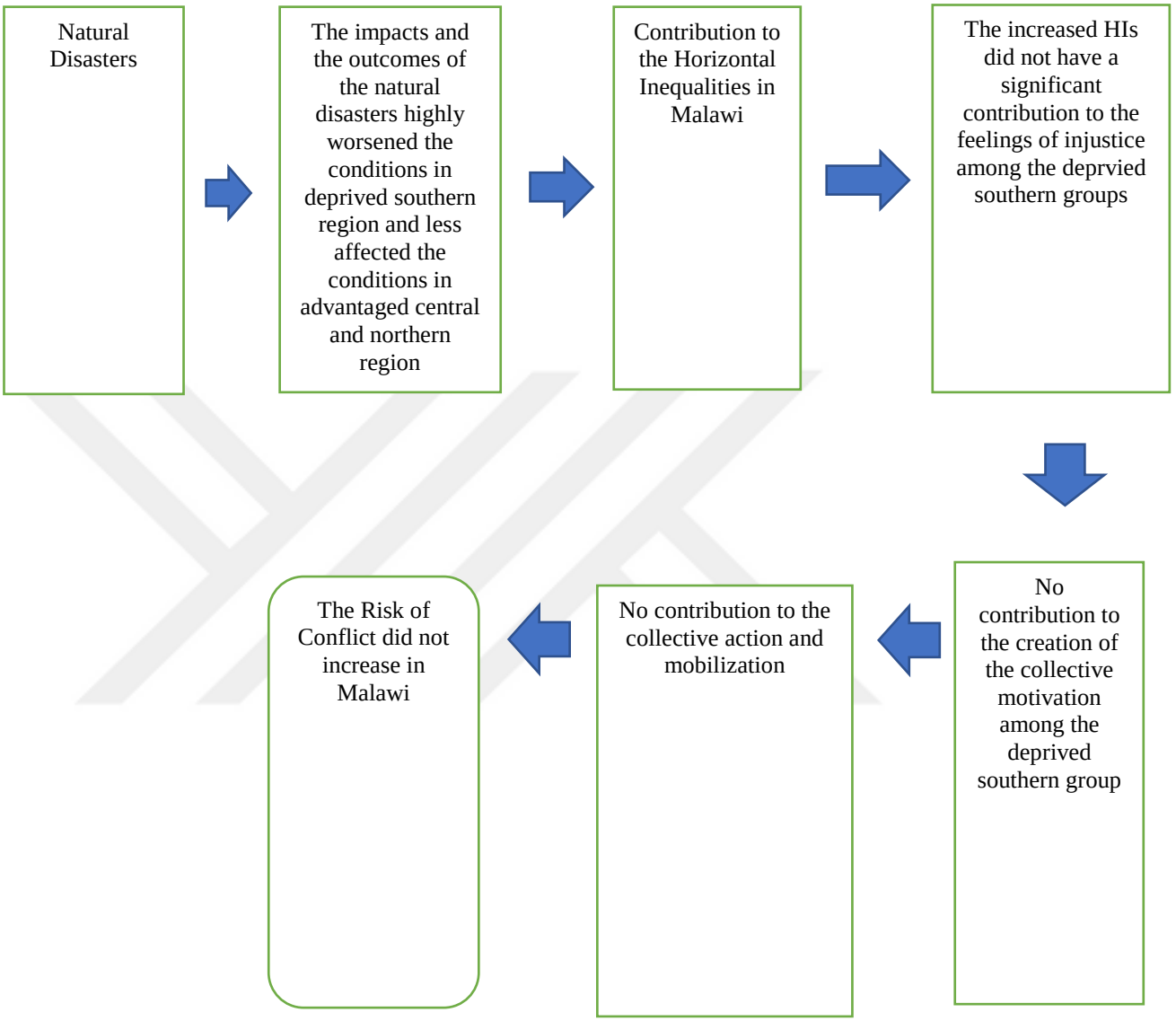

Figure 3: How the Natural Disasters Did Not Increase the Risk of Conflict By Worsening Horizontal Inequalities in Malawi between 1994-2019?

In addition, my findings suggest that there were low-level of horizontal inequalities despite that natural disasters increased the horizontal inequalities. I suggest that these low-levels of horizontal inequalities seemed to prevented the creation of the high-level

feelings of injustice and collective motivation, and mobilization among the southern people. Thus, I suggest that the low level of horizontal inequalities is one of the important reasons for the peace condition in Malawi. Also, my findings suggest that there were within-group inequalities, and these inequalities also prevented the creation of collective motivation among the deprived southern groups in Malawi. As I express later in detail, the same ethnic groups lived in both advantaged and disadvantaged regions in Malawi. Therefore, I express that there was no collective motivation among these ethnic groups. Thus, I express that within-region inequality played an important part in the peace conditions in Malawi. Considering this discussion, firstly, I will examine how the natural disasters did not increase the risk of conflict by worsening HIs in Malawi between 1994 to 2019. Secondly, I will summarize the low-level HIs and within-group inequalities and their impact on the peace conditions in Malawi.

5.3.1.1) How did Natural Disaster Did not Increase the Risk of Conflict by Worsening the HIs?

In this section, I examine how natural disasters did not increase the risk of conflict despite natural disasters worsened HIs in Malawi. To explain this relationship, I follow the mechanism (based on the contributing factors) that expressed in Figure 3, and I express every step and their connections.

Step 1 to Step 2: How the Natural Disasters Worsened the Horizontal Inequalities in Malawi?

As expressed in the mechanism in Figure 3, the natural disaster seemed to worsened the HIs by highly worsening the conditions in the deprived southern region and less worsening the conditions in the advantaged central and northern region. In this section, I want to explain this relationship by focusing on the impact of natural disasters on the central, southern and northern region of Malawi. Also, I also discuss the pre-disaster responses and three elements of disasters risk due to the fact that they are playing an important factor in why one region is more affected than the other region.

My findings show that 1997 Floods, 2001 Floods, 2002 Drought, 2002/2003 Floods, 2005/2006 Droughts, 2007 Floods, 2007 Drought, 2011/2012 Droughts, 2014/2015

Floods, 2015/2017 Droughts, and 2019 Floods were the 11 large-scale natural disasters that occurred in Malawi in 1994-2019. The EM-DAT database and my previous results show that the southern region experienced all of these 11 disasters in this period. As examined in the first chapter, there were a significant amount of economic and social losses due to these disasters in the southern region. On the other hand, as examined in the first chapter, the central/northern region only experienced some of these disasters. There were also significant economic and social losses in the central/northern region. Still, the findings demonstrate that the southern region experienced more severe and frequent disasters compare to the central/northern regions. I would like to discuss this relationship specifically in the context of droughts and floods in Malawi.

In terms of droughts, my findings suggest that the southern regions experienced more frequent and severe droughts compare to the central and northern region of Malawi. In this context, 2002 drought, 2005/2006 droughts, 2011/2012 droughts, and 2015/2017 droughts were highly severe for the southern region, especially for Chikwawa, Nsanje and Balaka districts. As examined in the first section, these droughts caused a significant amount of crop and livestock losses in the affected southern districts. Since many people depend on agriculture as their main source of livelihoods in the southern region, these high amounts of crop losses and livestock losses were highly severe for the households in the southern region. Among these droughts, 2015/2017 droughts and 2005 drought were highly severe since these two droughts affected 12 million people, mostly living in the southern region. For the other regions, while the northern region was not mainly affected by the droughts, the central region was mainly affected by the 2005/2006 droughts, 2011/2012 droughts and 2015/2017 droughts. In the central region, there were also many poor people who depend on agriculture as their source of livelihoods. Thus, these crop losses and livestock losses also affected these people severely. Still, as examined in the first chapter, the impacts and the outcomes were more severe in the southern region compared to the northern and the central region of Malawi.

In the context of the floods, my findings suggest that there were more frequent and severe floods in the southern regions compare to the northern/central regions of Malawi.

In this context, 1997 Floods, 2001 Floods, 2002/2003 Floods, 2007 Floods, 2014/15 Floods, and 2019 Floods were severe for the southern region, especially for the districts of Nsanje, Balaka, Phalombe, and Chikwawa. As examined previously, these floods caused massive impacts on the southern region by destroying many crops, houses, schools, hospitals, materials, infrastructure, and other services. Specifically, the floods destroyed many crops of agricultural households in the affected southern areas. Thus, these people lost a significant amount of income due to the floods in the southern areas. Due to the impact of floods, many poor people lost their homes and their assets in the affected southern areas. Therefore, the crop losses and damaged/destroyed houses affected the economic conditions of these people in the affected southern areas. Thus, I suggest that the economic conditions were highly worsened in the southern affected areas. In addition to the worsening economic conditions, my findings suggest that food security was affected negatively due to the crop/food losses and the worsening economic conditions in the affected southern areas. Also, the floods had significant social consequences in the southern region. To explain, in terms of education, there were many destroyed educational facilities and materials in the southern districts. Therefore, it can be argued that long-term literacy can be affected negatively since that many children could not receive an adequate education due to the destroyed facilities and materials. In terms of health, many hospitals and health materials were destroyed in the southern areas. This situation might also affect the quality of the treatment and health services negatively. Also, there were flood-related diseases in the southern areas. Thus, this situation also affected the health conditions negatively in the affected southern areas. In terms of other public services, floods damaged many electricity systems, water system, roads, bridges and railways in the affected areas. Therefore, the quality of the public services was affected negatively by the floods.

Among the floods, 2019 Floods was highly severe since that it directly affected around 1 million people and destroyed a significant amount of crop and houses, especially in the southern districts of Nsanje, Balaka, Phalombe, Chikwawa and Zomba. Also, the 1997 Floods was highly severe since the 1997 floods affected 400,000 people only in the southern districts of Chikwawa and Nsanje. As examined in the first chapter, the floods caused a significant amount of crop losses and asset losses in Chikwawa and

Nsanje. Considering this discussion, I suggest that the economic and social conditions were worsened by the floods in the southern districts in Malawi between 1994-2019. For the other regions, the central and some of the northern districts experienced the 2001 Floods, 2002/2003 Floods, 2007 Floods, 2014/15 Floods and 2019 Floods. These central and northern districts also had economic and social losses due to these floods. Still, as explained in the first chapter, the impact and the outcomes of these floods were more severe in the southern region compared to the northern and central people. As explained in the first chapter, there were more affected people, and asset losses in the southern districts compare to the central and northern region. Thus, my findings suggest that while the floods highly affected the conditions in the southern region, these floods have a lesser impact on the northern and central districts.

In the context of disaster risk, as mentioned previously, there were three elements of the disaster risk, which are the hazard risk, exposure and vulnerability. In this qualitative research, it is difficult to assess the hazard risk. Still, the vulnerability (of the affected areas) was deeply covered in the first chapter. Also, the first chapter presented important details on the exposure of the affected areas. As expressed previously, all of the regions had a high vulnerability to natural disasters due to two reasons. Firstly, all of the regions had a high dependence on agriculture as their main source of livelihoods. Secondly, all of the regions had bad economic, health and education conditions. Therefore, all of the regions had a high vulnerability to natural disasters in Malawi. Thus, my findings suggest that these severe impacts and the outcomes were related to the high vulnerability of these regions in Malawi. Specifically, my previous findings supported that the southern regions had higher vulnerability compared to northern and the central regions. As expressed previously, the southern districts were the poorest areas in Malawi. Also, there was a high dependence on agriculture in the southern region of Malawi, according to the findings in the first chapter. In terms of other regions, the central/northern regions were also highly poor in Malawi. Also, these regions had a high dependence on agriculture for their income. It should be noted that there were no important differences between the southern, central and northern regions in terms of vulnerability. Still, the southern region had higher vulnerability compared to the other regions due to its poor economic conditions. Thus, I suggest that this

imbalance (on vulnerability) is one of the reasons why the impact of the disasters was more severe in the southern region compared to the other regions. Also, it should be noted that other reasons might be related to other disaster risks, which are hazard risk and exposure.

In terms of exposure, different sources confirmed that the southern region had the highest population, and there were many significant agricultural/non-agricultural assets and cities such as Blantyre (Benson, Mabiso, & Nankhuni, 2016; Database, 2021c; N. S. Office, 2019). Thus, the exposure was high in the southern region. For the northern region, different sources confirm that the population was quite low, and there were less valuable assets in the northern region compared to the southern region (Benson et al., 2016; Database, 2021c; N. S. Office, 2019). To explain, there were fewer agricultural/non-agricultural assets and smaller cities in the northern region compared to the central and southern region (Benson et al., 2016; Database, 2021c; N. S. Office, 2019). In terms of population, the population of the northern region was less than half of the population of the southern region (N. S. Office, 2019). Considering the assets and population, I suggest that the exposure of the northern region was lower compare to the southern region. For the central region, the exposure was similar to the southern regions since that central region had a similar population, agricultural/non-agricultural assets with the southern region (Benson et al., 2016; Database, 2021c; N. S. Office, 2019). In terms of hazard risk, it is difficult to assess the hazard risk in this qualitative research. Still, GFDRR report confirm that many hazards occurred in the southern regions compared to the northern and central region (GFDRR, 2019). In the end, I suggest that the high vulnerability (together with higher hazard risk and higher exposure) is one of the reasons why natural disasters affected the southern regions more severely compared to the northern and the central regions. Also, since the southern regions were affected more severely due to their higher vulnerability, there were more worsening economic and social conditions in the southern region compared to the northern and central regions.

In terms of disaster preparedness, pre-disaster response, and post-disaster responses, my findings support that there were no discriminative responses in all of the disasters in

Malawi. However, my findings indicate that disaster preparedness, pre-disaster, and post-disaster responses were weak in all of the regions of Malawi. Still, it should be noted that there was a significant development in terms of disaster preparedness and management in Malawi through the years. I suggest that this weak disaster preparedness and inadequate responses increased the impact of the disasters on the affected areas. For instance, as expressed previously, people died due to the inadequate relief of food supplies and materials. As a different example, people lived without their homes due to insufficient reconstruction materials. Since the southern region experienced more severe disasters than the other regions, the southern region felt this inadequate disaster preparedness and responses more than other regions. In the end, many southern people felt the effects of disaster even more severely due to the weak disaster preparedness and responses. The northern and central regions also were affected by these ineffective disaster responses. Nevertheless, there were less frequent and less severe disasters in the northern and central regions compared to the southern region. Thus, I express that weak disaster responses had more impact and importance on the southern regions compare to the northern/central region.

In the context of natural disasters and horizontal inequalities, it should be summarized that the southern region experienced more frequent and severe disasters (both drought and floods) compared to the northern and central region. As my findings show, there were more disaster-related crop losses, livestock losses, damaged/destroyed houses, damaged schools/hospitals, systems and infrastructure in the southern region compared to the central/northern regions. Due to these impacts, the economic and social conditions were affected more severely in the southern region compared to the northern/central regions. Thus, I express that while natural disasters highly worsened the economic and social conditions of the southern region, they did not really affect the economic and social conditions of the northern and central regions in Malawi. Therefore, I suggest that natural disasters increased the economic and social HIs in Malawi by highly worsening the economic and social conditions in the southern region and did not really affect the economic and social conditions in the central and northern region. Specifically, the southern region was always the most disadvantaged region in Malawi, and these disasters increased the economic and social gap between the

central/northern and the southern regions. As expressed above, there were more economical and social losses among the southern households compared to the central/northern people. Thus, the already deprived and disadvantaged southern people were further driven into poverty due to the immense impact of these disasters. Since that the central and northern households were less affected compared to the southern region in terms of economics, I express that the economic gap (between southern and northern/central) was increased due to the disasters. Also, there were more problematic public services and conditions in the southern region compared to the central/northern areas. I express that the impact of natural disasters even further increased the gap (socially) between the southern and the central/northern areas since there were more social losses (worsening education and health conditions) in the southern region compared to the northern and central region.

From a different perspective, I also suggest that natural disasters highly damaged the economic and social development of the southern regions compared to the northern/central regions. Therefore, I suggest that natural disasters decelerated the southern regions' pace to reach out to the northern and central regions' economic and social standards. As a result, natural disasters also prevented a reduction in horizontal inequalities in Malawi. Therefore, it can be argued that while natural disasters increase the horizontal inequalities, they also prevented a reduction in horizontal inequalities in Malawi. Due to their importance, the disaster risk and the pre/post disasters need to be discussed in the context of horizontal inequalities. In terms of disaster risk, as expressed previously, high vulnerability (together with high hazard risk and high exposure) is one of the reasons why the natural disasters affected the southern regions more severely compared to the northern and the central region. Since the southern regions were affected more severely due to their higher vulnerability, there were more worsened economic and social conditions in the southern region compared to the northern and central regions. Thus, I think that this imbalance (in vulnerability) worsened the horizontal inequalities in Malawi. In terms of pre/post-disaster responses, as expressed previously, many southern people felt the effects of disaster even more severely due to the weak disaster preparedness and responses. The northern and central regions were also affected by these ineffective disaster responses. Nevertheless, there were less

frequent and severe disasters in the northern and central regions. Therefore, I suggest that the weak disaster responses had more impact and importance on the southern regions compared to the northern/central region. In the end, I suggest that the weak and adequate pre/post-disaster responses contributed to the horizontal inequalities since weak disaster responses increased the impact of the disasters in the southern region.

Step 2 to Step 5: How did Worsened Horizontal Inequalities did not Contribute to Feelings of Injustice, Collective Motivation, Mobilization and Risk of Conflict in Malawi?

In the previous section, I expressed that natural disaster seemed to worsened HIs by highly worsening the conditions in the southern region and less worsening the conditions in the central and northern region in Malawi. Still, my findings suggest that this situation (the increase in HIs) did not seems to increase the feelings of injustice among the southern people in Malawi. In other words, despite the natural disasters increased horizontal inequalities, these increased horizontal inequalities did not increase the feeling of injustice among the southern people significantly. I want to explain this situation in detail. As mentioned previously, Malawi experienced devastating droughts in 2005, 2012 and 2015. These droughts affected millions of people, and most of these people were located in the southern region. These droughts highly worsened the conditions in the southern region and less affected the conditions in the central and northern region. Thus, I suggest that the horizontal inequalities were affected negatively due to these severe disasters mostly felt in the southern region. Indeed, as expressed previously, the southern region remained as the worst-performing region in Malawi in economic and social conditions. Still, Afrobarometer R4 2008/2009 data show that 65% of the southern people feel that government treats them fairly in the period of 2008-2009 in some levels. Also, Afrobarometer R6 2014/2015 data shows that 52.3% of the southern people think that they were treated fairly by the government in the period 2014-2015 (Data, 2015). Also, Afrobarometer R7 2016/2018 data shows that around 74% of the southern people think that the government treats them fairly in the period of 2016-2018 (Data, 2018). Even after the severe disasters (in 2005, 2012, 2015), which worsened the horizontal inequalities, the high majority of the southern people did not think that there is an injustice in Malawi (Data, 2009, 2013, 2015, 2018). Thus, I suggest that increased HIs (contributed by natural disasters) did not increase the feelings

of injustice among the southern people at a significant level in Malawi. Therefore, I suggest that there was no contribution to the creation of collective motivation, mobilization and the risk of conflict due to the reasons expressed above. In the end, despite that the natural disasters worsened the HIs, this situation did not cause a high level of feelings of injustice among the deprived southern people. Thus, the result suggests that the natural disasters did not seems to increase the risk of conflict despite that the natural disasters seemed to worsened the HIs in Malawi.

5.3.1.2) How did Low-Level Horizontal Inequalities and High-Level Within-Group Inequalities Support the Peace Conditions in Malawi?

According to UCDP, Malawi did not experience any conflict between 1994-2019. In the theoretical framework, I argued that there were low-level horizontal inequalities, and these low-level horizontal inequalities played an important role in these peace conditions in Malawi. My results also support that there were low-level horizontal inequalities and these low-level horizontal inequalities seemed to played an important part in the peace conditions in Malawi. As expressed in the second chapter, despite that southern people were the most disadvantaged groups, there were no severe, persistent and widened in Malawi. Thus, I suggest that there were low-level feelings of injustice among the southern people due to the low-level horizontal inequalities. As an important note, as expressed in the previous section, even the increase in HIs (caused by severe natural disasters) did not seems to increase the feelings of injustice considerably in Malawi.

In the context of horizontal inequality, there were issues in political horizontal inequality in the country between 1994 and 2019. As mentioned previously, the political power was mainly concentrated in one region and within particular families. Despite this issue, there were always different strategies and mechanisms which decreased the level of this political horizontal inequality, as expressed previously. In terms of economically and socially, there were no significant economic and social horizontal inequalities in Malawi. As expressed previously, economic, health and education conditions were highly similar in all of the regions in Malawi. More importantly, despite the fact that the southern groups were the most disadvantaged groups in Malawi,

there was only a small gap between the southern-central-northern regions, and this gap continuously decreased between 1994-2019 in Malawi.

Considering the discussion above, I suggest that there were not severe and widened political, economic and social HIs in Malawi between 1994-2019. In other words, the northern, southern, and central ethnic groups had highly similar political, economic and social conditions between 1994-2019. Thus, I suggest that it would be difficult for an ethnic group to feel injustice against another ethnic group since they are in similar conditions in Malawi. As an evidence, according to the Afrobarometer R4 2008/2009, around 65% of the southern people thinks that they were treated fairly by the government in the period of 2008/09 (Data, 2009). Also, according to Afrobarometer R5 2011/2013 , 62% of the southern people think that they were treated fairly by the government in the period of 2011/13 (Data, 2013). These results showed that the feelings of injustice remained similar between 2008-2013. Also, according to the Afrobarometer R6 2014/2015, around 52% of the southern people thinks that they were treated fairly by the government in the period 2014/15 (Data, 2015). Moreover, according to Afrobarometer R7 2016/2018, around 73% of the southern people thinks that the government treats them fairly in Malawi in the period of 2016-2018 (Data, 2018). These results indicated that a great majority of southern people thinks that there is no injustice in Malawi. This suggests that there were a low feeling of injustice among the deprived southern people against other people or the government. Thus, I suggest that this low level of horizontal inequalities is one of the important factors which prevented the creation of collective motivation in Malawi. Therefore, I suggest this situation is one of the important reasons why there is no mobilization and collective action among the southern people in Malawi.

In addition, the findings also suggest that there were within-group/region inequalities in Malawi, and I suggest that this situation also seemed to prevented the creation of the collective motive among the deprived groups. Although most disadvantaged groups are southern region/southern ethnic groups in terms of economically and socially, some of the southern cities/people are advantaged, and the same southern ethnic groups lived in disadvantaged areas and most advantaged areas in Malawi. For instance, Phalamombe,

Machinga and Mulanje were disadvantaged southern areas, whereas Blantyre and Thyolo were advantaged areas in the southern region. The southern Lomwe ethnic group lived in both these advantaged and disadvantaged areas. Thus, I suggest the collective motive cannot be produced among the Lomwe ethnic group since some of the Lomwe groups lived in advantaged areas, and some of the other Lomwe groups lived in disadvantaged areas. In terms of central and northern groups in Malawi, many of the central ethnic groups/northern groups were living in high poverty, bad education and health conditions in Malawi, as expressed previously. Still, there are advantaged cities and areas in the central and northern regions. In the context of the central regions, while Dowa and Msinji (central areas) were disadvantaged areas, Kasungu and Nkhotata (central areas) were advantaged areas in Malawi. The central Chewa ethnic group lived in both in these advantaged and disadvantaged areas. In the northern regions, while Karonga and Mizima were disadvantaged areas, Rumphi was an advantaged area. The northern Tumbuko ethnic group lived in both of these advantaged and disadvantaged areas. Thus, the people belonging to the same ethnic group/region lived in both advantaged areas and disadvantaged areas in the northern and central regions. Consequently, I think that the collective motive (among the northern group) cannot be produced due to this reason. To sum up, there were significant within-region inequalities in Malawi, and I suggest that this situation seemed to prevented the creation of collective motivation among the deprived groups. It should also be noted that this situation is not the sole reasons for the lack of collective motivation in Malawi but one of the contributors to the lack of collective motivation.

Consequently, there are nine interlinked findings in the context of the relationship between natural disasters-horizontal inequalities-conflict in Malawi. Firstly, my findings suggest that natural disasters seemed to worsened the horizontal inequalities by highly worsening the economic and social conditions of the southern region and less worsening the central and northern region of Malawi. Secondly, despite the fact that natural disasters seemed to worsened the horizontal inequalities, this situation did not increase the feelings of injustice among the southern people in Malawi. Therefore, thirdly, natural disasters did not seems to contribute to the collective motivation, mobilization and the risk of conflict in Malawi. Fourthly, despite the fact that natural disasters

seemed to worsened the horizontal inequalities, there were no significant and persistent horizontal inequalities in Malawi between 1994-2019. Fifthly, there were also significant within-region inequalities in Malawi. Sixthly, many southern people did not feel injustice and frustration towards other groups or the government since that there were low-level of horizontal inequalities and within-region inequality. Therefore, seventhly, I suggest that the collective motivation could not be created due to the low horizontal inequalities and within-region inequalities in Malawi. Eighthly, I suggest that the collective action dilemma could not be solved due to the non-existence (or low level) of the collective motivation among the southern people. Therefore, lastly, I suggest that the low horizontal inequalities and within-region inequalities seemed to played a significant role in keeping the peace in Malawi by preventing the creation of the collective motivation and mobilization in Malawi between 1994-2019.

5.3.2) Mozambique

This section will explain how natural disasters affected the conflict dynamics in Mozambique between 1994-2013. Before focusing on the mechanism and the other results, it is important to highlight one point. As mentioned previously, FRELIMO and RENAMO had a conflict with each other between 1977-1992. In this context, Stewart explained that different reasons shaped the 1977-1992 war. However, Stewart expressed that the persistent and severe horizontal inequalities were one of the important reasons for this 1977-1992 war in Mozambique. Thus, I suggest that there was already some level of collective motivation among the RENAMO based central/northern people between 1992-2013. Therefore, the natural disaster-HIs-conflict relationship needs to be discussed by considering this collective motivation among the central/northern people.

In this section, I examine do natural disasters affect the conflict dynamics by affecting the horizontal inequalities in Mozambique. In the theoretical framework, I argued that natural disasters, by worsening the HIs, seemed to contributed to the mobilization of the central/northern people under the RENAMO Rebel groups and increased the risk of conflict in Mozambique. On contrary to my expectations, the findings suggested that natural disasters did not seems to contribute to the creation of the RENAMO Rebel group and did not increase the risk of conflict between 1994-2019. As the mechanism in Figure 4 shows, natural disasters did not seems to contribute to the mobilization of the

central and northern people under the RENAMO Rebel group and did not seems to increase the risk of conflict due to the fact that natural disasters worsened the economic and social conditions of the central, northern, and southern region in a similar level. By not affecting the horizontal inequalities, I suggest that the natural disasters did not seems to contribute to the maintenance of the feeling of injustice and the collective motivation among the central/northern groups. Therefore, it seems that there was no contribution to the mobilization of the central and northern people under the RENAMO rebels. In general, my expectations were not confirmed due to the fact that natural disasters did not increase the horizontal inequalities in Mozambique.

In addition to this mechanism, my findings also suggest that there were severe and persistent horizontal inequalities, and these severe horizontal inequalities seemed to contributed to the maintenance of the collective motivation and contributed to the mobilization of the central and northern people under the RENAMO rebel group in Mozambique. Considering this discussion, firstly, I will examine the relationship, which expresses how natural disasters did not contribute to the creation of the RENAMO Rebel Group and did not increase the risk of conflict in Mozambique. Secondly, I express how the severe and persistent HIs seemed to played an important role in the creation of the RENAMO rebel group.

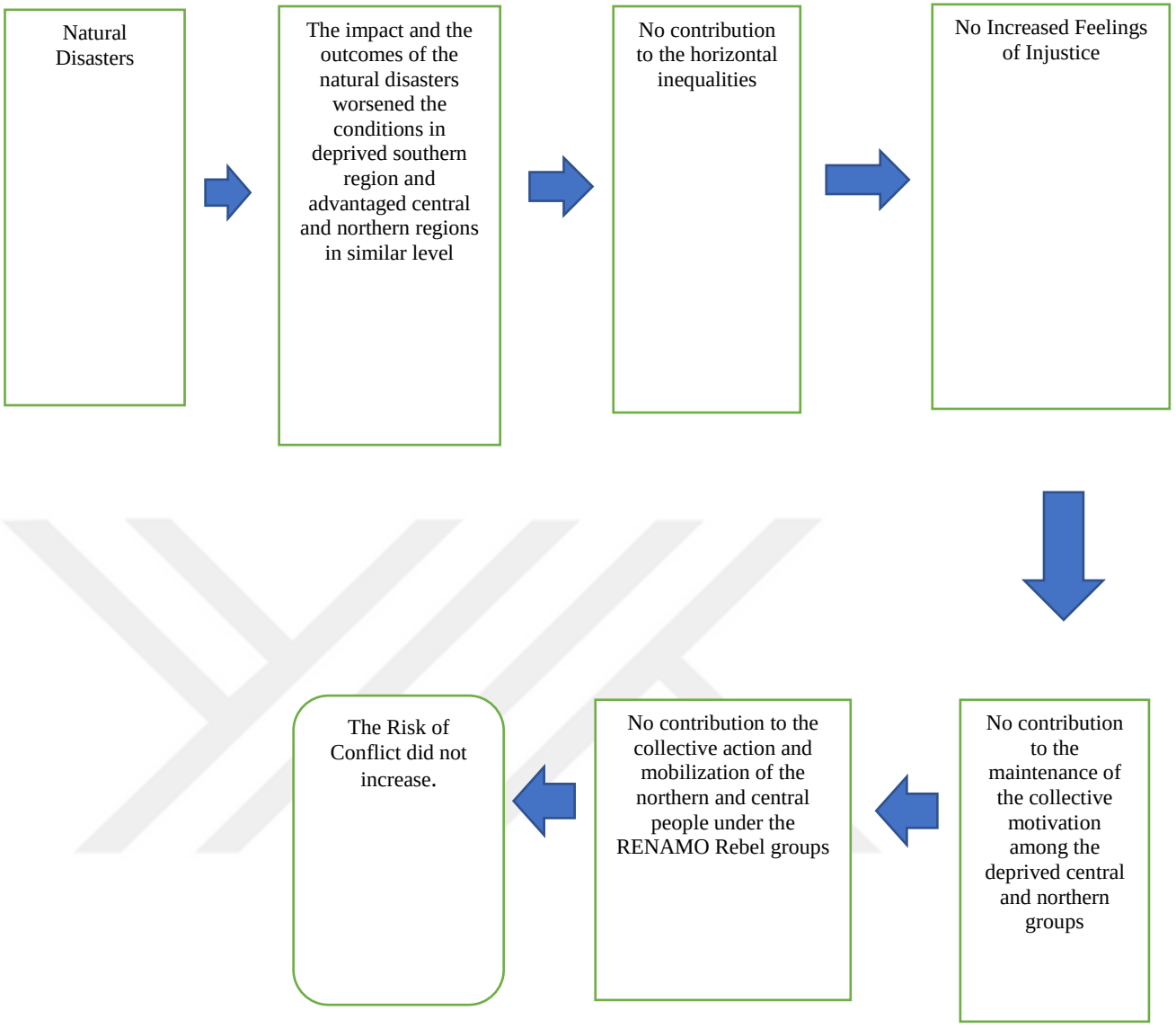

Figure 4: How the Natural Disasters Did Not Contribute to the Mobilization of the Central/Northern People Under the RENAMO Rebel Group and Did not Increase the Risk of Conflict in Mozambique between 1992-2013?

5.3.2.1) How Natural Disasters Did Not Contribute to the Mobilization of the Central/Northern People under the Renamo Rebel Group and Did not Increase the Risk of Conflict by not Affecting the Horizontal Inequalities in Mozambique between 1992-2013?

In this section, I examine how natural disasters did not increase the risk of conflict by not affecting HIs in Mozambique. To explain this relationship, I follow the mechanism expressed in Figure 4 and discuss every step and their connections.

The findings suggest that natural disasters affected the economic and social conditions of the northern, central and southern region at a similar level. My findings show that 1994 Cyclone Nadia, 1996 Cyclone Bonita, 1997 Floods, 2001 Floods, 2003 Floods, 2007 Cyclone Favio/Floods, and 2008 Cyclone Jokwe were the seven large-scale natural disasters that affected the northern/central regions of Mozambique. Also, 2000 Floods, 2001/2002 Droughts, 2005/2007 Droughts, 2010 Drought, and 2013 Floods were the seven large-scale natural disasters that affected the southern regions of Mozambique. As the number of natural disasters shows, there was no significant difference in terms of the frequency of the natural disasters in the northern/central regions and the southern region. In terms of its impact, my previous findings confirmed that the number of total affected people and the outcomes of the natural disasters were similar in the southern and the northern/central region. As the EM-DAT database confirmed, while more than 7 million southern people were affected by natural disasters (in 1992-2013), more than 5 million central and northern people were affected by the natural disasters in the period of 1992-2013 in Mozambique (EM-DAT, 2021). Also, as explained previously, the economic conditions, health conditions, education conditions, and food security were worsened at a similar level in every region in the period of 1992-2013. In the end, the frequency and the impacts of the natural disasters were similar in the central/northern and southern region. I would like to discuss this relationship specifically in the context of droughts, storms and floods in Mozambique.

In the context of droughts, my findings suggest that droughts had more severe impacts in the southern region compared to the central and northern region. 2001/2002 droughts, 2005/06/07 droughts, 2008 drought, and 2010 drought highly affected the southern

region between 1992-2013. These droughts affected around 4 million people in Mozambique. Also, most of these people were located in the southern region of Mozambique. Among these droughts, the 2001 drought and 2005/06/07 droughts were highly severe since these droughts affected around 2 million people in the southern region. As expressed in the first chapter, all of these droughts (2001/2002 drought, 2005/06/07 droughts, 2008 drought, 2010 drought) caused a significant amount of crop losses, food losses, and livestock losses in the southern areas of Mozambique. Due to these crops, food, and livestock losses, many households' economic conditions were affected negatively. As mentioned previously, many people depend on agriculture in the southern areas as their main source of livelihoods. Thus, these crop losses highly affected the economic conditions of these people. Due to its low vulnerability against droughts, Maputo city was less affected by these crop losses compared to other southern areas: Gaza, Inhambane, and Maputo rural areas. However, Inhambane, Gaza, and Maputo rural areas were the areas that highly affected by these droughts due to their high dependence on agriculture. Furthermore, previous results showed that these crop losses and food losses highly affected food security in the southern regions, especially in Gaza, Inhambane, and Maputo rural areas. As expressed previously, food security was already problematic in the southern region. The findings showed that these droughts created even more food insecurity for the people in the affected areas. As a result, the economic and social conditions (in the southern region) were highly affected due to these crop losses, food losses, and livestock caused by droughts. In terms of the central and northern regions, the findings suggest that the central/northern regions were affected by the 2001/2002 drought, 2003 drought, 2005/06/07 droughts, and 2008 drought in Mozambique. There were also severe crop losses, livestock losses, and food losses in the central/northern region. Since many people depend on agriculture as their main source of livelihoods, the economic conditions were mainly affected negatively in the central/northern regions. My findings also support that food security was negatively affected by these crop and food losses in the central/northern regions. Still, the findings supported that all of these droughts (except the 2003 drought) were more severe in the southern region than the central/northern region. Thus, it should be expressed that the droughts caused a more severe impact in the southern region compared to the central/northern regions in Mozambique.

In the context of storms, my findings suggest that the cyclones had more impact in the central/northern region compare to the southern region of Mozambique. To explain, Cyclone Nadia, Cyclone Bonita, and Cyclone Jokwe were the large-scale cyclones that affected the central/northern regions. These three cyclones affected around 3 million people living in the northern/central regions. Among these cyclones, Cyclone Nadia was highly severe for the central/northern regions, especially for Nampula. Regarding the impact, my findings found two economic consequences of these cyclones in the central/northern regions. The cyclones caused immense economic consequences by damaging the houses/assets and agricultural outputs in the central/northern areas. As expressed previously, many people depend on agriculture as their main source of income in the central/northern areas. Thus, the crop losses and damaged farmlands (caused by cyclones) caused significant economic losses for the agricultural people in the central/northern areas. Also, the cyclones destroyed or damaged many houses/assets in the central/northern areas. Thus, many people lost their possessions and houses in these affected areas. Therefore, their economic conditions were highly affected negatively by these losses. In addition to the economic consequences, my findings also suggested that these floods caused significant problems in food, health, education, and public conditions in the central/northern areas. As expressed previously, food security was affected negatively due to crop losses, damaged farmlands, and food losses. The findings also suggested that the cyclones destroyed many hospitals, education facilities, health materials, and educational materials in the central/southern areas. Regarding the health aspect, the findings suggested that these damaged/destroyed health facilities and materials affected the health conditions and health services highly negatively. Regarding the education aspect, the destroyed educational centers/materials harmed the children's education and the curriculum's continuation. Also, many displaced people had to live in educational centers. Thus, my findings suggest that the long-term literacy rate can be affected negatively due to the damaged schools, materials and occupied educational centers. In terms of other public services, the cyclones destroyed many roads, bridges, railways, electric systems, and water systems. Due to these reasons, my findings suggest that the government could not provide public services in the short term

or the long term. The cyclones' economic and social consequences showed that the cyclones had a significant impact on the people who lived in the central and northern areas. Although there were cyclones in the southern region, their number and frequency were not high compared to the central and northern regions.

In terms of the southern areas, Cyclone Bonita and Cyclone Favio were the two cyclones that had an impact on the southern region. Still, these two cyclones only affected around 350.000 people in the southern region and central/northern regions. Among these cyclones, although that Cyclone Bonita had an impact on the southern region, it mainly affected the central and northern areas. On the other hand, Cyclone Favio only affected the southern Inhambane region. Still, Cyclone Favio's impact was not comparable with the devastating cyclone such as Cyclone Nadia. Nevertheless, many southern agricultural and poor people were affected by crop losses, livestock losses, damaged farmlands, houses, hospitals, schools, and infrastructure. Thus, their economic and social conditions were also affected negatively by the impact of the cyclones. Still, this impact was highly low compared to the cyclones' impact on the central/northern region. In the end, my findings suggest that the cyclones had more severe impacts in the central/northern regions compared to the southern regions.

In the context of floods, my findings suggest that the floods' impact was complex in Mozambique between 1992 and 2013. The findings show that while the number of affected people was higher in the southern region, the central/northern regions experienced more frequent and constant floods between 1992-2013. The findings also supported that the central region, the northern and southern regions experienced similar impacts from these floods. 1997 floods, 2001 floods, and 2007 floods had an impact on the central/northern regions. These floods affected around 1.2 million people in the central/northern regions. As an important note, it should be highlighted that the central and northern regions were also affected by the 2000 Floods and 2013 Floods. Still, these floods mainly hit the southern regions, not the central regions. Regarding the impact of the floods in the central/northern regions, the findings suggest that there were significant crop losses, food losses, and damaged farmlands in the central and northern regions. Thus, the agricultural people were highly affected by these losses. Also, floods

destroyed many health and educational facilities/materials. Moreover, the floods caused significant flood-related water diseases in the affected central and northern areas. Considering these results, it can be expressed that the economic and social conditions in the central and northern regions were affected negatively by the disasters.

In the context of the southern region, there were two large-scale floods in the southern region. 2000 Floods and 2013 Floods were the two large-scale floods that affected around 5 million people, mostly in the southern region. It should be noted that the 2000 Floods and 2013 Floods also affected the central and northern regions. Still, these floods mainly occurred in the southern region. Thus, although the floods did not directly affect 5 million people in the southern region, most of them were located in the southern region, not in the central or northern region. Among these floods, 2000 Floods were highly severe for the Maputo province and the Maputo capital. The findings suggest that the 2000 Floods highly affected poor people who lived in Maputo capital. Many poor people, who live in thatched houses, lost their homes and possessions due to the 2000 Floods. Also, the floods caused immense hectares of crops and livestock in the southern region. In the end, the findings suggest that 2000 Floods and 2013 Floods destroyed crops, livestock losses, destroyed houses, hospitals, schools, and infrastructure. Thus, the economic and social conditions were highly worsened in the southern region. As a result, the number of affected people was higher in the southern region than in the central/northern regions. Also, the impacts were similar in the central, southern, and northern regions. In the end, the main difference is that while the central/northern regions constantly experienced floods, the southern regions only experienced two large-scale floods between 1992 and 2013. This difference was important since the economic and social conditions of the central/northern regions were constantly affected by the floods between 1992-2013.

Since disaster risk is important to understand why some regions were more severely affected than the other regions, I will examine the three elements of disaster risk. As mentioned previously, there were three elements of disaster risk: vulnerability, exposure, and hazard risk. In the context of vulnerability, northern/central/southern regions (except for Maputo Capital) had a high vulnerability to natural disasters in the

period of 1992-2013, as examined previously. Also, the northern and the central region were the most vulnerable areas due to their high dependency on agriculture and their bad economic and social conditions. For the Maputo Province (in the southern region), the area was less vulnerable since the region includes the capital city and province, which had better economic, health, education conditions and less dependency on agriculture. Still, as my previous findings show, the southern region had fewer vulnerabilities than the northern and central regions due to their better economic, social and education conditions, especially in the 2003-2013 period.

In the context of exposure, GDL Area Database confirm that there was more population in the deprived central/northern regions (in together) compared to the southern region (Database, 2021f). The central/northern regions (in together) have significant agricultural/non-agricultural assets and important cities such as Nampula, Quelimane (in Zambezia), and Beira (in Sofola) (Database, 2021c, 2021d, 2021e). Still, there are also significant agricultural/non-agricultural assets and significant cities in the southern region like the capital city Maputo (Database, 2021c, 2021d, 2021e). Also, many of the economic investments were invested in the southern region, as expressed previously. Considering the population, assets and city dynamics, I suggest that there were similar exposure levels for the central, northern and southern regions. In the context of hazard risk, it is difficult to assess the hazard risk in this qualitative research. Still, GFDRR report suggest that the hazard risk was quite high for the central and the southern regions (GFDRR, 2019). As expressed in detail above, there were significant floods and drought in both southern and central regions. To sum up, my findings suggest that there were similar hazard risk and exposure for the southern and central/northern regions in Mozambique. However, the central/northern regions were more vulnerable compare to the southern region in Mozambique. Despite that the central/northern regions had a high vulnerability, I suggest that a similar hazard risk and the exposure balanced the vulnerability factor. Therefore, I demonstrate that the disaster risk was similar for all of the regions in Mozambique. Thus, I suggest that this was one of the most important reasons why the southern and the central/northern regions had similar impacts from the disasters.

In terms of pre-disaster responses, disaster preparedness and post-disaster responses, my findings suggest that there were similar strengths and weaknesses in preparedness and responses in many disasters in Mozambique between 1992-2013. As discussed in the first chapter, there were no discriminative disaster responses in each part of Mozambique. However, the disaster preparedness was highly weak in each part of Mozambique, especially until the devastating 2000 Floods. Also, as explained in the first chapter, the pre-disaster and post-disaster responses were highly weak and similar in Mozambique's central/northern and southern regions. Thus, these three regions had experienced similar responses during 1992-2013. In the end, since these regions had experienced a similar number of disasters and pre/post responses, I suggest that the economic and social conditions were affected similarly by these disasters and the disaster responses in Mozambique.

Overall, I suggest that natural disasters did not seems to affect horizontal inequalities due to the fact that natural disasters affected the economic and social conditions of the northern, central and southern region at a similar level. As expressed previously, the frequency and the impact of the disasters were similar for the southern and the northern/central regions of Mozambique between 1994-2013. Specifically, there were similar crop losses, food losses, and asset losses in Malawi's southern and central/northern regions. Thus, the southern and northern/central people's economic conditions were affected at a similar level by natural disasters. Also, there were similar levels of damaged hospitals, schools, materials, and public services in Mozambique's southern and central regions. Thus, it can be suggested that the southern and the central/northern regions' social conditions were affected by the natural disasters at a similar level. Due to these similar impacts, it is not possible to suggest that natural disasters worsened or affected the horizontal inequalities in Mozambique between 1994-2013. In other words, my findings suggest that horizontal inequalities were not affected by natural disasters because the disasters had similar impacts on the economic and social conditions of the southern and the central/northern regions.

Also, disaster risk and pre/post-disaster responses are important in the context of horizontal inequalities. As discussed previously, there were similar exposure and hazard

risk between the southern and the central/northern regions. Despite that the northern/central regions were more vulnerable than the southern region, I suggest that the hazard risk and exposure balanced the vulnerability factor. Since that all of the regions had similar levels of disaster risk, I suggest that the economic and social conditions were affected at a similar level which in turn did not affect the horizontal inequalities. I also would like the discuss the relationship between the pre/post-disaster responses and the horizontal inequalities. Due to the fact that the central/northern and southern regions had a similar number of disasters and pre/post-disaster responses, I suggest that economic and social conditions were affected similarly from these disasters' responses. It should be noted that there were no discriminative responses but rather weak responses in all of the regions. Thus, I express that the pre-disaster responses and post-disaster responses did not play an important role in Mozambique's horizontal inequalities. To sum up, I suggest that the natural disasters did not affect horizontal inequalities since natural disasters affected the economic and social conditions of the northern/central and southern regions at a similar level. Also, the disaster risk and pre/post-disaster responses contributed to this relationship in Mozambique between 1994-2013.

As expressed in Figure 4, I suggest that there was no contribution to the feelings of injustice (among the central/northern people) since there were no increased horizontal inequalities caused by disasters. Thus, I suggest that there was no contribution to the maintenance of the collective motivation (among the central/northern people) since that there were no increased feelings of injustice caused by disaster-induced horizontal inequalities. Therefore, I suggest that there was no contribution to the mobilization of the central/northern people under the RENAMO Rebel group in Mozambique. Thus, there was no contribution to the creation of the 2013 RENAMO rebel group in Mozambique. To conclude this relationship, I suggest that natural disasters, by not worsening the horizontal inequalities, did not seems to contribute to the maintenance of the feeling of injustice and the collective motivation among the central/northern people. Thus, by not maintaining collective motivation, I suggest that natural disasters did not seems to contribute to the mobilization of the northern/central people under the

RENAMO Rebel group. Thus, it is not possible to say that the risk of conflict was increased in Mozambique due to the natural disasters-horizontal inequality relationship.

5.3.2.2) How did Severe and Persistent Horizontal Inequalities Contribute to the Creation of the RENAMO Rebel Group in Mozambique?

In addition to the mechanism expressed in the last section, my findings show that there were significant and persistent horizontal inequalities (not affected by natural disasters) in Mozambique between 1994-2013, especially between 2003-2013. More importantly, my findings suggest that these severe and persistent horizontal inequalities seemed to played an important role in the RENAMO-FRELIMO conflict. I would like to discuss this relationship in the next paragraph. Before examining this relationship, I would like to summarize the main conditions contributing to the 2013 FRELIMO-RENAMO conflict in Mozambique. As discussed in the literature review, weak governance, poverty, unemployment, inequalities, and ineffective implementation of the DDR process were the factors which contributed to the starting of the 2013 RENAMO-FRELIMO conflict in Mozambique. In addition to these factors, I suggest that severe and persistent horizontal inequalities were important contributors to the 2013 RENAMO-FRELIMO conflict in Mozambique. To explain, my findings suggest that the political, economic, and social horizontal inequalities were significant and persistent in Mozambique between 1994 and 2013. My findings show that it would be useful to divide this period into two periods to understand the horizontal inequalities effectively.

The first period is the period of 1994-2003 in this context. In 1994-2003, my findings suggest that the political horizontal inequality and social horizontal inequality were severe and persistent in Mozambique. As expressed previously, FRELIMO (Tsonga people) dominated the political power and RENAMO (Ndau people) was mainly excluded from the political power in this period. In the context of social horizontal inequality, the electricity, health, and education conditions were always better in the southern region compared to the northern/central regions in Mozambique in 1994-2003. In terms of economic horizontal inequality, there were no significant economic horizontal inequalities in 1994-2003, as expressed previously. Still, the southern region had better economic conditions than the northern/central regions in the first period of

1994-2003. The second period is the period between 2003-2013. In this second period, the political horizontal inequality remained persistent and severe in Mozambique, as my previous findings show. Also, social horizontal inequality remained similar and significant between 2003 and 2013. Contrary to the previous period, the economic horizontal inequality was especially severe in Mozambique between 2003 and 2013 since that the economic conditions were improved in the southern regions and was remained similar in the northern/central regions in Mozambique. Consequently, there were persistent, severe and widened horizontal inequalities in Mozambique between 1994-2013, especially between 2003-2013.

I suggest that these severe and persistent horizontal inequalities seemed to maintained the feeling of injustice and the collective motivation among the central/northern people. As expressed previously, RENAMO's based northern/central regions (Shona-Ndau ethnic group) were highly disadvantaged compared to the southern region in terms of political, economic and social aspects. Thus, I suggest that there were frustrations and the feeling of injustice among the northern/central people against the southern people/government due to the horizontal inequalities. As an evidence, according to the Afrobarometer R3 2005/2006, approximately 24%, 26%, 26%, 23%, 18%, and 13% of the people in Zambezia, Nampula, Manica, Sofola, and Tete feels that government treats them unfairly in Mozambique (Data, 2006). On the other hand, according to R3 2005/2006, approximately only 7%, 18%, 17%, and 18% of the people in Maputo Province, Maputo City, Gaza, and Inhambane think that government treats them unfairly in Mozambique (Data, 2006). Thus, considering the high population of the central/northern region, a considerable amount of central/northern people think that the government treats them unfairly compared to the southern people. As a more contemporary survey, according to R5 2011/2013, approximately 43%, 38%, 30%, 30%, and 25% of the people in Nampula, Sofola, Manica, Zambezia, and Tete feel that they were treated unfairly by the government (Data, 2013). Therefore, this survey suggests that there is a high level of feeling of injustice among the central/northern people against the southern government and the southern people.

It should be noted that there were already feelings of injustice and collective motivation in the central/northern region. Thus, these percentages are highly dangerous and show that there was still maintained feelings of injustice among the northern/central people. Also, the northern and central region had a high population. Thus, these percentages equal more than around 4-8 million central and northern people in those times in Mozambique. Considering these two surveys of Afrobarometer (R3 2005/2006) and Afrobarometer (R5 2011/2013), I suggest that there is a strong feeling of injustice among the northern/central people against the southern government and the southern people. As a result of this strong feeling of injustice among the central/northern people, I suggest that the collective motivation was maintained among the northern/central people. As evidence, a significant amount of the northern/central people came together under the RENAMO rebel movement against the southern government due to different reasons, including the feeling of injustice among the central/northern people in Mozambique, as expressed previously. Due to this collective motivation, I suggest that the collective action was solved and the RENAMO rebel movement organized and started to attack in Mozambique. It should be noted that the RENAMO rebel movement started to conduct their attacks due to different triggers and reasons. Thus, severe and persistent horizontal inequalities were only contributors to this conflict, not the sole reasons or the main triggers of this conflict.

Consequently, there are seven interlinked results from the discussion above. Firstly, I suggest that natural disasters did not seems to affect the horizontal inequalities since natural disasters affected the conditions of southern-northern-central regions at a similar level. Secondly, by not affecting the horizontal inequalities, natural disasters did not seems to contribute to the maintenance of the collective motivation among the central/northern people. Thirdly, although natural disasters did not increase the horizontal inequalities, there were significant and persistent horizontal inequalities in Mozambique. Fourthly, I suggest that severe and persistent political, economic and social horizontal inequalities seemed to maintained the feeling of injustice and frustration among the central/northern people, and these feeling of injustice and frustration maintained the collective motivation among the central/northern groups. Fifthly, I suggest that this collective motivation seemed to contributed to the creation of

the collective action and the mobilization of the central/northern people under the RENAMO Rebel Group. Therefore, sixthly, I suggest that the severe, persistent, and widened horizontal inequalities seemed to played an important role in the 2013 RENAMO-FRELIMO conflict by maintaining the collective motivation and contributing to the mobilization of the central/northern people under the RENAMO rebel group. Lastly, the natural disasters, by not affecting the HIs, did not maintain the collective motivation and not contributed to the mobilization of the central/northern people under the RENAMO Rebel group in Mozambique between 1992-2013. Thus, natural disasters did not increase the risk of conflict by not affecting HIs in Mozambique between 1992-2013.

5.3.3) Nigeria

In this section, I examine how natural disasters affected the conflict dynamics by affecting the horizontal inequalities in Nigeria between 1970-2009. In the theoretical framework, I argued that natural disasters seems to increase the risk of conflict in Nigeria by worsening HIs. More specifically, I argued that natural disasters, by worsening the HIs, seemes to contribute to the mobilization of the northern people under Boko Haram and increase the risk of conflict in Nigeria. In line with my expectations, the findings suggest that natural disasters, by worsening the HIs, seemed to contributed to the mobilization of the northern people under Boko Haram and increased the risk of conflict in Nigeria. Thus, I will express how natural disasters, by worsening the HIs, seemed to contributed to the mobilization of the Boko Haram increased the risk of conflict in Nigeria between 1970-2009. As the mechanism in Figure 5 shows, natural disasters seemed to increased the horizontal inequalities by highly worsening the economic and social conditions of the deprived northern region and less affecting the conditions in the advantaged southern region. Also, the findings suggest that these increased HIs seemed to contributed to the creation of feelings of injustice and collective motivation among the northern groups, which in turn seemed to contributed to the mobilization of the northern people under Boko Haram and increased the risk of conflict. In this analysis, I express this relationship by focusing on the mechanism expressed in Figure 5.

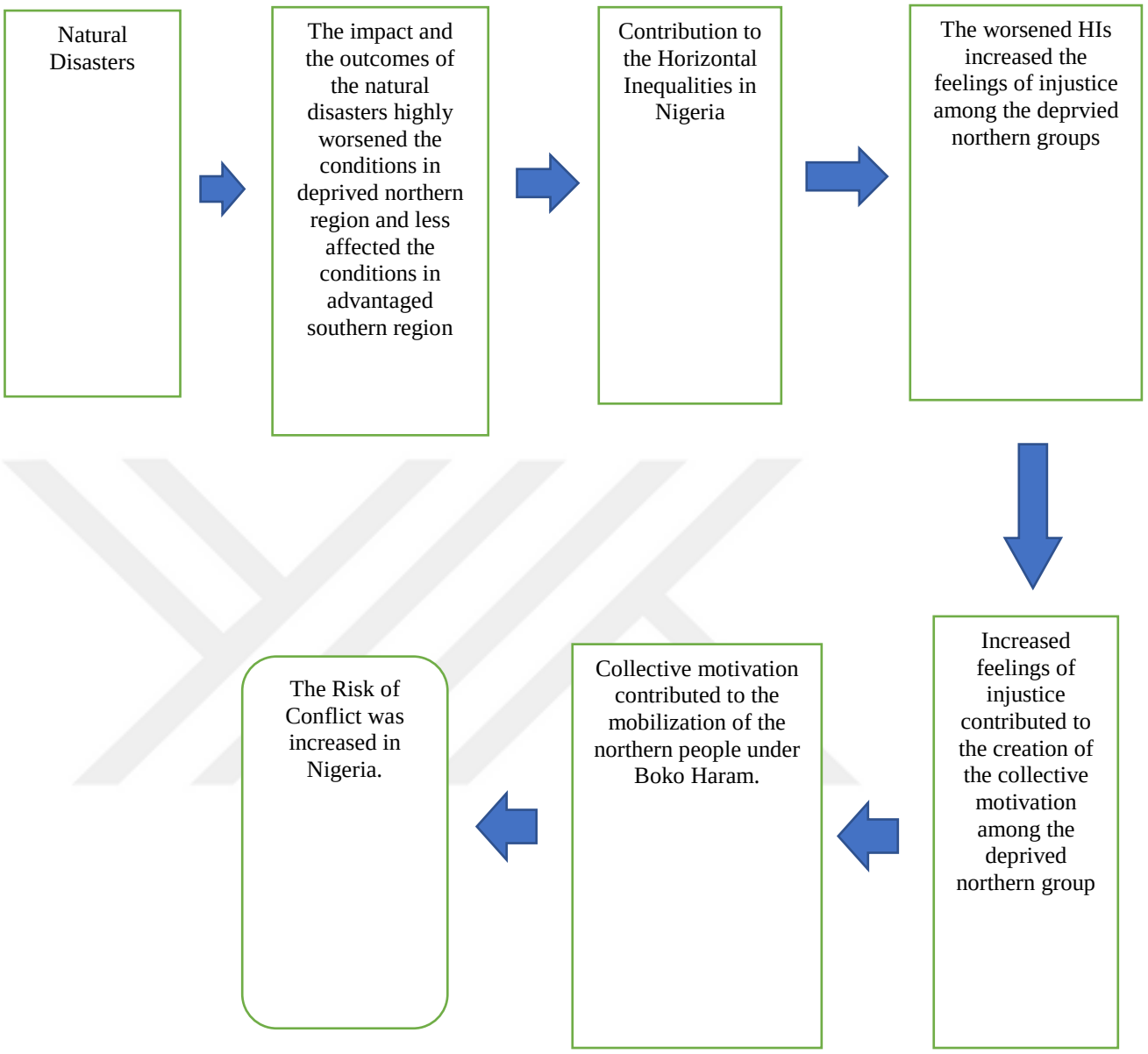

Figure 5: How the Natural Disasters Contributed to the Mobilization of the Northern People Under Boko Haram and Increased the Risk of Conflict in Nigeria between 1970-2009?

5.3.3.1) How the Natural Disasters Contributed to the Mobilization of the Northern People Under Boko Haram and Increased the Risk of Conflict in Nigeria between 1970-2009?

In this section, I examine how natural disasters, by worsening the HIs, seemed to contributed to the mobilization of the northern people under Boko Haram and increased the risk of conflict in Nigeria. To explain this relationship, I follow the mechanism expressed in Figure 5 and express every step and its connections.

Step 1 to Step 2: How did Natural Disaster Worsen the Horizontal Inequalities in Nigeria between 1970-2009?

As expressed in the mechanism in Figure 5, the natural disaster seemes to worsened HIs by highly worsening the conditions in the deprived northern region and less worsening the conditions in the advantaged southern region. In this section, I want to explain this relationship by focusing on the impact of natural disasters on the southern and northern region of Nigeria. Also, I also discuss the pre-disaster responses and three elements of disasters risk due to the fact that they are playing an important factor in why one region is more affected than the other region.

My findings suggest that while natural disasters highly worsened the economic and social conditions in northern Nigeria, the disasters did not affect the conditions of the southern region between 1970-2009. The findings show that large-scale natural disasters (affected more than +100.000 people) mostly occurred in the northern regions, especially in the northeast of Nigeria. As the findings show, there were eight large-scale natural disasters in the northern regions between 1970-2009, and four of these large-scale natural disasters occurred in the northeast of Nigeria. Specifically, the 1972/1973 droughts, 1982/83/87 droughts, 1988 Floods, and 1994 Floods were large scale natural disasters, and they highly affected the northeast region of Nigeria. Borno region was significantly affected from 1972/1973 droughts, 1982/83/87 droughts, and 1994 Floods. As discussed previously, these disasters had significant impacts and outcomes for the northeast of Nigeria and specifically for Borno. As discussed previously, there were significant crop losses, livestock losses, increased diseases, destroyed/damaged houses, destroyed schools/school materials, and destroyed hospital/health materials due to

natural disasters. Due to these losses, the economic conditions, food security, health conditions, and education conditions were worsened in Northern Nigeria, especially in the northeast of Nigeria. On the other hand, my findings suggest that there were almost no large-scale natural disasters in the southern region of Nigeria between 1970-2009. Some of the southern districts experienced two large-scale natural disasters (1998 Floods and 1994 Floods). Still, the main effects of these natural disasters were not in these southern districts but in the northern districts. Thus, natural disasters did not have a similar effect and outcomes for the northern and southern regions. While the northern regions had a great number of losses, the southern regions did not experience a great number of losses caused by natural disasters. I would like to discuss this relationship specifically in the context of droughts and floods.

In the context of droughts, my findings show that large-scale droughts were only experienced in the northern region. 1972/1973 droughts, 1982/83 droughts, and the 1987 drought were mainly experienced in the northern region, especially in the northeast of Nigeria. These droughts affected around 25 million people in northern Nigeria. As expressed in the findings, these droughts caused a significant amount of crop losses, livestock losses, and food losses in northern Nigeria. Thus, many people (who depend on agriculture for income) had high economic losses in northern Nigeria. Also, since there were many crop and food losses, food security was highly affected negatively in the northern region. As these results show, the impact of the 1970s' and 1980s' droughts directly impacted the livelihoods of the northern people. Also, the 1970s' and 1980s' droughts (together with 1960s' droughts) had an indirect impact on many people's livelihoods in the northern area, specifically in the northeast of Nigeria. To explain, as expressed previously, Lake Chad shrank around 90% due to the droughts in the 1960s, 1970s and 1980s. As a result, many people lost their source of income. Moreover, they were forced to change their livelihoods. As expressed previously, Lake Chad started to expand in the 1990s, and people mainly found a way to adapt to the changes since the 1970s. However, it is still important that many people lost their livelihoods and their life highly changed due to the constant changes of Lake Chad. Therefore, the 1970s' and 1980s' droughts had an indirect impact on the people in the northern region. Regarding the southern region, my findings and EM-DAT database

could not find a large-scale drought that affected the southern region. Thus, it can be argued that the droughts had no severe impact on the southern region. Consequently, while droughts highly worsened the northern region's economic and social conditions, they had almost no impact on the southern region of Nigeria between 1970-2009.

In the context of floods, my findings indicate that there were more large-scale floods in the northern region compare to the southern region of Nigeria between 1970-2009. 1988 Floods, 1994 Floods, 1998 Floods, and 1998 Floods had significant impacts on the northern regions, especially in Borno, Kaduna, and Kano. These floods affected around 1.2 million people in the northern region. As expressed previously, these floods caused a significant amount of crop losses, livestock losses, and food losses in the northern districts. Since many poor people depend on agriculture in these areas, these people had significant economic losses. Also, the floods destroyed many houses in the affected northern areas. Therefore, many poor people lost their homes, assets, and possessions due to the floods. Considering the crop/livestock losses and the destroyed houses, it can be expressed that the economic conditions were highly affected negatively in the northern region. Also, the findings show that food security was highly affected due to crop and food losses.

Moreover, these floods destroyed or damaged many hospitals, schools, health/education materials, infrastructures, and other public services. In the context of health, as mentioned previously, many health facilities or materials were damaged or destroyed. Also, there were flood-related diseases in the affected areas. Regarding education, many schools and some educational materials were damaged or destroyed. Thus, I express that this might affect the long-term literacy rate where the children could not receive an adequate education. Considering these economic and social losses, it can be suggested that the floods had significant impacts on the northern region. On the other hand, my findings indicate that the southern region had a low-level impact compare to the northern region. To explain, my findings indicate that only the 1988 Floods and 1994 Floods had an impact on the southern region. In terms of the southern areas, only Oyo was affected by the 1998 Floods. Also, 1994 Floods affected Plateau, Anambra, Cross River, River, and Imo in the southern region. Still, the 1994 Floods highly affected the

Borno region, not these southern districts. Nevertheless, the economic and social conditions of these southern areas were also affected due to crop losses, livestock losses, and damaged houses, hospitals, schools, infrastructure, systems, and materials. In the end, it can be expressed that while floods highly worsened the economic and social conditions in the northern region, the floods had no severe impacts on the southern region of Nigeria between 1970-2003.

Since disaster risk is important to understand why the northern region was more affected than the southern region, it is significant to examine the three disaster risk elements. There are three disaster risk elements: vulnerability, exposure, and hazard risk. As mentioned previously, vulnerability is one of the three elements of disaster risk. As expressed in the first chapter, while the northern region had high vulnerabilities, the southern region had fewer vulnerabilities against natural disasters. Specifically, the northeast and northwest of Nigeria were highly vulnerable due to their high dependence on agriculture and their bad economic and social conditions. As examined previously, there were many farmers, herders, and fisheries in the northeast, northwest, and north-central areas. Therefore, these people highly depend on agriculture as their main source of income. Also, as discussed previously, the northern areas (especially north-east and north-west) were the poorest areas between 1970-2009 in Nigeria. On the other hand, my findings show that the south-south, south-east, and south-west of Nigeria had lesser vulnerabilities than the northern regions due to their low dependence on agriculture. The findings also support that these southern areas had relatively better economic and social conditions compared to the northern areas. Thus, I suggest that the northern regions were more severely affected than the southern regions due to their high vulnerability against natural disasters. Due to this reason, my findings support that there were more losses and worsening conditions in the northern regions compare to the southern regions. Therefore, I suggest that this imbalance in vulnerability increased the horizontal inequalities in Nigeria. In the context of exposure, the northern region had more population than the southern region (Database, 2021f). Still, it should be expressed that there were no great differences in terms of population between the northern and southern regions (Database, 2021f) Also, there were significant agricultural/non-agricultural assets in both the northern and southern regions (Database,

2021c, 2021d, 2021e). As expressed previously, there were significant agricultural outputs and fisheries outputs in northern regions. In the northern region, there were also significant cities such as Kano, Kaduna, and Maiduguri. Similarly, the southern region also had significant amounts of agricultural and fisheries outputs. In the southern region, there are significant economic investments and important cities such as Lagos, Ibadan, Benin City, and Port Harcourt. Considering this discussion, it can be suggested that both the northern and southern areas had similar levels of high exposure in Nigeria.

In the context of hazard risk, as expressed by different sources, the northern region experienced mainly droughts and the southern region mainly experienced floods in the context of natural hazards (Derrick, 1977; EM-DAT, 2021; Eze, 2018; IFRC, 1998, 2003a, 2003b, 2003c; Vivekananda et al., 2019). Still, it would be difficult to assess the hazard risk in this qualitative research. To sum up, this paper suggests a similar hazard risk and exposure level for the northern and southern regions. However, the findings suggest that there was a significant difference between the northern and southern regions of Nigeria in terms of vulnerabilities. Thus, I suggest that this imbalance (high vulnerability in northern and less vulnerability in southern) is among the most important reasons why natural disasters caused significant impact/losses in northern Nigeria and relatively low impact/losses in southern Nigeria. In other words, compared to the southern region, the northern region was affected by natural disasters more severely due to their high vulnerability. In the end, while the economic and social conditions were worsened in northern Nigeria, the southern region was not really affected by natural disasters.

In the context of disaster preparedness and pre/post-disaster response, my findings expressed that there was a lack of disaster preparedness and disaster management in Nigeria between 1970-2009. Also, the pre-disaster and post-disaster responses were highly weak in Nigeria between 1970-2009. In terms of discriminative responses, I could not find any discriminative pre/post-disaster responses or preparedness in Nigeria. However, the disaster preparedness and responses were highly weak in each region of Nigeria. My findings also support that these weak responses and preparedness increased the impact/outcomes of natural disasters in the northern areas. The findings suggest that

many people lost their lives, homes, and incomes due to the lack of food and materials. Also, there were inadequate rescue and relief operations in most of the disasters in Nigeria between 1970-2009. More importantly, the findings support that the short term, medium-term, and long-term responses were highly weak and ineffective in Nigeria.

Due to these reasons, the impacts of the disasters were felt more severely by the northern people than the southern people. As the findings support, many people died (or severely affected) due to these ineffective pre/post response mechanisms in northern Nigeria. Thus, the findings supported that the economic and social conditions were further worsened or negatively affected by these weak pre/post-disaster responses in Nigeria. The findings show that northern people (not the southern people) were constantly affected by the disasters, and their conditions were constantly worsened in the 1970s, 1980s, and 1990s. Since the government could not find effective pre/post disasters responses or preparedness in this period, I suggest that these weak pre/post-disaster responses were one of the reasons that why these northern areas remained impoverished in Nigeria. As an important point, I suggest that weak disaster preparedness and pre/post responses were not highly relevant and significant for the conditions in the southern region since the southern region did not experience frequent and severe disasters. However, since the northern areas experienced highly significant natural disasters, weak pre/post disasters negatively affected northern Nigeria's economic and social conditions. Therefore, pre-/post responses and disaster preparedness were highly relevant to the northern areas.

Overall, the findings suggest that natural disasters highly worsened the economic and social conditions in northern Nigeria. On the other hand, the findings show that natural disasters did not significantly impact the economic and social conditions of the southern region. Thus, the findings reflect that natural disasters seemed to increased the horizontal inequalities in Nigeria by highly worsening the northern region’s conditions and not affecting the conditions in the southern region. Specifically, natural disasters caused significant economic and social losses due to crop, livestock, food, house, possession, asset, hospital, school, roads, railways, bridges, materials, and systems losses in Northern Nigeria, especially in the northeast and the northwest of Nigeria.

Compared to the northern region, there were fewer economic and social losses in the southern region. Thus, I suggest that natural disasters seemed to increased horizontal inequalities in Nigeria by highly worsening northern Nigeria's conditions and not affecting the conditions in the southern region. In the context of the disaster risk-horizontal inequality-disaster risk relationship, I suggest that the northern region was affected more severely than the southern region due to their higher vulnerability. Thus, there were more economical and social losses in the northern areas compared to the southern areas. Therefore, I express that this imbalance (in vulnerability) increased horizontal inequalities in Nigeria. In the context of pre/post-disaster and horizontal inequality, I suggest that weak disaster responses/preparedness worsened to horizontal inequalities in Nigeria due to the fact that the responses could not mitigate the impact of the disasters and further worsened the conditions for the northern region. The northern region felt disasters highly severely due to the weak pre/post-disaster responses. Also, the responses were weak in the southern region. Still, the responses were not highly relevant to the southern region due to the fact that the southern region did not experience frequent and severe disasters. On the other hand, the northern region experienced severe disasters, and these weak pre/post responses worsened the impact of the disasters in the northern region. Considering this discussion, I suggest that weak disaster responses/preparedness contributed to the horizontal inequalities in Nigeria. To summarize the natural disaster-horizontal inequality relationship, I suggest that natural disasters seemed to worsened horizontal inequalities by highly worsening the conditions for the northern region and not affecting the southern region's conditions. Also, I suggest that weak disaster responses and disaster risk affected the horizontal inequalities-natural disaster relationship significantly.

Step 2 to Step 5: How did Worsened HIs Increased the Risk of Conflict and Contributed to the Creation of Boko Haram?

In the context of the horizontal inequalities-feeling of injustice and collective motivation relationship, I suggest that severe and persistent horizontal inequalities (contributed by natural disasters) seemed to increased the feeling of injustice and frustration among the northern people, especially among Kanuri people. It should also be noted that there were also severe and persistent horizontal inequalities (contributed

by disasters) in Nigeria. As my previous findings show, the northern people (particularly Kanuri people) were highly disadvantaged compared to the southern people in terms of economically and socially. As a result, I suggest that these horizontal inequalities (contributed by disasters) increased the feeling of injustice among the northern people, especially among the Kanuri people. As an evidence, according to Afrobarometer R4 2008/2009, approximately 80%, 90%, 96% of the people in Borno, Kano and Yobe thinks that they were treated unfairly by the government in the period of 2008-2009 in some levels (Data, 2009). Also, Forest expressed that there was a significant perception among the northern people that the northern Muslim people (Hausa-Fulani, Kanuri) were the disadvantaged groups and the southern Christian groups are the advantaged groups in Nigeria (Forest, 2012, pp. 35-79). Also, Farida Yusuf expressed that the poor and unemployed northern people frustrated with their situation, and they mainly had hostile thoughts on the rich and educated people in the south, according to the research (Botha & Abdile, 2017, p. 6).

I suggest that these high-level feelings of injustice seemed to contributed to the creation of collective motivation among the deprived northern people in Nigeria. I want to discuss the creation of collective motivation in the northern region. As expressed above, many northern people felt that there is an inequality between the southern region and the northern region in Nigeria. Although Boko Haram was formed due to different reasons, inequalities/the perception of inequality were among the common motives that brought many people to this movement in the 1990s in the first place. As Meagher expressed, there was great inequality between the southern and the northern regions, and this inequality was one of the critical factors in Boko Haram's creation and expansion (Meagher, 2014, pp. 1-3). Therefore, I suggest that many people joined the Boko Haram movement due to collective motivation shaped by the feeling of injustice caused by HIs. As a result of the collective motivation, I suggest that the collective motivation contributed to the mobilization of the northern people under the Boko Haram group. The creation of the Boko Haram movement in the 1990s is one of the most important evidences of this mobilization, collective action, and collective motivation. Also, the Kanuri people and the northern people had a strong group identity. Thus, this strong group identity was also significant in solving the collective action dilemma and the

mobilization of the northern people in Nigeria. As a result, natural disasters, by worsening the HIs, seemed to contributed to the mobilization of the northern people under Boko Haram and increased the risk of conflict in Nigeria.

Consequently, there are six interlinked results in this analysis. Firstly, I suggest that natural disasters seemed to increased horizontal inequalities by highly worsening the economic and social conditions in the northern region and not affecting the conditions in the southern region. Secondly, by increasing horizontal inequalities, I suggest that natural disasters seemed to contributed to the creation of the feeling of injustice and frustration among the northern people. Thirdly, by increasing the feeling of injustice and frustration among the northern people, I suggest that natural disasters contributed to the creation of collective motivation among the northern people. Fourthly, there were severe, persistent, and widened political, economic, and social horizontal inequalities (contributed by natural disasters), and these horizontal inequalities highly contributed to the creation of the collective motivation among the northern people. Fifthly, I suggest this collective motivation was significant for solving the collective dilemma problem and the mobilization of the northern people under the Boko Haram in Nigeria. Lastly, natural disasters, by worsening the HIs, seemed to contributed to the creation of the Boko Haram group and increased the risk of conflict in Nigeria between 1970-2009.

5.3.4) The Comparison of Three Cases: Malawi, Mozambique and Nigeria

In this section, I will compare the results of the three cases. As I examined in the results, Nigeria was the only country that climate-related disasters increased the risk of conflict by worsening the horizontal inequalities. The climate-related disasters did not seems to increase the risk of conflict in Malawi and Mozambique due to different reasons. It should be also noted that only Malawi did not experience conflict among these three cases. In this section, firstly, I will explain why the climate-related disasters seemed to increased the risk of conflict only in Nigeria, but not in Malawi and Mozambique. Secondly, I will explain the reasons why there is a conflict in Mozambique and Nigeria, but not in Malawi?

Firstly, my results suggest that climate-related disasters only seemed to increased the risk of conflicts in Nigeria by worsening the horizontal inequalities. Compare to Nigeria, the climate-related disasters did not seems to worsen the horizontal inequalities in Mozambique. The reason is that the frequency and the severity of these disasters (according to my results) were quite high for the disadvantaged northern groups and low in the advantaged southern regions in Nigeria. These disadvantaged northern regions lost many assets (compare to the southern region) and this situation contributed to the horizontal inequalities in Nigeria. On the other hand, the frequency and the severity of the disasters were highly similar in both advantaged and disadvantaged regions of Mozambique. There were a similar number of affected people in both advantaged and disadvantaged regions in Mozambique and the severity was similar in these regions of Mozambique. Therefore, it cannot be express that the disasters affected the horizontal inequalities in Mozambique. Thus, the main difference is that the frequency and the severity were similar for the advantaged and disadvantaged groups in Mozambique. On the other hand, the frequency and the severity of the disasters were high in the northern regions of Nigeria, not the southern regions of Nigeria.

Compare to Nigeria, the natural disasters did not seems to increase the risk of conflict in Malawi although that the disasters worsened the horizontal inequalities in Malawi. The reason is that the disasters worsened the horizontal inequalities in both Nigeria and Malawi. However, these increased horizontal inequalities seemed to contributed to the feelings of injustice in Nigeria, but not in Malawi. As I examined in the results, these increased horizontal inequalities (contributed by disasters) did not seems to increase the feelings of injustice in Malawi. On the other hand, these increased horizontal inequalities (contributed by disasters) seemed to contributed to the creation of feelings of injustice, collective motivation and mobilization in Nigeria. Thus, the main difference disadvantaged groups in Malawi did not really felt the objective horizontal inequalities since that their feelings of inequality were highly low even after the disasters. On the other hand, disadvantaged Nigerian people felt these objective horizontal inequalities and this situation seemed to contributed to the feelings of injustice and collective motivation in Nigeria.

Secondly, as I mentioned, there was no conflict in Malawi, but there are important conflicts in Nigeria and Mozambique. I think that the level of horizontal inequalities are one of the important factors in this difference. In this context, my results indicate that the horizontal inequalities were high in Nigeria and Mozambique. The northern regions of Nigeria and central-northern regions of Mozambique had highly bad economic and social conditions according to the other regions in their country. On the other hand, the horizontal inequalities were highly low in Malawi, according to the results. The political, economic and social conditions were highly similar in all of the regions of Malawi. In this context, I argue that while the low level of horizontal inequalities seemed to prevented the creation of feelings of injustice and collective motivation in Malawi, the high level of horizontal inequalities seemed to contributed to the creation of the collective motivation and mobilization in Nigeria and Mozambique. The northern groups (in Nigeria) and northern-central groups (in Mozambique) had a feeling of injustice and this eventually contributed to the creation of the collective motivation and mobilization in their country. However, my results indicate that this situation did not occur in Malawi due to the low level of horizontal inequalities. Therefore, I argue that the level of the horizontal inequalities was important to understand this difference between these countries.

6) CONCLUSION

In this thesis, I focused on how climate-related natural disasters affected the conflict dynamics through affecting the horizontal inequalities by focusing on the cases of Malawi, Mozambique and Nigeria.

In the literature review, I mainly examined the climate-disaster-conflict relationship. I especially focused on the disaster-conflict theories, specifically focusing on the theories related to the disasters-inequalities-conflict. At the end of the literature review, I found that there is no single theory that examines the disaster-horizontal inequality-conflict relationship. Still, I found various theories and arguments which connects disasters to conflict through different types of inequalities such as political, economic and social. In the context of the disaster-horizontal inequality relationship, I found many studies which argue that that the disadvantaged (people who have poor economic and social conditions) communities can be affected more severely from the disasters compare to the advantaged communities. Thus, the economic and social losses (from the disasters) can be much greater among the deprived communities compare to the advantaged communities. Thus, the literature suggests that while the existence of inequality can increase the disaster impact, the disaster impact can create further inequality due to its discriminative impact. In the context of horizontal inequality-conflict relationship, I found different studies which explain that horizontal inequalities can increase the feeling of injustice among the deprived ethnic/religious/identity groups, which in turn increase the collective motivation among those deprived groups. As a result of this collective motivation, different studies summarized that the collective action dilemma could be solved, and this situation can increase the opportunity of rebellion and the risk of conflict.

In the context of disaster-HIs-conflict, I could not find a single theory that explains this connection. Still, I found several studies which express that disasters can affect the disadvantaged groups/people more severely compared to the advantaged groups, and this situation can increase the tension and drive conflict in the country. In addition, many studies suggest that pre-post disaster responses are especially important, and the

unequal/discriminative responses can further increase the tension and also increase the inequality in the country. It should be noted these studies investigates the disaster-inequality-conflict mainly in one dimension. While some of the studies focus on political inequality, others focus on economic or social inequality. However, the HIs is multidimensional, and these studies could not catch the disaster-HIs-conflict relationship although that they capture significant details in this relationship. In the end, I could not find a theory that explains the disaster-HIs-conflict relationship in the literature.

As I expressed in the theoretical framework, I think that this thesis contributed to disaster-conflict literature due to the fact that the thesis focus on the disaster-HIs-conflict relationship. By considering the literature above, I argued that the natural disasters, by worsening the HIs, seems to contribute to the feelings of injustice and collective motivation among the deprived groups, which in turn solves the collection action dilemma and increase the risk of conflict. Specifically, I expressed that the disasters can increase horizontal inequalities by highly worsening the economic and social conditions in deprived regions and less worsening the conditions in advantaged regions. Thus, the disasters can increase the economic and social gap between the deprived and the advantaged regions, which in turn increase the horizontal inequalities. As a result of the increased horizontal inequalities, the feeling of injustice and collective motivation can be increase which in turn contribute to the mobilization of the deprived groups and risk of conflict.

In order to test this theory, I selected the cases of Malawi, Mozambique and Nigeria since that they had a similar number of climate-related disasters and disaster-affected people. Also, their conflict history was different (Malawi had no conflict, Mozambique and Nigeria experienced conflict). Thus, it is interesting and relevant to choose these three cases. Specifically, to Malawi, I argued that natural disasters seems to increase the risk of conflict in Malawi by worsening HIs between 1994-2019. Also, I claimed that there were low-level horizontal inequalities, and this situation prevented the creation of feelings of injustice and collective motivation, which seemed to prevented the mobilization and the conflict in Malawi between the relative years. In the context of

Mozambique, I claimed that natural disasters, by increasing the HIs, seems to contribute to the mobilization of the central/northern people under the RENAMO Rebel groups and increase the risk of conflict in Mozambique between 1992-2013. In the context of Nigeria, I argued that natural disasters, by worsening the HIs, seems to contribute to the mobilization of the northern people under the Boko Haram and increased the risk of conflict in Nigeria between 1970-2009.

In order to examine these hypotheses, I tested and created a mechanism in the cases of Malawi, Mozambique and Nigeria. In the context of mechanism, I created a mechanism (based on contributor factors) that connects the natural disaster to conflict (the outcome or Y). This mechanism argued that natural disasters, by worsening the HIs, seemed to contributed to the creation of feelings of injustice and collective motivation, which in turn seemed to contributed to the mobilization and increased the risk of conflict in Malawi, Mozambique and Nigeria. It should be express that my mechanism is mainly observing the relationship and creating opinions and ideas related to relationship of disasters-horizontal inequality-conflict. Thus, this mechanism is mainly based on weak linkages, rather than strong and concrete linkages.

In the context of data gathering and analysis, I gathered various quantitative and qualitative data. The EM-DAT database, Relief Web, IWI, SHDI, AfroBarometer played an important role to understand the impacts of the disasters, affected people and the economic/social conditions of the different regions, and the feelings of injustice of the deprived people. I used these data to gather evidences in different steps of my mechanism based on contributor factors.

In the analysis chapter, I examined my hypotheses by using the mechanism expressed above. The analysis chapter includes three sections. The first and the second chapters were the chapters that I mostly gathered data and information which creates evidences. The third chapter was the most important chapter since that this chapter provided the relationship which connects natural disasters to conflict through HIs. I would like to explain these three chapters briefly, and then I will explain my main results in this research.

In the first chapter of the analysis, I examined the impact of the climate-related large-scale natural disasters on the economic and social conditions of the different regions in three countries. In order to understand this relationship, I examined the pre-disaster vulnerabilities, pre-disaster responses, pre-disaster preparedness, the impact of the disasters, post-disaster responses and the outcomes of the disasters for the different regions of the three countries. This section was highly significant due to the fact that this section gave significant insights to understand the impact of the disasters on the economic and social conditions of the region. In the second chapter, I separately examined the political, economic and social horizontal inequalities for the three countries. By examining the horizontal inequalities, I was able to understand the HIs (separately from the impact of the disasters) in three countries. In the third chapter, I investigated the mechanism (based on the contributer factors) which connects disasters to conflict through HIs. In every country, I initially examined how the natural disasters affected the horizontal inequalities through their impact on the deprived and the advantaged regions in the countries. As mentioned previously, while natural disasters can highly worsen the economic and social conditions in the deprived regions (have high vulnerability), disasters can have less impact on the advantaged regions due to their low vulnerabilities. Thus, the disasters can increase the economic and social gap between the deprived and the advantaged regions, which in turn can increase the HIs in the country. I initially investigated this situation in the three countries. The data that I collected from the first chapter was used to understand this relationship.

Then, I focus on understanding how the horizontal inequalities (contributed by natural disasters) increase the feelings of injustice and inequality among the deprived groups in the country. After that, I investigated the creation of the collective motivation, which was contributed by the feelings of injustice and inequality (contributed by HIs). Lastly, I examined how the collective motivation contributed to the mobilization of the deprived groups, which in turn increase the risk of conflict in the country. Thus, I was able to deduce a mechanism from natural disasters to conflict through their impact on HIs. It should be noted that there were different findings and pathways for the three cases. Not all of the cases follow the mechanism explained above. Also, this mechanisms are not

based on strong concrete linkages, but rather weak linkages which gives opionons and ideas on the relationship of disasters-horizontal inequalities-conflict. In the paragraph below, I will explain this situation and the different results from my thesis.

In the context of results, I had various complex results for the three cases. In the context of Malawi, my findings showed that natural disasters seemed to worsened the HIs by highly worsening the economic and social conditions of the southern areas and less affecting the conditions of the central and northern areas. Still, the findings demonstrate that this increase in HIs did not seems to accelerate the feelings of injustice of the southern people in considerable levels. As I expressed in the analysis chapter, many southern people or groups feel that they were treated fairly even after the massive disasters which increased HIs in the country. Therefore, the findings suggest that there were low-level feelings of injustice and no significant contribution to the collective motivation. Therefore, the findings demonstrate that it seems there was no contribution to the mobilization of the people and the risk of conflict due to the low level of feelings of injustice and collective motivation.

In addition to this finding, my findings also suggest that there were low-level of HIs despite the fact that natural disasters seemed to worsened the HIs. In line with this argument and the mechanism, the findings suggest that this low-level of HIs seemed to prevented the creation of the high-level of feelings of injustice, collective motivation, and mobilization among the southern people in the country. Thus, it was suggested that the low-level HIs was important in terms of maintaining the peace situation in Malawi between 1994-2019. Lastly, the findings suggest that there were within-group inequalities, and these inequalities seemed to prevented the creation of collective motivation among the deprived southern groups in Malawi. As I expressed in the analysis chapter, the same ethnic groups lived in both disadvantaged and advantaged areas in Malawi between 1994-2019. Thus, I demonstrate that there were no significant levels of collective motivation among these ethnic groups. Therefore, I suggest that within-region inequality was important in terms of maintaining the peace situation in Malawi. To sum up the results of the Malawi case, natural disasters did not seems to increase the risk of conflict despite that they seemed to increased the HIs in the country

between 1994-2019. Also, the low level of HIs and within-group inequalities played an important part to maintain the peace situation in Malawi between 1994-2019.

In the context of Mozambique, my findings demonstrated that natural disasters did not seems to contribute to the creation of the RENAMO Rebel group and did not increase the risk of conflict between 1992-2013 in Mozambique. As I expressed in the analysis section deeply, natural disasters worsened the economic and social conditions of the central, northern, and southern region at a similar level. Thus, the findings suggest that the disasters did not seems to increase the HIs in Mozambique between 1992-2013. Since that natural disasters did not seems to worsen the HIs in Mozambique, the findings suggest that there was no contribution to the feelings of injustice and collective motivation among the deprived northern and central groups in Mozambique. Thus, it seems there was no contribution to the mobilization of the RENAMO Rebel groups and the risk of conflict in Mozambique between 1992-2013 in Mozambique. In addition to this finding, the findings suggest that there were severe and persistent HIs, although that the natural disasters did not play an important part. The findings show that these severe and persistent horizontal inequalities seemed to contributed to the maintenance of the collective motivation (among the deprived central/northern people) and contributed to the mobilization of the central and northern people under the RENAMO rebel group in Mozambique. To sum up the results of Mozambique's case, the natural disasters did not increase the risk of conflict by not worsening the HIs in Mozambique between 1992-2013. Also, there were severe and persistent HIs (not contributed by disasters), and these HIs seemed to contributed to maintenance the of collective motivation and the mobilization among the central and northern people under the RENAMO Rebel group in Mozambique.

In the context of Nigeria, the findings showed that natural disasters seemed to worsened the horizontal inequalities by highly worsening the conditions (economic and social) of the deprived northern region and less affecting the conditions (economic and social) in the advantaged southern region between 1970-2009. These worsened HIs (contributed by natural disasters) seemed to contributed to the creation of feelings of inequality and injustice and collective motivation among the northern groups, which in turn seemed to

contributed to the mobilization of the northern groups under Boko Haram. Therefore, the risk of conflict was increased in Nigeria between 1970-2009.

As the results of the cases show, there was a different and complex relationship between natural disasters, horizontal inequalities and conflict. If we compare the three cases, this research expressed two important points. In this context, climate-related disasters seemed to worsened the horizontal inequalities and contributed to the feelings of injustice and collective motivation in Nigeria. In contrast to Nigeria, disaster did not seem to contribute to the feelings of injustice and collective mobilization in Malawi and Mozambique. There were different reasons for this situation. In Malawi, similar to Nigeria, the disasters seemed to worsened the horizontal inequalities in Malawi. Still, in contrast to Nigeria, these increased horizontal inequalities (contributed by disasters) did not seems to contribute to the feelings of injustice and collective motivation. In Mozambique, in contrast to Nigeria and Malawi, disasters did not seem to increase the horizontal inequalities due to the fact that the severity and the frequency were similar in every region of Mozambique. Also, my research suggests that Malawi did not experience conflict due to the fact that there were low-level of horizontal inequalities and this situation seemed to prevented the creation of the collective motivation and the mobilization. In contrast to Malawi, Mozambique and Nigeria had high-level of horizontal inequalities and this situation seemed to contributed to the creation of feelings of injustice, collective motivation and mobilization.

I had several limitations in conducting my research. Firstly, since that some of the disasters occurred in older times (such as the 1970s, 1980s, and 1990s), I had issues in terms of finding data and information on some of the "pre-disaster responses, post-disaster responses, and pre-disaster preparedness" of the disasters that I examined. Although that these limitations did not affect the integrity of my research, it decreases my ability to understand the government's action before the disasters and after the disasters.

Secondly, I had issues understanding "the vulnerability, the exposure levels, and the hazard risk" of the affected regions and the other regions in my research. In terms of

vulnerability, the Mean International Wealth Index (IWI) was an important and reliable index to understand wealth conditions of the different regions in countries. I mainly used this index to understand the regions' vulnerability and the economic and social conditions of different regions in cases. The index includes data on many years related to my research. However, only some of these years were calculated precisely. The other years were based on the estimated calculation. Although that this situation decreases the effectiveness of my research, these estimated numbers are mainly reliable, and I used these estimated numbers in my study. In terms of exposure levels, I primarily examined the assets (numbers and the types of the assets) and the population of the affected areas and the other areas. In my research, I used data, general statics and information regarding the population and the assets of the different regions. Also, I was able to find detailed information on the exposure levels of the many regions. Still, I could not find detailed information on some of the region's population and assets. For instance, I expressed the main population and the assets (houses, farms and other buildings) of the different regions in very detail. However, there were some regions that I briefly summarized the population and the assets due to the lack of data, information and possibilities. In terms of hazard risk, although that I found different research which can summarize the region's hazard risk, my qualitative research was not enough to cover all the aspects of the hazard risk of every region that I focused on. To sum up, I had experienced different limitations on understanding some of the region's vulnerability, exposure levels and hazard risks due to the lack of possibilities, data and information. Still, I think that I was able to overcome these limitations by focusing on different studies, general statistics and information. It should also be noted that I did not experience these limitations in every region that I focused on. I only experienced these limitations in some of the regions in my research.

Thirdly, I had limitations on understanding the "impact of the disasters" and their relationship with HIs, especially in Mozambique. I mainly used the EM-DAT database and Relief Web to understand the impact of the disasters on the countries. In the context of Mozambique, I found very similar numbers in terms of affected people and the numbers of disasters in the southern and northern-central regions. In this qualitative research, I could not exactly find that which regions had more affected people and more

severe impacts. Although that there was no considerable difference (in terms of affected people and affected assets) between the regions, I think that there was still some difference, and quantitative research can solve this problem.

As this discussion shows that there were several limitations of my research. I think that there can be future studies if researchers can solve these limitations. There are also different potential future studies apart from these studies. I want to explain these future studies.

Firstly, there are lack of information on the pre-disaster responses, post-disaster responses of some of the regions in Malawi, Mozambique and Nigeria. A case study (based on the interviews with state officials and NGOs in fields) can help us to reveal some of this missing information on pre-disasters responses, post-disasters responses and pre-disaster preparedness. In this way, more effective research can be conducted on my thesis issue. Also, research can be conducted by focusing on the relationship between state disaster's action and the unrest in the country. For instance, research can investigate how the unrest increases after an unsuccessful post-disaster in these countries. Since that disaster response-state actions-conflict is an important topic in the literature, this research can be an important contribution to the literature.

Secondly, as I mentioned above, a quantitative study can be highly effective to understand the impact of disasters and horizontal inequality relationship in a more effective way in Mozambique. My qualitative research was based on qualitative data, and my research suggested that the impact of the disasters were highly similar in all of the regions of Mozambique. Still, a quantitative research (based on quantitative data) can help us to understand which regions were affected more severely from the other regions in a more precise way in Mozambique. This research can be a contribution to my findings on the relationship between the impact of the disaster and the horizontal inequality in Mozambique.

Thirdly, there can be future research that aims to understand the three elements of disaster risk (vulnerability, exposure level and hazard risk). As mentioned previously,

disaster risk is so important in the context of the disaster-horizontal inequality relationship. My research suggested significant insights regarding the vulnerabilities, exposure level and hazard risk of many regions in three countries. Still, as I mentioned above, there were some limitations regarding the vulnerabilities, exposure level and hazard risk. In the context of vulnerabilities, a quantitative research (which calculate the vulnerabilities more effectively) can be an important contribution to the literature on disaster risk-horizontal inequality-conflict. Also, this research can suggest new findings to my thesis topic. In the context of exposure level, I mainly focused on more general statistics such as population and assets. More detailed research (on exposure level) enables us to assess the disaster risk more effectively in these regions. Therefore, it would be an important contribution to the literature of disaster risk-horizontal inequality-conflict. In the context of hazard risk, I only examined the existing studies to understand the hazard risk. I think that quantitative research (which assess the hazard risk in a more effective way) would be an important contribution to the disaster risk-horizontal inequality-conflict literature. To sum up, there were different limitations in my research, and there could be different future studies related to this issue.

To sum up the results and the thesis, I focused on the disaster-horizontal inequality-conflict relationship. I mainly investigated that how the disasters affected the conflict dynamics through affecting the horizontal inequalities. In order to investigate this relationship, I selected the cases of Malawi, Mozambique and Nigeria. At the end of the analysis, this thesis suggested that there is a complex relationship between disaster-horizontal inequality-conflict. Nigeria case shows that the disasters seems to worsen the HIs, which in turn contributing to the creation of the feeling of injustice, collective motivation and the mobilization of the deprived groups in the country. In a different result, the Malawi case shows that the disasters seem to worsen the HIs; but this situation did not seem to contribute to the creation of the collective motivation and the mobilization in the country. The findings suggest that the general low HIs and high within-region inequality played an important part in this peace condition. As a different result, the Mozambique case shows that the disaster did not seems to affect the HIs. Still, the high level of HIs seemed to contributed to the maintenance of the collective

motivation, which in turn contributed to the mobilization of the deprived groups in the country.

It should be expressed that the mechanism that I presented do not based on the strong linkages, but rather based on weak linkages. Due to my research design, my study mainly gives opinions and ideas on the relationship between disasters-horizontal inequality-conflict. However, it does not give a concrete and strong relationship between these three concepts. A further reserch can reveal more concrete and strong arguments on this relationship.

As these results show, the disaster-HIs-conflict relationship is complex and needs more attention especially considering climate change. As IPCC and many scientists suggest that climate change is unequivocal, and the impact of climate change will increase the elements of the disaster risks. Therefore, climate change will increase the vulnerabilities in the communities, the exposure levels, and the hazard risks in the world. Since that the deprived communities are affecting more than the advantaged communities, the deprived communities initially experience the impact of climate change more severely. Therefore, I believe that the disaster-HIs-conflict relationship needs more attention in the short term. Still, as many reports confirm, both deprived and advantaged communities will experience the impact of climate change severely in the coming years. Therefore, climate change needs to be tackled effectively and urgently.

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